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Banking, Telecommunications and Maritime  
Transport in Egypt, Morocco, Tunisia and Turkey***

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TRANSPORT IN EGYPT, MOROCCO, TUNISIA AND  
TURKEY.**

*Lahcen Achy, Mongi Boughzala, Hanaa Kheir-El-Din, and Sübidey Togan*

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## **Part I: Banking**

### **1. EU Integration and the Banking Sector: The Case of Turkey**

*Sübüdey Togan and Hakan Berument*

After pursuing inward oriented development strategies for fifty years Turkey switched over to outward oriented policies in 1980. The policy of further opening up the economy was pursued with the aim of integrating into the EU. On March 6, 1995 it was agreed at the Association Council meeting in Brussels that a customs union would be created between Turkey and the EU starting January 1, 1996. The recognition of Turkey as a candidate for accession at the Helsinki European Council in December 1999 ushered a new era in the relations between Turkey and the EU. After the approval of the Accession Partnership by the Council and the adoption of the Framework Regulation on February 26, 2001, the Turkish Government announced its own National Program for the adoption of the *Acquis Communautaire* on March 19, 2001. In late 2004 another milestone was reached with the recommendation of the Commission of the European Communities that the European Council endorse the launching of formal accession negotiations and establish a timetable. The Copenhagen European Council in December 2002 concluded that “if the European Council in December 2004, on the basis of a report and a recommendation from the Commission, decides that Turkey fulfils the Copenhagen political criteria, the European Union will open accession negotiations with Turkey without delay”. The December 2004 Council decided to start membership talks with Turkey on October 3, 2005.

Joining the EU will require Turkey to adopt and implement the whole body of EU legislation and standards – the *Acquis Communautaire*. In this paper we are concentrating on the banking sector and study the economic effects of EU accession in the banking sector. The paper is structured as follows. Section 1 considers the major developments in the banking sector in Turkey up to the 2001 financial crisis. The cost of the crisis in the banking sector alone has been estimated as \$53.2 billion amounting to 35.9 percent of GDP. It is argued that if Turkey had adopted the legislative, regulatory and institutional framework of the EU banking system at the beginning of the 1990's, and had implemented and enforced these rules, then the banking crisis would not have occurred in the first place, and if it did then the cost of the banking crisis would have been much smaller than \$53.2 billion. We therefore turn in section 2 to consideration of these rules and regulations in the EU. Section 3 studies the developments in the Turkish banking sector after the 2001 crisis and also the regulatory framework in the sector. Section 4 considers the economic effects of EU integration in the banking sector on the Turkish economy, and finally, section 5 concludes.



## **1. MAJOR DEVELOPMENTS: 1980-2001**

During the late 1970s Turkey faced a severe balance of payments crisis which had its roots in the oil crisis of 1973-74, the slowdown in world economic activity, and the inward-looking development strategy followed during the last 40 years. In January 1980, the government introduced a comprehensive policy package to correct the worsening economic situation. The immediate goals of the reforms were the reduction of inflation rate and balance of payments deficit. The policy makers further aimed at making the economy responsive to market forces in the long run.

In 1980 the Turkish reformers inherited an underdeveloped and repressed financial system dominated by banks, regulated by the Banking Law No. 7129 dated 23 June 1958. The spirit of the Law reflected an approach to prevent concentration of the banking industry with distributional concerns. It supported a planned economy view by allowing selective credit policies. Credit was rationed, capital markets were underdeveloped, intermediation costs were high, ex-post real interest rates were negative, foreign banks were not allowed to enter the Turkish market, and the operation of Turkish banks in foreign countries were restricted.

Turkish policy makers during 1980s believed that deregulation would enhance the opportunities available to the market participants, and that increased competition would induce them to exploit the opportunity efficiently. As a result legal restrictions on loans and deposit rates were removed in July 1980. But the strategy was insufficient for assuring the sound and safe functioning of financial markets as revealed by the “bankers crisis” of 1981-1982. After the crisis, authorities focused more on laying the institutional foundations of the financial system by re-defining the role and the scope of the supervisory activity. During this period priority was given to the regulation of the securities markets.

The Decree Law No. 70 dated July 22, 1983, emphasizing the distortionary effects of cheap interest rate policy on the banking system’s efficiency, introduced rules on licensing, start of operation, improving solvability conditions, credit limits, credit definitions, accounting system to be followed, supervision, and on mergers and liquidation. In addition, the Law, for the first time in Turkey, introduced the concept of deposit insurance and established a Deposit Insurance Fund.

In 1984 residents were allowed to hold foreign currency deposits and banks were allowed to keep foreign currency abroad. In the same year banks were also allowed to determine the exchange rate within a margin around the Central Bank rate. On April 24, 1985 the Decree Law No. 70 was amended and enacted as the Banking Law No. 3182. On September 16, 1983 the Decree Law No. 512 introduced slight but comprehensive amendments to the Law, which was to be implemented continuously until the year 1994. In this respect, the new Banking Law (including its amendment) provided the legal basis for prudential regulation and supervision. Within this framework, banks had to use a uniform chart of accounts, standardized balance sheets, participate in a deposit insurance fund and cover the defaulted loans through appropriate provisions. They were also required to submit their accounts to external auditing. All those provisions might well be said to help improving the transparency of the banking system as well as its shock absorbing capacity.

In 1985 the government securities market was restructured by the introduction of an auction scheme, and in the following year the Central Bank established the interbank money market. In 1987 the Central Bank started open market operations, and during the same year foreign currency interbank was established under the auspices of the Central Bank of Turkey. Also reverting to the aim of financial liberalization, the cap on interest rates with a maturity of 1-year was removed in 1987. In 1988, as a major step towards achieving market determined exchange rates, the Central Bank established the Foreign Exchange and Banknotes Market. In November 1988 the cap on interest rates with different maturity scales was removed, and in the following months the Turkish banks acquired the full authority in determining the interest rates on deposits and credits. In 1989 foreign exchange operations and international capital movements were liberalized entirely via Decree number 32. By this Decree, limits with respect to foreign currency holdings by the Turkish residents were abolished, foreigners were freed in their transfers made on the proceeds of their assets in Turkey, buying and selling of Turkish equities was freed, obtaining credits from abroad by Turkish residents and its use via financial institutions were allowed, and extension of credits denominated in convertible foreign currencies in the Turkish financial sector was freed. As a result of liberalization in the capital account and adoption of full convertibility of the Turkish lira, banks were left completely free in determining exchange rates in their operations in 1990. As the market for secondary treasury-bills and treasury-notes gained depth a sub-market for the secondary treasury-bill and treasury-note transactions was established under the Istanbul Stock Exchange (ISE) in 1992. In addition, repurchasing (repo) and reverse repurchasing (reverse repo) transactions were legalized and another sub-market for them was established under the ISE in 1993. During the same period the Central Bank ceased to act as a quasi-development bank, and started to extend credits only through rediscounts and advance options.

The 1990's have been characterized by distortions created by the state banks which had substantial share in banking sector total assets. The governments have used these banks for a number of non-commercial objectives such as agricultural support, income redistribution, and industrial, urban, and physical infrastructural development. The state banks faced unrecovered costs from duties carried out on behalf of the government and they covered their financing needs from markets borrowing at high interest rates and short maturities leading to further increases in interest rates. The direct subsidies to farmers and small business given through the state banks were not shown in the government budget figures, instead they were shown on state banks' balance sheets as performing assets accruing interest income. The stock of accumulated receivables of these banks were called 'duty losses'.

Besides the problems related with duty losses the banking sector faced also problems created by the high public sector deficits. During the 1990s public sector deficits increased considerably reaching 10.2 percent of GNP in 1991, 10.6 percent in 1992 and 12 percent of GNP in 1993. These deficits were financed by borrowing from the market at very high real interest rates. As private banks found the financing of public deficits increasingly profitable, the share of government domestic securities in total assets of domestic banks increased considerably. Thus, banks became vulnerable to changes in interest rates. Furthermore, during the 1990's banks started to borrow funds from abroad and they bought government bonds which yielded high real interest yields.

Significant capital flowed into the country because the country was offering not only high real interest rates but also the prospect of steady real appreciation of the exchange rate. Thus the government's implicit commitment to the real exchange rate (RER) appreciation insured the private sector, domestic and foreign, against currency risk. It encouraged capital inflows from abroad and lending to the public sector, giving rise to the phenomenon of large, arbitrage-related, short-term capital inflows. During this period banks became vulnerable not only to changes in interest rates but also to changes in the exchange rate. But banks underestimated the risks inherent in overly extending investments in government paper and open foreign exchange positions.

The appreciation of the RER carried on under various coalition governments until 1994 when the country was faced with a currency crisis. The RER depreciated sharply in April 1994.

With the emergence of financial crisis banks having large open positions realized great losses. The authorities had to take drastic measures in order to save the economic system from a collapse. The most controversial of these was the introduction of full (100 percent) state guarantee to deposits, which was effective in preventing bank rush as well as drastic shifts in deposits from private banks to state owned banks. However, the fear of renewal of banking crisis prevented the authorities to abandon this supposedly temporary measure in favour of a reasonable deposit insurance scheme in the coming years.

Realizing the risks of unlimited borrowing by the Treasury from the Central Bank the government decided to set a limit on short term advance use by the Treasury from the Central Bank. The Banking Law No. 3182 was amended via Decree Law No. 538 on 22 June 1994. The amendments introduced the criteria set in the Basel Accord regarding the minimum capital adequacy ratio. However, the exact definition of risk weightings and detailed procedures regarding the measurement of capital adequacy for the banks had to wait till the Treasury Communique of 30 June 1998. The Decree No. 538 also defined the procedures regarding the solvability problems in the banking sector.

Unfortunately, the stabilization program introduced after the 1994 crisis could not be executed to the very end. Despite the outspoken political declarations, necessary restructurings were not completed either. The country started to follow expansionary fiscal policy, and the system of unpaid duty losses became practice again. As real interest rates on government debt instruments increased short term capital flows into the country amplified leading to appreciation of the RER, and as the share of government domestic securities in total assets of domestic banks increased the economy ended up with fiscal dominance.

Although banks were exposed to high risks of interest rate and foreign currency, this vulnerability was overlooked. During the 1990s the regulatory/supervisory authority for the banking system was divided between the Undersecretariat of the Treasury, which exercised its supervisory authority through the Board of Sworn Bank Auditors, responsible for the on-site examination of banks and the Central Bank, which supervised the financial positions of the banks through its off-site surveillance system. Major decisions on banks by the Treasury required the approval of the Minister of State in Charge of Economy.

This rule subjected the banking supervision to political intervention. Stemming from such a political view the then prevailing prudential regulations were poorly enforced through a fragmented supervisory systems and supervisory forbearance. Thus, during the 1990's Turkey lacked well functioning supervisory authorities, a regulatory framework and legal and institutional infrastructure, although some relevant legislation had been passed. In addition, the full guarantee scheme on deposits helped the banks to offer higher interest rates to depositors. The depositors, on the other hand, relied on full insurance scheme in their neglect of paying proper attention to the health of the banking sector. In various ways the system was prone to moral hazards of the agents.

In this way, while the risks had been piling up in the banking system as a whole, the 'duty losses' had reached almost 13 percent of GNP by the end of 1999<sup>1</sup>.

In June 1999 the Banking Law No. 4389 was enacted. The Law was written as to contain the international standards in regards with the capital adequacy and credit limits and with the administrative norms. The new Law mandated the creation of a new independent Banking Regulation and Supervision Agency (BRSA). The BRSA took over the bank regulation and supervision responsibilities. Through this body supervision of banks were pulled out of the domain of daily politics. The limits to single borrower and to the related parties were tightened, banks' exposure to non-financial participations was limited and minimum capital requirements were increased. Furthermore the new Banks Act introduced higher minimum capital requirements for new banking licenses, and urged implementation of operational policies in line with the Basel Accord. Within the same guidelines, Law No. 4491, becoming effective on 19 December 1999, amended the Law No. 4389 and extended the independence degree of the BRSA. Also the amendment included better definition of the procedures related with the insolvent banks, integrated the operations of the special finance houses into the banking law and made further adjustments related to the credit limits. Having strengthened its position with the amendments the BRSA became fully functional on 31 August 2000 and declared that prompt action would be taken against any bank not observing the rules.

Following the enactment of the Banking Law various Cabinet Decisions on the treatment of the cash and non-cash credits, monitoring guidelines for capital adequacy ratio and foreign positions of the banks on financial statements, and on using liquidity ratio requirement as a penalty for those banks breaching the required foreign exchange position became effective. Also, on June 1, 2000 a decision was declared that aimed to reduce the amount of deposits treated under the deposit insurance scheme to TL 50 billion effective as of the beginning 2001.<sup>2</sup> Apart from those Cabinet Decisions five banks, due to their solvency conditions, were taken under the custody of Saving Deposit Insurance Fund (SDIF) while two more banks were taken under the SDIF and one bank's licence was suspended by the BRSA in 2000.<sup>3</sup> In addition to such steps, the state banks whose balance sheets contained huge unpaid duty losses were brought into focus.

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<sup>1</sup> See the World Bank (2000)

<sup>2</sup> The decision to reduce the amount of deposits treated under deposit insurance scheme to TL 50 billion was not implemented when the country faced the financial crisis in February 2001. At that time the country decided to apply the full (100 percent) state guarantee to deposits.

<sup>3</sup> See Cabinet Decision no. 99/13765 of 1999

It was further emphasized that the interest rates charged to those state banks (T.C. Ziraat Bankası and T. Halk Bankası) applied on their credits be rationalized and the government asked the Treasury to compensate the losses of those banks incurred from such credits.<sup>4</sup> We also note that the headlines of the Letter of Intent (LOI) of December 18, 2000 presented to the International Monetary Fund (IMF) include the duty losses of the state banks, the need for internal risk management, resolution of the connected lending problems, tax-related issues and the necessity of some resolutions on the BRSA and SDIF. Towards the end of the year 2000 the state banks were restructured. To this end, the Law No. 4603 was enacted which mandated the state banks (Ziraat Bankası, Halk Bankası and Emlak Bankası) to operate under the Banking Law instead of being treated by their special legislations, and a decision was published regarding the Emlak Bankası.<sup>5</sup>

Despite these achievements and comprehensive measures, a worsening current account led in late 2000 to a liquidity crisis that turned into full-blown banking crisis in February 2001.<sup>6</sup> The government decided to abandon the crawling peg regime and floated the currency. The resulting crisis has been very severe. The loss of income and wealth and the associated social and political stresses created in the country are unprecedented. GNP during 2001 contracted by 9.4 percent and the loss in employment is put at more than 1.4 million. The severity of the 2001 crisis when compared with the effect of the previous foreign exchange crisis is explained by the fact that by 2001 Turkey had a high level of “liability dollarization” with high public and private foreign debt denominated in foreign currencies, and a high share of foreign currency-denominated bank deposits. The sharp depreciation caused a large increase in both the gross and the net indebtedness of the economy, which more than offset the positive effect of depreciation on the demand for exports

The cost of the crisis in the banking sector alone has been estimated as \$53.2 billion by Steinherr, Tukul and Ucer (2004), i.e. 35.9 percent of Turkish GDP. As table 1 shows the restructuring cost to the Treasury of state banks as well as banks taken over by the Savings and Deposit Insurance Fund (SDIF) made up the lion’s share of these costs. On the other hand, the cost of recapitalisation operations to the private sector was relatively small. It is argued that if Turkey had adopted the legislative, regulatory and institutional framework of the EU banking system at the beginning of the 1990’s, and had implemented and enforced these rules, then the country would not have faced a banking crisis in the first place, and in the case it faced the crisis the cost of the crisis would have been much smaller than \$53.2 billion. We therefore turn to consideration of these rules and regulations in the EU.

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<sup>4</sup> See Cabinet Decisions 99/13758 of 1999, 2000/62 and 2000/1167 of 2000.

<sup>5</sup> See Cabinet Decision no. 2000/1698 of 2000.

<sup>6</sup> We do not state that large current account deficits were the only cause of the 2001 currency crises. There were also other weaknesses in the Turkish economy. The crisis occurred when banking system was still fragile, the country was facing large fiscal deficits, huge public debts, and high inflation rates. Thus before the 2001 crisis Turkey had neither resolved its fiscal problems, nor attained price stability and a sound banking sector. There were also major problems with governance in general. Furthermore, Turkey had opened the capital account in 1989 before it had taken measures to upgrade banking and financial market supervision and regulation, adopt international auditing and accounting standards, strengthen corporate governance and shareholder rights, and modernize bankruptcy and insolvency procedures.

**TABLE 1: The cost of the 2001 financial crisis**

	US\$ bn	Percent of GNP
<i>Cost to the Treasury</i>	43,7	29,5
Restructuring of state banks	21,9	14,8
Duty losses	19,0	12,8
Recapitalization	2,9	2,0
For private banks transferred to the SDIF	21,8	14,7
<i>Cost the the private sector</i>	9,5	6,4
Cost borne by the SDIF	6,7	4,5
Capital injection by shareholders	2,8	1,9
<b>TOTAL</b>	<b>53,2</b>	<b>35,9</b>

Source: Steinherr, Tukel and Ucer (2004)

## 2. REGULATORY REGIME IN THE EUROPEAN UNION

The objective of the 1957 Treaty of Rome regarding the banking sector was the transformation of highly segmented national markets into a common single market. This objective was to be achieved by the recognition of the right of establishment and the coordination of legislation whenever necessary. The Directive on the Abolition of Restrictions on Freedom of Establishment and Freedom to Provide Services in Respect of Self-employed Activities of Banks, adopted in June 1973, ensured equal treatment of national and other firms of member states with regard to entry into domestic markets and the conditions under which banks can operate. However, the objectives of the Treaty of Rome could still not be reached as international competition through the supply of cross-border services was severely limited by restrictions on capital flow. Although mentioned in Article 67 of the Rome Treaty and fully incorporated in the 1960 and 1962 directives, the liberalization of capital flow could not be enforced as several countries including France, Italy, Denmark and Ireland availed themselves of the right conferred in the Treaty of Rome to guard against disequilibrium in the balance of payment to defer this freedom. Moreover, accession treaties of Spain, Portugal and Greece provided for time lags in the implementation of this directive. Furthermore, there was no coordination of banking supervision, so that banks operating in different countries could be subject to different rules.

Thus, prior to the middle of 1980's banking environment in many EU countries was often anti-competitive. Table 2 summarizes the business restrictions in EU banking markets at the start of 1986. Banking and financial systems in most EU countries at that time tended to be highly segmented and universal banking was not the norm. The table confirms that most EU banking systems had some form of regulations in place that limited effective competition.

**TABLE 2 Business restrictions in EU banking markets at the beginning of 1986**

Country	Belgium	Denmark	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	United Kingdom
Interest rate restrictions	*	*	*		*	*	*	*		*	*	
Capital controls	*		*		*					*	*	
Bank access to stock exchange membership		*	*				*			*	*	*
Bank ownership restrictions											*	
Branching restrictions			*				*			*		
Foreign bank entry					*						*	
Credit ceilings					*							
Mandatory investment requirements										*	*	*
Restrictions on insurance, underwriting and brokerage		*	*	*	*					*	*	*
Portfolio management					*					*		
Leasing and factoring					*					*	*	

Source: EC (1997, Table 2.4)

The situation has been summarized by the European Commission (1997) as follows:

*Throughout the early 1980s many EU banking systems were characterized by a relatively high degree of government control and restrictions, although there were signs that these limitations were gradually being eroded. Table 2 shows that interest rate restrictions were prevalent and capital control remained in force in Belgium, France, Greece, Portugal and Spain. Apart from in the universal banking markets, commercial banks were not allowed to own stock exchange firms and branching restrictions still existed in France, Italy and Portugal. Commercial banks were not permitted to undertake insurance business in the majority of EU countries and other non-mainstream banking business, such as portfolio management, leasing and factoring activity, were also proscribed in Greece, Portugal and Spain.*

*Many of these restrictions, along with the prevalence of state ownership in particular markets, had sought to preserve highly regulated and segmented national banking markets. Business lines, in non-universal banking markets, were clearly demarcated with different financial institutions competing in well defined business areas. For example, insurance firms, mortgage companies and pension operators mainly competed against each other in clearly segmented markets; commercial banks mainly focused on mainstream deposits and loan business. This separation between specific business-lines had the effect of limiting inter-financial services market competition and tended to preserve the status quo within the respective market segments.*

*In some EU countries this separation went even further, for example banks in France, Italy and Spain were registered at the local, regional and national level, thus limiting geographical competition. Branching restrictions in France, Italy and Portugal also curtailed branch expansion as a means of non-price competition and the mandatory investment requirements imposed on Portuguese and Spanish banks also constrained their ability to grow and diversify their balance sheet business.*

Progress in harmonization came in 1977 with the adoption of the First Directive on the Coordination of Laws, Regulation and Administrative Provisions Relating to the Taking up and Pursuit of Credit Institutions. Essentially, this directive set the rules for expansion across national boundaries within the EC by adopting the concept of “host country rule”. Under host country rule, expansion is possible. However, a foreign bank or branch is required to gain permission from the supervisory authorities in the host country before they are allowed to operate in the host nation. According to the First Banking Directive, banks and branches were typically regulated as emphasized by Baltensperger and Dermine (1993) by each host country’s regulatory agency.

Under this regime, banks involved in cross border expansions were required to operate under multiple regulatory and capital standards, i.e. one for their home country and another for each host country where they operated. Furthermore, in most countries branches had to be provided with earmarked endowment capital as if they were new banks, and supply of cross-border services were impaired by the restrictions on capital flows. Thus, the objective of transforming the segmented national markets into a common single market could not be achieved with the First Banking Directive.

In April 1983, a White Policy Paper on financial integration called for further work to achieve a better allocation of savings and investment in the EC. Following various European Councils, the Commission (1985) proposed in 1985 its White Paper on the completion of the internal market by 1992. The Paper called for the removal of physical, technical and fiscal barriers in all industries by January 1, 1993. The content of the White Paper was incorporated into the 1986 Single European Act, which called for the effective integration of markets.

In the context of banking, the White Paper called for a single banking license, home country control and mutual recognition. In order to establish the single market in banking services, the EU introduced a series of key Directives, which can be considered under five headings: barriers to trade and establishment, capital adequacy, deposit protection, consolidated accounts and supervision, liberalization of capital movements and interest rate deregulation.

### ***2.1 Barriers to Trade and Establishment***

The cornerstone of the single market program is the Second Banking Directive, which was adopted in 1989 by Council Directive 89/646/EEC to be implemented at the beginning of 1993. The Second Banking Directive has three major components. First, it defined exactly what is meant by “banking”. The banking activities permitted in the EU and specified in Table 3 cover all major commercial and investment banking activities, implicating the endorsement of universal banking.

Thus, according to the Second Banking Directive credit institutions can engage besides the traditional commercial banking activities in all forms of transactions in securities, including transactions for their own account or for the account of customers in all types of security, participation in share issues, and portfolio management and advice.

**TABLE 3 Banking activities permitted in the European Union**

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1	Deposit taking and other forms of borrowing
2	Lending (including consumer credit, mortgage credit factoring, invoice discounting, and trade finance)
3	Financial leasing
4	Money transmission services
5	Payment services (including credit cards, electronic funds transfer, point of sale, traveller checks, and bank draft)
6	Providing guarantees and commitments
7	Trading on their own account or for customers in money-market instruments, foreign exchange, financial futures and options, exchange and interest rate instruments, and securities
8	Participating in share issues and providing services related to such issues (for shares, bonds, and other securities), including corporate advice and arranging mergers and acquisitions
9	Money brokering
10	Portfolio management and advice
11	Safekeeping of securities
12	Offering credit reference services
13	Safe-custody services

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The second component of the directive is the principle of home-country control, or mutual recognition. According to this principle each country acknowledges the regulation of its partners and accepts service provision by foreign institutions as if they were domestic entities.<sup>7</sup> Hence, banks are regulated by, and conform to, the regulation and legislation of their home country. If a bank does business in another EU nation, the regulatory authorities of the host nation recognize the primacy of the home nation.

The third component of the Second Banking Directive is the concept of a “single passport”. Mutual recognition of the single banking “license” eliminates the need for EU banks to get a local banking charter from the host country for branches and/or bank products that are permitted by their home country bank regulations. A bank licensed to do business in any EU nation is allowed to do business in any other EU nation on whatever basis it considers most advantageous. The host nation is not allowed to impose any barriers to such action.

Supervision by the home country and the application of the principle of mutual recognition are possible only after adaptation by the member countries of the minimal supervisory standards introduced by directives and close cooperation of the supervision authorities of the member states. Therefore, the Second Banking Directive introduces essential supervisory requirements related to sound administrative and accounting procedures, the initial capital necessary for authorization and the execution of activities, and the supervision of holdings of banks in sectors outside the banking business.

Under this principle, banks operating in more than one EU member state are entitled to comply with set of uniform standards and capital requirements, to a great extent. However, for gold-plating cases or related with the cases of the breach of the law by the operating institution possible risks are attempted to be eliminated via close cooperation of the supervisory authorities.

Concerning the banks' holdings in non banking institutions we note that the Second Banking Directive introduces two limits. First, a credit institution may not have a qualifying holding exceeding an amount of 15 percent of its own funds in such an undertaking. Second, the amount of all holdings in such undertakings may not exceed 60 percent of the own funds of the credit institution. However, the member states need not apply the limits to holdings in insurance companies.

The recently published Directive 2000/12/EC relating to the taking up and pursuit of business of credit institutions consolidated various Directives including the Second Banking Directive, with the aim of compiling them under a single publication.

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<sup>7</sup> Mutual recognition allows in principle the maintenance of different rules in the participating countries, but the granting of market access without establishing a harmonized regulation implies that institutions from different countries will compete subject to different regulatory constraints. Since these constraints will usually undermine the competitive position of banks, regulatory institutions are likely to engage in a process of competitive deregulation, attempting to ensure that the entities under their regulatory control are not handicapped relative to their competitors. Moreover, banks are likely to alter their strategies –including their location– to take advantage of the more favourable regulatory environment. It appears, therefore, that mutual recognition could foster a high degree of market integration.

According to the directive the essential requirements for authorization (subject to the exceptions set out in the Directive) are: (i) existence of separate own funds, (ii) existence of initial capital of at least EUR 5 million, (iii) presence at least two persons who effectively direct the business of the credit institution (and who are of sufficiently good repute and have sufficient experience to perform such duties), and (iv) notification to the competent authorities of the identities of the shareholders or members, whether direct or indirect, natural or legal persons, that have qualifying holdings, and of the amounts of those holdings. Applicants must be notified whenever an authorization is refused and the reasons for refusal must be given. The competent authorities may withdraw an authorization subject to the conditions set out in the Directive, in particular when the above conditions are no longer fulfilled. The parties concerned and the Commission must be notified when authorization is withdrawn and the reasons for withdrawal must be given. The competent authorities of the home Member State must require that all credit institutions have sound administrative and accounting procedures and adequate internal control mechanisms. Furthermore, the Directive states that supervision in principle is carried out by the home Member State, while the competent authorities of the Member States concerned cooperate closely. In particular, they supply each other with any information necessary for effective supervision. Such information exchanges are protected by professional secrecy.

## ***2.2 Capital Adequacy***

The amount of capital a bank holds has an effect on its competitiveness, its financial strength, its profitability, and its incentives to take risk. Requiring a bank to have sufficient capital increases the banks' incentives to take less risk. This has to do as emphasized by Summer (2003) with an important incentive feature of debt finance combined with the legal construction of limited liability. Limited liability implies that after all assets have been liquidated and all outstanding debt has been redeemed as far as possible, the remaining debt is forgiven. Thus, the cash flows of owners under limited liability cannot become negative. Since owners in a leveraged firm have all the gains from success but can pass on losses to the lenders by limited liability, they have an incentive to take more risk than a Pareto optimal risk allocation between different claimholders would require. Since banks have a capital structure with largely debt, risk shifting is supposed to be particularly problematic in banking.

Thus, when a bank is required to hold large amount of equity capital, the bank has more to lose if it fails and is thus more likely to pursue less risky activities. Furthermore, capital requirements of banks also represent a cushion against losses elsewhere in the bank, standing between those losses and potential losses to depositors and/or the taxpayer.

The capital requirements usually take three forms. The first type is based on the leverage ratio defined as the amount of capital divided by the bank's total assets. It did not make adjustment for risk. On the other hand the second type of capital requirements introduced in 1988 makes adjustments for risk and is referred to as the Basel Committee Capital Accord (Bank for International Settlements) on bank capital requirements. Under the risk based capital requirement, minimum capital standards are linked to off-balance sheet activities such as loan commitments, letters of credit, interest rate swaps, and trading positions in futures and options. The Basel Accord required that banks hold capital of at least 8 percent of their risk weighted assets as a buffer for losses they might incur.

Finally, the third type of capital requirement was introduced in 1996 to cover risk in trading activities of larger banks. These banks are required to use their own internal models to calculate how much they would lose over a certain time period and then set aside additional capital, called Tier 3.

Because of the crucial role of capital in banking, the EU promulgated a series of directives intended to ensure that all banks in the EU had the same capital standards. The Own Funds Directive (89/299/EEC) harmonized the definitions of own funds for all credit institutions in the EU to ensure the comparability of prudential ratios of EU banking organizations. The Directive 2000/12/EC, which has replaced among others the Own Funds Directive without affecting its substance, defines capital in two tiers. Tier 1 (core) capital consists of equity capital and disclosed reserves that have been created or increased by appropriations of retained earnings or other surplus (e.g. share premiums, retained profit, general reserves and legal reserves) minus intangible assets and material losses of the current financial year. The Tier 2 (supplementary) capital consists of undisclosed reserves, asset revaluation reserves, general provision/general loan-loss reserves, hybrid capital instruments and subordinated capital. The amount of Tier 2 capital must not exceed the Tier 1 capital. In addition, the commitments of members of credit institutions (cooperative societies) and subordinated loans may not exceed one half of the original own funds. The Directive also indicates the formula for calculating own funds on a consolidated basis.

The objective of the Solvency Ratio Directive (89/647/EEC) was to harmonize minimum solvency requirements for credit institutions in the EU. The Directive addressed credit risk, that is to say the risk of counterparty failure, and provided a weighting system which grouped assets into four broad categories of risk with weights – 0, 20, 50 and 100 percent. Countries have been divided into two groups. The first group referred as the OECD consists of full members of the OECD and countries which have concluded special lending arrangements with the IMF associated with the Fund's General Arrangement to Borrow. All other countries are called countries outside the OECD. Claims on central government within the OECD attract a zero weight. A 20 percent weight is applied to claims on all banks, wherever incorporated, with a residual maturity of up to and including one year. Longer-term claims on OECD incorporated banks will be weighted at 20 percent, and longer term claims on banks incorporated outside the OECD at 100 percent.

Loans fully secured by mortgage on occupied residential property have 50 percent, and all claims on private sector and claims on central government outside the OECD 100 percent weight. The solvency ratio is then calculated by expressing own funds as a percentage of risk adjusted assets. The minimum level of solvency ratio was set at 8 percent. The Directive 2000/12/EC replacing the Solvency Ratio Directive has not affected its substance. Finally, it should be emphasized that the requirements of the Directive 2000/12/EC are consistent with those of the 1988 Basel Committee Capital Accord (Basel I) on international banking capital adequacy.

An unacceptable concentration of risk can occur if a bank has what is deemed to be an excessive degree of exposure with a client or group of connected clients. The Directive on Monitoring and Controlling Large Exposures of Credit Institutions (92/121/EEC) regulates the supervision of large exposures of credit institutions, sets limits on exposures of credit institutions, and sets limits on exposures as a large percentage of reserve funds.

It requires that the maximum lending exposure to a single client or to a group of connected clients cannot exceed 25 percent of a bank's own funds; a bank must report to its supervisor any exposure greater than 10 percent of capital, since it is defined as a "large exposure" and the total of large exposures extended by a credit institutions cannot exceed 800 percent of its own funds.

The Directive on the capital adequacy of investment firms and credit institutions (93/6/EEC), called the Capital Adequacy Directive (CAD), sets out the minimum capital requirements for credit institutions and investment firms for the market and other risks associated with their trading activities. The capital requirement calculation that banks must meet is based upon the allocation of positions between the trading book and the non-trading, or banking book. Only certain types of instrument can be included in the trading book consisting of positions in securities and other financial instruments which are held for trading purposes. They are usually carried out by trading desks and are typically focused on short term profit opportunities arising from price movements in the financial markets. The risk related to such activities is termed 'market risk'. In contrast banking book activities consist of positions and exposures which are not in the trading book and they focus on longer term, more traditional banking activities such as the granting of credit. Positions and exposures in the banking book are subject to the risk weighting capital requirements based on the Directive 2000/12/EC relating to the taking up and pursuit of business of credit institutions which sets out the rules for credit risk.

Banks whose trading book business exceed 5 percent of their total business and their trading-book positions normally exceed 15 million Euros have to back the following risk categories of their trading book with regulatory capital: (i) position risk of debt instruments, stocks, and index futures, (ii) open foreign exchange position,<sup>8</sup> (iii) settlement risk, (iv) exposure due to free deliveries, (v) repurchase agreements and securities lending, and (vi) credit risk of over the counter (OTC) derivatives, mutual fund shares and other positions. To cover the position risk each bank must keep in the form of capital a given percentage of its long and short positions, after allowance has been made for its hedging operations. The foreign-exchange risk requirement refers to losses which the bank may suffer in the event of adverse exchange-rate movements.

However, two important points should be made: (a) there is only a capital charge for foreign exchange if the institution's overall net foreign exchange position exceeds 2 percent of its total own funds, and (b) the foreign exchange position is calculated on the basis of the institution's entire books and is not calculated in relation to trading book transactions alone. Settlement risk consists in the fact that a delay in the settlement of the transaction caused by the counterparty may give rise to a trading loss, because the market value of the underlying trade may change to the disadvantage of the credit institution in the meantime. The risk associated with free deliveries differs from settlement risk in so far as in the latter case the credit institution has not yet made any payment or delivery, whereas the free delivery risk relates to trading activities in the context of which the credit institution already made a payment or delivery, but the payment or delivery due from the counterparty is still outstanding. Hence there is the risk that the unilaterally made payment or delivery is forfeited in case of a default of the counterparty.

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<sup>8</sup> The foreign exchange risk covers both the trading book and the banking book

On the other hand transactions based on securities in the trading book and having as their subject matter the transfer of securities included in the trading book by the credit institution to a third party for a defined period of time and against payment of an amount of money or provision of a collateral are considered as repurchase or reverse repurchase agreements or securities lending or borrowing transactions based on securities in the trading book. In this case the regulatory requirement against default risk need to be calculated. Finally, in the case of OTC derivative instruments included in the trading book, regulatory capital backing needs to be provided.

The CAD directive was amended by directive 98/31/EEC (CAD2) extending the concept of "trading book" to positions in commodities and commodity derivatives which are held for trading purposes and are subject mainly to market risks. As a result banks are permitted to use either the standard approach or the model approach to calculate their market risks.

Banks implementing the internal model approach will calculate their market risk-based capital requirements on the basis of their value-at-risk figure.<sup>9</sup> Banks are also required to conduct a regular stress testing program. Whether a bank can use the model approach is determined by compliance with the qualitative and quantitative criteria defined in the regulation. Currently, all banks are using the standard approach to report their market risk capital charges on both a solo basis (since January 2002) and on a consolidated basis (since July 2002). With the CAD2 there has been no change in the CAD regime. But in parallel with CAD 2 principles, the communiqué on capital adequacy was amended in February 2001 to cover market risks, and further amendments were made in January 2002 to include options and to address some other specific issues, such as the inclusion of Tier 3 capital and structural positions.

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<sup>9</sup> The value at risk, or VaR, is a measure used to estimate how the value of an asset or of a portfolio of assets could decrease over a certain time period (usually over 1 day or 10 days) under usual conditions. It is typically used by securities houses or investment banks to measure the market risk or volatility risk of their asset portfolios, but is actually a very general concept that has broad application. VaR has two parameters: the time period we are going to analyze (i. e. the length of time over which we plan to hold the assets in the portfolio - the "holding period") and the confidence level at which we plan to make the estimate. The typical holding period is 1 day, although 10 days are, for example, required to compute capital requirements under the Capital Adequacy Directive (CAD). As an example VaR (1 day; 95 percent) measures what will be the maximum loss (i. e. decrease in portfolio value) over 1 day, if one assumes that the 1 day will not be one of the 5 percent days that are the worst under normal conditions. It thus measures how much one could lose, but it also provides an indication of how much money might be put aside as a cushion for days when losses are unexpectedly large. Thus VaR is not only a risk measurement tool, but also facilitates risk management.

Lately in parallel with the consultative process of the Basel Committee on Banking Supervision for the finalization of the New Basel Accord (Basel II), the EU released an advance draft of a new directive on the EU capital framework known as Capital Adequacy Directive 3 (CAD 3), which translates Basel II into EU legislation and applies Basel-type provisions to investment firms and domestic credit institutions as well as to international banks.<sup>10</sup>

Unlike Basel II, which addresses internationally active banks, CAD 3 will be applied to all credit institutions in the EU (including building societies). The directive will take effect in 2007.

### ***2.3 Deposit Insurance***

The EU issued with the Council Directive 94/19/EC a Deposit Guarantee Scheme Directive to be effective on July 1, 1995. The directive, designed to increase the confidence and stability of the financial system, made it compulsory for every EU member state to establish a deposit insurance fund, and for credit institutions to join this insurance plan. In this context, the deposit insurance scheme was regarded as essential as the prudential rules for the completion of the single banking market. The directive set the coverage of the aggregate deposits of each depositor in the event of deposits' being unavailable up to ECU 20,000. The Directive explicitly allowed the member states to provide a higher cover for deposits over this determined amount. Although no indication as to which public authority (or a private one) the guarantee scheme would under the responsibility be the spirit of the directive ensures the public character of the whole scheme. On the other hand, in the pre-ambler paragraphs there exists an open indication as putting the cost of financing of the scheme onto the credit institutions. . The directive also indicated that depositors should be paid in a short period of time following the unavailability of the deposit . Furthermore, the directive allowed a bank with a low-coverage home-country scheme to enter a high-coverage market and join the host-country scheme for the difference. According to the directive the host-country scheme provides deposit protection coverage in excess of what the home-country provides.

As a result of this directive, a number of different deposit protection schemes operate side by side in the single market, as Table 4 indicates. Coverage varies greatly, ranging from 20,000 to 114,000 Euros. This variation implies as emphasized by Murphy (2000) a large difference in the amount of safety that can be provided from one country to the next.

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<sup>10</sup> The Basel II is fundamentally about better risk management and corporate governance on the part of banks, as well as improved banking supervision and greater transparency. In fact, it is also about increasing the stability of the global financial system, to the benefit not only of banks, but also consumers and businesses. The new capital framework attempts to achieve these objectives with three mutually enforcing pillars. The 1<sup>st</sup> pillar (capital requirement) aligns the minimum capital requirements more closely with banks' underlying risks. The 2<sup>nd</sup> pillar (supervisory review) allows supervisors to evaluate a bank's assessment of its own risks and determine whether that assessment seems reasonable. Finally, the 3<sup>rd</sup> pillar (market discipline) ensures that the market provides yet another set of eyes. By means of the 2<sup>nd</sup> pillar, the supervisors provide an extra set of eyes to verify that the bank understands its risk profile and is sufficiently capitalized against its risks. Also, by means of the 3<sup>rd</sup> pillar, it is intended to strengthen incentives for prudent risk management. Greater transparency in banks' financial reporting should allow marketplace participants to better reward well-managed banks and penalize those poorly-managed ones.

**TABLE 4 Summary of deposit protection schemes in European Union**

Country	Funded	Coverage	Premium	Location of Deposit Insurance Agency
Austria	No	22,000 Euro	ex post, pro rata	Private
Belgium	Yes	20,000 Euro	.02 % insured liabilities	Bank supervisory agency
Denmark	Yes	20,000 Euro	0.2 % insured deposits (max.)	Bank supervisory agency within central bank
Finland	Yes	27,000 Euro	.05 % to .3 % (risk based) on insured deposits	Supervised by bank supervisor and ministry of finance
France	No	60,000 Euro	on demand but limited	Responsibility of bank supervisor, part of central bank
Germany	Yes	90 % of capital for savings banks, 90 % of deposit up to 20,000 Euro for commercial banks	0.3 % of insured deposits	Private
Greece	Yes	20,000 Euro	0.025 % to 1.25 % of deposits	Private
Ireland	Yes	90 % coinsurance to 22,000 Euro	0.2 % of insured deposits	Private
Italy	No	114,000 Euro	ex-post risk adjusted 0.4 % to .8 %	Part of central bank
Luxembourg	No	90 % coinsurance to 22,000 Euro	ex-post	Private
Netherlands	No	20,000 Euro	ex-post	Private
Portugal	Yes	20,000 Euro coinsurance to 45,000 Euro	risk based .08 % to .12 % of insured deposits	Private
Spain	Yes	20,000 Euro	max. of .2 % of insured deposits	Private
Sweden	Yes	20,000 Euro	max. of .2 % of insured deposits	Private
United Kingdom	Yes, small (mostl to 22,222 Euro ex-post)	coinsurance	on demand	Separate legal entity staffed by bank supervisor

Source: Garcia (1999)

#### ***2.4 Consolidated Accounts and Supervision***

The harmonization of legislation governing companies that are members of the bodies of undertakings was necessary to ensure that consolidated accounts are drawn up in a way that financial information concerning such bodies of undertakings may be conveyed to members and third parties, as well as to achieve comparability and equivalence in the information that companies must publish within the European Community.

The Council Directive on the supervision of credit institutions on a consolidated basis (92/30/EEC), which replaced the previous directive 83/349/EEC and was integrated into the text of the Directive 2000/12/EC of the European Parliament and of the Council of March 20, 2000, provided a framework for the supervision of the consolidated financial situation of a credit institution the parent undertaking of which is a financial holding company. The consolidated accounts must give a true and fair view of the assets and liabilities, the financial position and the profit and loss of all undertakings consolidated taken as a whole.

The Council Directive on the annual accounts and consolidated accounts of banks and other financial institutions (86/635/EEC) provided special accounting rules for the financial sector. It described the standardized form of balance sheet and profit-and-loss accounting, as well as rules for the valuation of certain assets.

According to the capital adequacy directives which are integrated into the Directive 2000/12/EC, credit institutions are subject to prudential requirements with respect to supervision of solvency, adequacy of own funds to cover market risks and large exposures calculated on a consolidated basis, where the relevant company has a credit institution subsidiary or an interest in such a company, or if the parent group is a financial holding company. Generally, the supervisory authority of the member country which authorized the parent company of this group is responsible for consolidated supervision of the group, although the Capital Adequacy Directive does permit delegation to other competent authorities in certain circumstances. Other provisions permit the offsetting of requirements that would otherwise apply individually to each group company.

### ***2.5 Liberalization of Capital Movements and Interest Rate Deregulation***

The freedom of movement of capital was seen as mentioned above as one of the essential elements of a fully integrated European single market. With regard to legislation on the liberalization of the movement of capital, a final directive was adopted in 1988. The 1988 directive stipulated that freedom of capital movement should exist, in principle by July 1, 1990. Only Greece, Ireland, Spain, and Portugal could apply derogation provisions until January 1, 1993. This deadline was extended to January 1, 1994, which was the start of the second phase of the European Economic and Monetary Union (EMU) as implied by the Treaty of Maastricht of 1992.

From the early 1970s onwards, government regulation of the financial sector shifted from the restriction of market forces to more market oriented systems. Although there is no specific EU legislation relating to deregulation of interest rates, interest rates controls were gradually disbanded. By 1993 interest rate determination was fully deregulated in the EU.

### ***2.6 Recent Developments***

A further step towards a single market in financial services was taken on January 1, 1999 with the launch of the third stage of EMU. Since the irrevocable fixing of exchange rates and the introduction of the euro the twelve current member states of EMU have enjoyed cross border access to the euro zone's financial markets without the risks and costs caused by exchange rates.



Thus, measured in terms of criteria such as the free movement of capital and payments, freedom of establishment, free movement of services and facilitation of cross-border transactions as a result of the principles of home-country control, minimum standards at EU level and the single European passport with mutual recognition, the single market in banking seemed to have been achieved at the end of 20<sup>th</sup> century. But despite this progress it is emphasized that there are still barriers to cross border financial transactions within the EU. Although the EU has managed to create single sub-markets in banking, insurance and investments, it does not yet have a single market in financial services as of the beginning of 21<sup>st</sup> century.

Just prior to the introduction of the euro the European Council in June 1998 asked the European Commission to prepare a report on financial services. Upon this mandate, the Commission proposed a framework for action by means of a report with the title “Financial Services: Commission proposes Framework for Action” where suggestions on the need of effective enforcement of the financial services legislation without having a radical surgery, the adaptation of new and flexible methods vis-à-vis the changing market conditions and introduction of new legislation especially in the fields of pension funds and consumers were made. In the following year, in May 1999, the Commission furthering previous year’s work on financial services published a comprehensive document called Financial Sector Action Plan (FSAP), which has thereafter functioned as a basic framework for new political initiatives concerning European capital market law and company law. FSAP distinguishes between strategic objectives concerning: a single EU wholesale market; open and secure retail markets; prudential rules and supervision; and general objectives concerning wider conditions for an optimal single financial market. The aim is to provide guidelines for the financial services policy at the EU level and to set out a framework for an integrated capital market by 2005 while the target date for the integration of the securities and the risk capital markets was pronounced to be end-2003.

In order to attain the first strategic objective concerning a single EU wholesale market, it is according to the FSAP necessary to take action among others to enable companies to raise capital on an EU-wide basis, to establish a common legal framework for integrated securities and derivatives markets, and to enhance the comparability of financial reports issued by listed companies. To attain the second strategic objective concerning retail markets, the FSAP proposes actions to bring about convergence of rules on business-to-consumer marketing and sales techniques for financial services, to facilitate the free provision of services by insurance intermediaries, and to improve the quality of information to consumers of financial services. With respect to the third strategic objective, prudential rules and supervision, the FSAP contains proposed actions concerning winding up and liquidation of financial institutions, disclosure of financial instruments, the capital framework for banks and investment firms, solvency requirements for insurance companies, and prudential rules for financial conglomerates. Proposed actions concerning wider conditions for an optimal single financial market comprise a directive on savings tax, a review of taxation of financial service products, proposals for coordinating the tax arrangements governing supplementary pensions, and a review of EU corporate governance practices.

Over the past few years the EU has been very active and FSAP has strongly boosted the integration of the financial markets. Moreover, the EU has made considerable progress in giving the single market for financial services a more efficient institutional framework. The ‘Lamfalussy Process’ helped make the legislative process more flexible so that the regulatory authorities can respond more quickly to events in the rapidly changing markets.<sup>11</sup> According to the Tenth Progress Report on Financial Services of June 2, 2004 prepared by the European Commission 93 percent of the 42 FSAP measures proposed have been completed. The list of adopted directives, amendments and regulations cover areas such as fair value accounting, application of international accounting standards, financial collateral arrangements, the European Company Statute, undertaking for collective investment in transferable securities (UCITS), distance marketing of financial services, insurance intermediaries, winding-up and liquidation of insurance undertakings and banks, electronic money, money laundering, and solvency requirements for insurance companies.

FSAP as emphasized above has strongly boosted the integration of financial markets in the EU. However, as a number of issues to be tackled with still exists a new FSAP document is in the process of being prepared. To this end, a Green Paper on *Financial Services Policy (2005-2010)* was prepared by the Commission (2005) in May 2005. This document, which received comments through 1 August 2005 serves to be the draft document for the new FSAP, which is to be presented in November 2005. In this context, the Green Paper emphasizes the implementation of the existing rules rather than proposing new rules and stresses the importance of cooperation in furthering the integration among the EU financial markets. In this manner, the new areas of focus in the upcoming 5 year period in regards with the financial markets of the EU will be asset management, retail financial services and convergence of the supervisory practices and standards across Europe, encouraging cross-border investment and influencing the global financial market supervisory practices.

### **3. RESTRUCTURING OF THE BANKING SECTOR AND EVOLUTION OF REGULATORY REGIME IN TURKEY**

The Letter of Intent (LOI) of May 3, 2001 submitted to the IMF in the aftermath of the February 2001 currency crises manifests the start of a new episode with the main pillars of (i) an independent and implicitly inflation targeting central bank with the goal of price stability, (ii) floating exchange rate regime, (iii) fiscal discipline which is formulated in terms of the primary budget surplus targets, and (iv) a re-structured financial sector which diversifies its risks in a rational manner. Major agenda items on the financial sector were the reformation of the SDIF-managed banks, restructuring of public banks, taking control of the connected lending practices and implementing capital charges for banks with foreign exchange exposures. More importantly, the repo (repurchase) agreements have been included in the banks’ balance sheet definitions, which made the repo transactions directly observable on the financial reports of the banks. In this way, the gap between the accounting practices of the Turkish banking sector and the international standards was substantially narrowed. Simultaneously the BRSA announced the Banking Sector Restructuring Program. The main objectives of the program were the elimination of distortions in the financial sector and adoption of regulations to promote an efficient, globally competitive, sound Turkish banking sector.

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<sup>11</sup> For a discussion of FSAP see Balling (2004).

The restructuring program was based on four main pillars: (i) restructuring the state banks; (ii) seeking prompt resolution of the intervened banks; (iii) strengthening the private banks; and (iv) strengthening the regulatory and supervisory framework.

To restructure the state banks the Treasury issued government bonds to securitize the duty losses of state banks. The second pillar of the restructuring strategy was the resolution of the banks taken over by the SDIF. During the period 1999 to 2004 management of twenty one banks was transferred to the SDIF due to their weak financial structures, which imposes serious risks on the overall economy. All liabilities of these banks were taken over by the SDIF. Government bonds issued by the Treasury were sufficient to meet the required funds needed for the resolution of the banks in which the SDIF had intervened. In addition, the banking licenses of eight banks were terminated and their assets were liquidated. During the same period, 11 bank mergers took place. The third pillar of the restructuring strategy was the establishment of a sound private banking sector. Whenever necessary the private banks' capital was strengthened through public support.

The LOI of June 26, 2001 emphasized (a) the setting of the requirement of immunity for BRSA staff from prosecution while performing their duties, (b) tax deductibility for specific loan loss provisions and (c) regulations on connected lending practices in line with the EU framework. On January 18, 2002, a new stand-by arrangement has been signed. The corresponding LOI mentioned that by then the financial restructuring of the state banks was complete. In addition, two key regulations were introduced as of January 1, 2002. First, the capital charges were included in the capital adequacy ratio (CAR) calculations on a solo basis. The second was the monitoring of internal control and risk management.

The LOI of April 3, 2002 defined the Istanbul Approach as an action plan to complement the bank rehabilitation, since the restructuring of corporate debt immediately relieves the pressure on the banks' financial standing.<sup>12</sup> The LOI of June 19, 2002 gave the signals of improvements in the bankruptcy and foreclosure procedures. The LOI of July 30, 2002 mentioned that the Istanbul Approach was operational, and that there was need for measures to strengthen the supervision of insurance companies.

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<sup>12</sup> The 2000-01 financial crisis had an extremely devastating impact on the real sector. Practically all sectors of the economy experienced a deep shrinkage, specifically between 6 and 10 percent. Consequently, the firms' ability to pay back or rollover their existing financial liabilities, was limited. In the aftermath of the crisis, the Banks Association of Turkey working with the government and industry representatives took the lead in developing a voluntary, non-judicial workout program based on the *London Approach*. The program was informally referred to as the *Istanbul Approach* and required the strong backing of the Undersecretariat of Treasury and the Ministry of Finance, as policy, regulatory efforts and tax incentives were essential for landing the program on operational grounds. The Istanbul Approach was supported by the amendments made by the Law No: 4743 dated January 31, 2002. A Framework Agreement signed among 34 commercial banks and non-bank financial intermediaries in June 2002, was at the heart of the Istanbul Approach. The *Approach* aimed at an environment in which manufacturing companies with financial problems could survive and continue their activities in a productive manner. Because of its voluntary nature, the Istanbul Approach has been effective to the extent it has been mutually supported by the banking and corporate communities. Regulatory authorities did not intervene in the process and the *Approach* did not guarantee the survival of the firms in distress. It allowed companies to supplement their borrowing in case of a liquidity shortfall or pressing maintenance needs. Banks could also benefit from the tax incentives offered by the *Approach*

The LOI of April 5, 2003 pointed out that the soundness of the private banking sector was improving with increases in CAR and reductions in risk exposures of banks. In an attempt to reduce the intermediation costs which were due to high tax rates, reserve requirements and other duties, an inter-agency working committee, comprising of the Undersecretariat of Treasury, Ministry of Finance, Central Bank of the Republic of Turkey, State Planning Organization and BRSA, was designated. On the other hand the LOI of July 25, 2003 highlighted the removal of state guarantee on deposits to become effective of July 3, 2003. According to the new scheme, all depositors and creditors were to be totally protected in the case of intervened banks, whereas only the individual depositors were to be fully protected, but not the commercial deposits, in the case of banks being liquidated without intervention. The LOI of October 31, 2003 mentioned that a plan was to be started to compensate the eligible depositors at İmar Bank, which had been acquired by the SDIF in 2003. The same letter pointed out that reduction in financial transaction taxes were necessary. The transfer of non-bank credit institutions from the Undersecretariat of Treasury to BRSA, which was to take place on January 1, 2004 was delayed to January 1, 2005. Furthermore, it was decided to separate the boards of the SDIF and BRSA. More importantly, a limited savings deposit insurance was to replace the previous guarantee scheme as of July 5, 2004. Simultaneously the savings deposit insurance was limited again to YTL<sup>13</sup> 50,000 (around EUR 37,250) and a risk based deposit insurance system was introduced. Furthermore, in order to reduce the intermediation costs, stamp duties and charges on loans were abolished, deposit insurance premiums were decreased considerably, special transaction taxes on deposits were lifted, and payments to Resource Utilization Fund on commercial loans eliminated. Finally, the accounting standards have been brought in line with International Accounting Standards to a large extent.

The LOI of April 26, 2005 states that the reforms in the recent years have brought the banking regulatory framework closer to the international standards. A salutary development within this context is the approval of the new Banking Law No. 5411 on November 1, 2005, which introduced substantial changes in the regulations on establishment, internal systems, financial reporting, own funds and standard ratios.

Article 4 of the Banking Law No. 5411 specifies the deposit banking activities permitted as (i) accepting deposits, (ii) granting any sort of loan, either cash or non-cash, (iii) carrying out any type of payment and collection transactions, including cash and deposit payment and fund transfer transactions, correspondent bank transactions, or use of check accounts, (iv) purchasing transactions of commercial bills, (v) safe-keeping services, (vi) issuing payment instruments such as credit cards, bank cards and travel checks, and executing relevant activities, (vii) carrying out foreign exchange transactions, trading of money market instruments, trading of precious metals and stones and safekeeping such, (viii) trading and intermediation of forward, future and option contracts, simple or complex financial instruments which involve multiple derivative instruments, based on economic and financial indicators, capital market instruments, goods, precious metals and foreign exchange, (ix) purchase and sale of capital market instruments and repurchasing or re-sale commitments, (x) intermediation for issuance or public offering of capital market instruments, (xi) transactions for trading previously issued capital market instruments for

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<sup>13</sup> YTL stands for the New Turkish Lira, which is circulating since the beginning of 2005. One YTL equals to 1,000,000 TL. The replacement of the domestic monetary unit follows from the significant fall in inflation during 2001-2004; and reflects that the economy is closer to price stability.

intermediation purposes, (xii) guarantee transactions like undertaking guarantees and other liabilities in favor of other persons, (xiii) investment counseling services, (xiv) portfolio operation and management, (xv) primary market dealing for purchase-sales transactions within the framework of liabilities assumed by contracts signed with Treasury Undersecretariat and/or Central Bank and associations of institutions, (xvi) factoring and forfeiting transactions, (xvii) intermediating fund purchase-sale transactions in the inter-bank market, (xviii) insurance agency and individual private pension fund services, and (xix) other activities to be determined by the Board.

Article 7 of the Banking Law No. 5411 is on establishment. According to the article any bank to be established in Turkey must fulfill the following requirements: (i) it should be established as a joint stock company, (ii) its shares should be issued against cash and to name, (iii) its members of board of directors shall bear the qualifications for corporate governance and have the professional experience for carrying out the planned activities, (iv) its envisioned field of activity shall be in harmony with planned financial, managerial and organizational structure, (v) its paid up capital, consisting of cash and free of all kinds of fictitious transactions should not be less than 30 million YTL (18.86 million euro), (vi) its articles of association shall not be in conflict with the provisions of this law, (vii) there should be transparent and open partnership structure and organizational chart that will not constitute an obstacle for the efficient supervision of the institution, (viii) there should not be any element that hampers its consolidated supervision, (ix) and the work plans for the envisioned fields of activity, the projections regarding the financial structure of the institution including capital adequacy, the budgetary plan for the first three years and an activity program including internal control, risk management and internal audit system showing the structural organization must be submitted.

Article 8 is on the qualifications the founders of banks have to satisfy. According to the article the founders of banks shall (i) not have been declared bankrupt, not be in possession of a certificate of bankruptcy, not have an approved application for restructuring through reconciliation or not have been issued a decision for postponement of bankruptcy, (ii) not have qualified shares or not hold control in banks the operating permission has been revoked or transferred to SDIF, (iii) not have qualified shares or not hold control in banks subjected to liquidation, and in other financial institutions subject to liquidation, excluding voluntary liquidation, in development and investment banks whose operating permissions have been revoked, or in credit institutions whose shareholder rights except dividends and management and control have been transferred to the SDIF or whose permission to conduct banking transactions and accept deposits and participation funds have been revoked, before the transfer of aforementioned credit institutions to the SDIF or before their permission and authorization for accepting deposit and participation fund have been revoked, (iv) have not been sentenced to heavy imprisonment or imprisonment of more than five years, even though pardoned, with the exception of negligent offenses, or have not been convicted of infamous crimes, (v) have necessary financial strength and respect, (vi) have the honesty and competence required for the business, and (vii) in case of a legal person, have a transparent and open partnership structure together with the risk group.

Articles 29-32 of the Banking Law No. 5411 are on internal control, risk management and internal audit systems. According to Article 29 banks are obliged to establish and operate adequate and efficient internal control, risk management and internal audit systems that are in harmony with the scope and structure of their activities, that can respond to changing conditions and that cover all their branches and undertakings subject to consolidation in order to monitor and control the risks that they encounter. Article 30 states that banks, within the scope of internal control system, shall (i) ensure the execution of their activities in compliance with the legislation, internal regulations and banking ethics, (ii) secure the integrity and reliability of accounting and reporting systems and timely accessibility of information through continuous control activities to be complied with and performed by the personnel at any level, (iii) ensure the functional distribution of the duties and the sharing of powers and responsibilities the fund payments, the reconciliation of bank's transactions, protection of assets and control of liabilities, (iv) identify and evaluate any risk encountered and prepare the infrastructure required for managing such risks, and (v) establish an adequate information exchange network. Internal control activities shall be carried out by the internal control department and the internal control personnel to work under the board of directors.

According to Article 32 banks, within the scope of risk management system, shall establish, implement and report risk policies within the framework of the principles set by the Banking Regulation and Supervision Board (BRSB). Risk management activities shall be performed by the risk management department and personnel to work under the board of directors. Article 32 states that banks shall establish internal audit systems that involve all their units, branches and undertakings subject to consolidation. In this context, bank auditors shall investigate the conformity of the banking activities to the legislation, articles of association, internal regulations and banking principles. Internal audit activities shall be performed in an impartial and independent manner exercising due professional care by the adequate number of auditors. Those persons charged with the internal audit of the parent undertaking banks may exercise the internal audits of undertakings subject to consolidation. The internal audit report to be prepared by the internal audit unit and the authorized inspector shall be submitted to the board of directors by way of the audit committee in three-month periods, at minimum. Finally, according to Article 66 the parent undertakings that are subject to limitations and standard ratios on a consolidated basis as well as their domestic and foreign subsidiaries, their jointly-controlled undertakings, their branches and representative offices are subject to consolidated supervision. The institutions mentioned above shall keep their information and documents regarding their internal control, risk management and internal audit systems, accounting and financial reporting units, financial statements and reports as well as loans extended to risk groups, as ready and appropriate for consolidated supervision. The consolidated supervision of subsidiaries and jointly-controlled undertakings shall be performed together with the officials of the BRSA and other authorities that are legally authorized for the regulation and supervision of institutions subject to consolidated supervision, where necessary.

Articles 37-43 of the Banking Law No. 5411 are on financial reporting. According to these articles banks shall, in line with the principles and procedures to be established by the BRSB upon consulting the associations of institutions and the Turkish Accounting Standards Board taking into consideration international standards, ensure uniformity in their accounting systems; correctly record all their transactions; and timely and correctly prepare their financial reports in a style and format that will meet the requirements of providing information, that is clear reliable and comparable and that is suitable for auditing, analysis and interpretation. Banks shall not settle their balance sheets without ensuring reconciliation with legal and auxiliary books and records, branches and domestic and foreign correspondents. Parent undertakings shall prepare the consolidated financial reports in order to provide information about their financial positions and activity results as a whole. Banks shall prepare annual activity reports that include information about their status, management and organization structures, human resources, activities, financial situations, assessment of the management and expectations from the future; together with financial statements, summary of board of directors' reports and independent auditing reports. The board of directors shall be responsible for setting the basic policies, duties, powers and responsibilities pertaining to financial reporting system, including the accounting of activities, preparation, approval, audit, submission to relevant authorities and the publication of financial statements, for making information systems efficient and supervising its implementation. In addition external auditing is required. Article 33 states that if, during their audits, independent audit firms detect any matter that may endanger the existence of the bank or an evidence demonstrating that their managers have severely violated the Law or the articles of association, the independent audit firms shall promptly notify the BRSA thereof. The valuation and rating services required by the Banking Law No. 5411 and the regulations issued under this Law shall be provided by valuation and rating institutions within the framework of the principles and procedures to be set by the BRSB.

Regarding own funds and standard ratios we note that according to Article 43 of the Banking Law No. 5411 the BRSB is *“authorized to make the necessary regulations and to take any measure regarding banks in order to specify, analyze, monitor, measure and evaluate the relationship and balance between the assets, receivables, own funds, debts, liabilities, commitments of banks, revenues and expenses of banks, all other factors affecting their financial structures, and the risks encountered, by setting limitations and standard ratios as well”*. Banks are required to maintain and keep 8 percent capital adequacy standard ratio on a consolidated (applicable for banks and their financial subsidiaries combined) and unconsolidated basis in order to ensure that banks maintain adequate amount of capital against losses which may result from existing and potential risks. The consolidated financial reporting requirements allow quarterly verification of bank's compliance with the consolidated capital adequacy requirement. When evaluating the capital adequacy ratio banks are required to take capital charges for market risks such as foreign exchange risk, interest rate risk and securities price fluctuation risk.<sup>14</sup> On the other hand the liquidity ratio measured by the percentage of assets to be held against deposits for liquidity purposes is set at four percent on Turkish currency deposits and at one percent on foreign currency deposits.<sup>15</sup>

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<sup>14</sup> Banks were asked to satisfy the capital adequacy requirement on unconsolidated basis by January 1, 2002 and on consolidated basis on July 1, 2002.

<sup>15</sup> See Communique No: 2002/2 of the Central Bank of Turkey on liquidity requirements.

Regarding connected lending practices we note that new regulations introduced the concept of a risk group and defined the shareholders of a bank and its participations as belonging to the same risk group. In particular Article 49 of Law No. 5411 states that a real person and his spouse and children, the undertakings where they are members of board of directors or general manager or the undertakings which they or a legal person control individually or jointly, directly or indirectly or participate with unlimited responsibility, constitute a risk group. According to Article 50 banks are obliged in cases where loans are made to real and legal persons in the bank's risk group, to take the necessary decision by two thirds majority of the board of directors' members, and loan conditions should note favor the borrower and they should not vary from the conditions loans are made available to other persons and groups under normal market conditions. Banks are free to make loans to members of the board of directors and employees of the bank as well as their spouses and children under their custody as long as the loans do not exceed five times their monthly net total remunerations, or as long as they are extended through issuing check books and credit cards up to three times their monthly net total remunerations, or they are extended against cash, cash-like assets and precious metals, or they are extended against bills, bonds and similar securities issued and guaranteed by the Treasury, Central Bank, Privatization Administration and the Public Housing Administration. Article 51 states that in cases where the BRSB determines that loans have been extended in violation of the above mentioned points, the BRSB shall be authorized to decide for considering such loans as items of reduction in the calculation of the relevant bank's own funds and to require the obtainment of additional own funds in the amount of such loans.

According to Article 54 the total amount of loans to be extended by a bank to a risk group defined as 'a bank and its qualified shareholders, board of directors' members and general manager as well as the undertakings they control individually or jointly, directly or indirectly or participate with unlimited responsibility or where they are members of board of directors or general manager constitute' shall not be more than twenty percent of the banks' own funds. The rate is set as twenty-five per cent for each real and legal person or for any other risk group other than those specified above.<sup>16</sup> On the other hand the total of loans to be made available by banks to all shareholders, irrespective of whether they are dominant partners or whether they own qualified shares, and to persons who have indirect loan relations with such persons, shall not exceed fifty percent of own funds. The loans made available to a real or legal person or a risk group that equals to or exceeds ten per cent of own funds shall be considered large loans and the total of such loans shall not exceed eight times of the own funds. Finally, the provisions of this article shall apply on consolidated basis as well, for parent undertaking.

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<sup>16</sup> The Provisional Article 5 of Law No. 5411 states that the ratio of twenty-five percent indicated in paragraph one of Article 54 of this Law, for the loans to be extended to a certain risk group, shall be implemented as thirty-five percent until December 31, 2005 and as twenty-five percent from January 1, 2006 ; while the ratio of twenty percent in the same paragraph shall be implemented as thirty-five percent until December 31, as twenty-five percent during 2006, and as twenty percent from January 1, 2007 onwards. In the calculations to be made for the loan limitations indicated in Article 54; partnership shares shall be taken into account as forty percent in 2005, fifty percent in 2006, sixty percent in 2007, seventy five percent in 2008, ninety percent in 2009 and a hundred percent as from 1/1/2010.



In the past, conglomerates have used their banks to finance their other businesses, frequently in industries unrelated to finance. New regulations limit the amount that banks can invest in other businesses. Banks can now invest only 15 percent of their net worth in a non-financial subsidiary and the sum of such participations cannot exceed 60 percent of net worth. The government has also taken steps to correct the flows concerning the weak loan loss-provisioning rule and the lenient large exposure and connected lending limits. Tighter limits were imposed on both on- and off-balance sheet commitments to related parties and especially to companies belonging to the same group. In order to avoid any attempt by bank managers to under-report the size of their bad assets and overstate their capital Turkey introduced internationally recognized accounting and auditing standards for banks and insisted on consolidation of the accounts of banks and their affiliates. Regulation on the Principles and Procedures of Independent Auditing and Regulation on the Authorization of Independent Auditing Institutions were published in the Official Gazette on January 31, 2002. With the regulation on principles and procedures of independent auditing, the workings of the auditing system are brought to international auditing standards and defined in a more detailed fashion.<sup>17</sup> In addition the bank shareholders and managers were made personally liable for the mismanagement and abuse of bank resources. To limit the foreign exchange exposure of banks the maximum allowable open foreign exchange position was set as 20 percent as of January 1, 2002.<sup>18</sup> In addition banks are required to join the deposit insurance scheme, and there is a lender of last resort facility available for banks.

The regulations on loan-loss treatment were introduced and became effective as of July 2001. The new regulations require a detailed classification of all loans and other receivables from borrowers into five categories: standard, watch list, limited collection possibility, doubtful collection possibility and write-off.

Any loan that have a deterioration of credit or collateral quality, or in any case a non-payment of principal or interest on the due date should be moved out of the ‘standard’ category. If the non-payment period exceeds 180 days, the loan is progressively re-classified into the last three categories, which are considered ‘non-performing’ categories that prompt provisioning requirements. Loan provisioning starts at 20 percent and all loans with a non-payment period of one year must be fully provisioned.

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<sup>17</sup> Two recent experiences caused the banking regulation framework to be heavily criticized regarding its management and lack of administrative capacity to monitor the system and implement prudential standards. In the first of these experiences, Demirbank, a medium-sized commercial bank, had a severe shortage of liquidity resulting from its borrow-short-lend-long type of policies. Despite that strategy was evident for practically all market participants; the monitoring system could not timely raise the necessary red flag. The outcome was the bankruptcy of the bank in November 2000, in the midst of an IMF-sponsored stabilization program; and the eventual liquidation of the bank and the purchase of its assets by a foreign banking group. Indeed, this occurrence was considered as the beginning mark of the 2000-01 financial crisis. The second experience, which was even more severe, was the failure of the monitoring system to detect the embezzlement of funds from Imarbank. Moreover, this experience was an illustrated example of how reported chart of accounts of a commercial bank might differ from the actual (operational) ones as well as how the monitoring system could fail in catching such illegal reporting practices. These experiences underline the importance of pro-active monitoring exercises with regard to the banking sector. Indeed, the BRSA had taken a tighter stance following the Demirbank and Imarbank cases.

<sup>18</sup> See Regulation of the Central Bank of Turkey on total net foreign exchange position of January 31, 2002.

The classification of one loan into a non-performing category requires the classification of all loans to the same borrower into non-performing categories, hence providing a strong disincentive for the connected-lending practices of the past. The provisioning requirements outlined have been fully operational since January 2002.

#### **4. WELFARE EFFECTS**

During the 1990s and until the 2001 financial crisis Turkey lacked competent supervisory authorities, a regulatory framework and legal and institutional infrastructure. The prevailing prudential regulations were poorly enforced. After the 2001 crisis the banking sector has undergone a substantial reform process. The objective of the legislative and regulatory reform has been to bring the regulatory and supervisory regime for the Turkish financial sector up to the level of international practice in line with EU standards. What is needed now is strict enforcement of the rules by the BRSA to cover all public and private banks in Turkey. But regulating the banking sector along EU lines is not easy as the discussion of the previous section clearly indicates. Actual implementation of the *acquis* will take time.

In the following when considering the welfare effects of integration, we abstract from explicit consideration of problems of implementation, and assume that once the *acquis* is adopted liberalization of the sector will be achieved. This is a simplification. The problem is then reduced to the study of the linkages between regulatory regimes and performance indicators on the one hand, and given the effect of changes in regulatory regimes on performance indicators on the analysis of the effects of integration on the Turkish economy. The rest of the section is organized as follows. While the first subsection provides a review of the literature on the linkages between regulatory regimes and performance indicators, the second subsection studies the restrictions on banking services prevailing in 2005, and the third subsection analyses the welfare effects of integration in the Turkish economy.

##### ***4.1 Regulatory Regimes and Performance Indicators: Review of the Literature***

Table 5 summarizes the bank regulations and supervisory practices in the EU and Turkey as of 1999. The data has been derived from Barth et al. (2001a) and Barth et al. (2001b).<sup>19</sup> The table shows that Turkish banks faced greater restrictions compared to those in the EU on their ability to engage in the business of securities underwriting, brokering, dealing, and all aspects of the mutual fund industry, to engage in insurance underwriting and selling, and to engage in real estate investment, development, and management.

Furthermore, there were more restrictions in Turkey on the ability of banks to own and control nonfinancial firms, and on the ability of nonfinancial firms to own and control banks. Thus during 1999 Turkey had greater restrictions on bank activity than the EU.

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<sup>19</sup> In 1988 the World Bank designed and implemented a survey to collect detailed and comprehensive information on the regulation and supervision of commercial banks in 107 countries. The dataset can be found at the World Bank's website for financial research sector <http://econ.worldbank.org/external/default/main?theSitePK=478060&contentMDK=20345037&menuPK=713352&pagePK=64168182&piPK=64168060>

Table 5 further reveals there were greater restrictions on regulatory requirements for banks in the EU compared to those in Turkey regarding the amount of capital that banks must have relative to specific guidelines, and the extent to which the source of funds that count as regulatory capital can include assets other than cash or government securities, and borrowed funds. The sources of capital were verified more extensively by the regulatory or supervisory authorities in the EU than in Turkey. Thus during 1999 the EU had stricter capital adequacy requirements than Turkey. On the other hand the private monitoring variables in the table measure the degree to which private sector monitoring of banks influences bank performance and fragility by using four different indicators: (i) outside licensed audit requirement, (ii) percent of 10 biggest banks rated by international rating agencies, (iii) availability of explicit deposit insurance system, and (iv) bank accounting. The table reveals that the EU has more private oversight over the banking sector than Turkey.

**TABLE 5 Information on bank structural, supervisory and deposit insurance variables, 1999**

	EU	Turkey	Minimum Value	Maximum Value	Higher Value Indicates
<i>I. Restrictions on Bank Activities</i>					
<i>I.1 Bank Activity Regulatory Variables</i>					
(a) Securities Activities	1.13	3.00	1.00	4.00	greater restrictiveness
(b) Insurance Activities	2.20	2.00	1.00	4.00	greater restrictiveness
(c) Real Estate Activities	1.87	4.00	1.00	4.00	greater restrictiveness
<i>I.2 Mixing Banking/Commerce Regulatory Variables</i>					
(a) Bank Ownership of Non Financial Firms	2.07	3.00	1.00	4.00	greater restrictiveness
(b) Non Financial Firm Ownership of Banks	1.53	1.00	1.00	4.00	greater restrictiveness
<i>II. Capital Regulatory Variables</i>					
(a) Overall Capital Stringency	4.33	2.00	1.00	6.00	greater restrictiveness
(b) Initial Capital Stringency	1.93	1.00	0.00	3.00	less stringency
(c) Capital Regulatory Index	6.27	3.00	1.00	9.00	greater stringency
(d) Maximum Capital Percentage by Single Owner	100.00	100.00	2.00	100.00	
<i>III. Private Monitoring Variables</i>					
(a) Certified Audit Required	0.93	1.00	0.00	1.00	independent assessment
(b) Percent of 10 biggest banks Rated by International Rating Agencies	66.15	70.00	0.00	100.00	
(c) Accounting Disclosure and Director Liability	2.40	1.00	1.00	3.00	more disclosure
(d) No Explicit Deposit Insurance scheme	0.00	0.00	0.00	1.00	more private monitoring
(e) Private Monitoring Index	6.67	4.00	2.00	11.00	more private oversight
<i>IV. Supervisory Variables</i>					
<i>IV.1 Official Supervisory Action Variables</i>					
(a) Official Supervisory Power	10.27	11.00	3.00	16.00	more power
(1) Prompt Corrective Action	0.73	0.00	0.00	6.00	more promptness
(2) Restructuring Power/Restructuring	2.33	3.00	0.00	3.00	more power
(3) Declaring Insolvency Power	1.20	2.00	0.00	2.00	more power
(b) Supervisory Forbearance Discretion	2.07	2.00	0.00	4.00	more discretion
(c) Loan Classification Stringency	630.00	-	31.00	2,520.00	less stringency
(d) Provising Stringency	26.67	-	0.00	205.00	more stringency
(e) Liquidity/Diversification Index	2.13	1.00	0.00	3.00	greater diversification
<i>IV.2 Official Supervisory Resource Variables</i>					
(a) Supervisors per Bank	0.61	0.40	0.00	18.00	
(b) Bank Supervisors Years per bank	5.78	-	0.09	270.00	
(c) Supervisor Tenure	9.48	-	1.00	25.00	
(d) Onsite Examination Frequency	2.00	-	0.50	5.00	
(e) Likelihood Supervisor moves into banking	2.07	2.00	0.00	3.00	
(f) Independence of Supervisory Authority	2.27	2.00	1.00	3.00	greater independence
<i>V. Entry into the Banking Sector</i>					
<i>V.1 Competition Regulatory Variables</i>					
(a) Limitations on Foreign Bank Ownership of Domestic Banks	0.00	1.00	0.00	1.00	greater restrictiveness
(b) Limitations on Foreign bank Entry	0.00	1.00	0.00	1.00	greater restrictiveness
(c) Entry into Banking Requirements	7.07	7.00	2.00	8.00	greater restrictiveness
<i>V.2 Market Structure Variables</i>					
(a) Number of New banks	25.69	-	0.00	999.00	
(1) New Domestic Banks	15.79	-	0.00	996.00	
(2) New Foreign banks	11.15	-	0.00	36.00	
(b) No Entry Applications	0.00	-	0.00	1.00	
(1) No Domestic Applications	0.21	-	0.00	1.00	
(2) No Foreign Applications	0.08	-	0.00	1.00	
(c) Fraction of Entry Applications Denied	3.67	-	0.00	100.00	
(1) Foreign Denials	1.67	-	0.00	100.00	
(2) Domestic Denials	5.42	-	0.00	100.00	
(d) Bank Concentration	59.19	50.00	12.00	100.00	
(e) Foreign bank Ownership	16.29	6.60	0.00	100.00	
<i>VI. Government Owned Banks</i>					
Government Owned banks	9.98	35.00	0.00	80.00	
<i>VII. Deposit Insurance</i>					
(a) Deposit Insurer Power	0.47	0.00	0.00	3.00	more power
(b) Extra deposit Insurance Coverage	0.45	-	0.00	1.00	
(c) Deposit Insurance Payout Delay	4.32	-	0.03	60.00	
(d) Deposit Insurance Funds-to-Total Bank Assets	4.98	0.012	0.00	34.70	solvency of deposit insurer
(e) Moral Hazard Index	1.94	-	-2.49	3.98	more moral hazard

Source: Barth et al. (2001a)

To measure the degree of official supervisory oversight of banks Barth et al. (2001a) and Barth et al. (2001b) use a variety of variables including official supervisory power, supervisory forbearance discretion, loan classification stringency, provisioning stringency and diversification index.

In the table official supervisory power measures the extent to which official supervisory authorities have the authority to take specific actions to prevent and correct problems. It is decomposed into prompt corrective power, restructuring power, and declaring insolvency power. The prompt corrective power measures the extent to which the law establishes predetermined levels of bank solvency deterioration that forces automatic enforcement actions such as intervention, and the extent to which supervisors have the requisite, suitable powers to do so. The restructuring power measures the extent to which supervisory authorities have the power to restructure and reorganize troubled banks, and the declaring insolvency power measures the extent to which supervisory authorities have the power to declare a deeply troubled bank insolvent.

Whereas the supervisory forbearance discretion measures the degree to which supervisory authorities may engage in forbearance when confronted with violations of laws or regulations or with other imprudent behavior on the part of banks, the loan classification stringency measures the degree to which loans that are in arrears must be classified as sub-standard, doubtful, or loss. The provisioning stringency measures the degree to which a bank must provision as a loan is classified first as sub-standard, then as doubtful, and lastly as loss, and diversification index measures whether regulations support geographical asset diversification. On the other hand the official supervisory resource variables measure the supervisor tenure, outside examination frequency and independence of supervisory authority. The table reveals that the official supervisory authorities in the EU had more power, more discretion and greater independence than the corresponding authorities in Turkey during 1999.

Whereas the competition regulatory variables measure the ability of existing or new banks to enter the banking business, the market structure variables measure bank concentration, foreign bank ownership, and fraction of entry applications denied. The competition regulatory variables measure on the one hand the degree of limitations placed on the ownership of domestic banks by foreign banks and on the ability of foreign banks to enter the domestic banking industry, and on the other hand the fulfillment of specific legal requirements for obtaining a license to operate as a bank. The table reveals that there have been greater restrictiveness to entry into the banking sector in Turkey than in the EU.

Finally, the deposit insurance scheme variables in Table 5 measure the characteristics of the deposit insurance scheme in the respective countries. The deposit insurer power measures the degree the deposit insurance authority has the authority to make the decision to intervene in a bank, to take legal action against bank directors or officials, or has ever taken any legal action against bank directors or officers. The deposit insurance funds-to-total bank assets ratio measures the possibility the insurance agency itself may become insolvent. Finally, the moral hazard index measures the extend of moral hazard faced by the system.

The table reveals that the deposit insurer had more power in the EU than Turkey, that the insurance agency was more solvent in the EU than in Turkey, and that Turkey faced more moral hazard problems than the EU.<sup>20</sup>

A similar approach has been adopted by McGuire and Schuele (2000), who develop index values of restrictiveness in financial services for a number of countries. The authors extending the work of McGuire (1998) base their analysis on 1997 data and distinguish between prudential and non-prudential requirements. They note that prudential requirements aimed at ensuring the stability of the banking system by preserving solvency, limiting risks and protecting bank deposits are in general similar across economies. Therefore they abstract from consideration of prudential requirements and concentrate on non-prudential requirements. The index values of the non-prudential variables considered by McGuire and Schuele (2000) are shown in Table 6 where scores range from 0 (least restrictive) to 1 (most restrictive). In the table the restrictions have been divided into two groupings: those affecting 'commercial presence' and other restrictions called 'restrictions on ongoing operations'. Whereas the first group indicate the restrictions on the movement of capital, the latter group is modeled as restrictions on trade in banking services. The commercial presence restriction grouping covers restrictions on licensing, direct investment, joint venture arrangements, and the permanent movement of people. The other restrictions grouping covers restrictions on raising funds, lending funds, providing other lines of business, expanding banking outlets, the composition of the board of directors, and the temporary movement of people. Given the scores shown in Table 6 for each variable considered the authors assign weights to the variables and obtain first restrictiveness index values for the two categories and then the overall restrictiveness index values for the economies considered. Table 6 reveals that the Turkish banking system is more restrictive than the banking system in the EU. Kalirajan et al. (2002) use this information to study the effects of restrictions in the banking sector on the performance indicators.

**TABLE 6 Restrictiveness index scores and price effects for banking services**

	Restrictiveness Index		Price Effect	
			EU	Turkey
	EU	Turkey	EU %	Turkey %
Licensing of banks	0.0100	0.2000	0.7515108	16.847931
Direct investment	0.0100	0.0100	0.7515108	0.8423965
Joint venture arrangements	0.0050	0.0525	0.3757554	4.4225818
Permanent movement of people	0.0085	0.0119	0.6402872	1.0024519
<i>Restrictions on establishment total</i>	<i>0.0335</i>	<i>0.2744</i>	<i>2.5190641</i>	<i>23.115361</i>
Raising funds by banks	0.0075	0.0075	0.5636331	0.6317974
Lending funds by banks	0.0075	0.0075	0.5636331	0.6317974
Other business of banks - insurance and securities services	0.0050	0.0525	0.3757554	4.4225818
Expanding the number of banking outlets	0.0025	0.0131	0.1878777	1.1056455
Composition of the board of directors	0.0119	0.0120	0.8973039	1.0125606
Temporary movement of people	0.0028	0.0074	0.2130533	0.6212674
<i>Restrictions on ongoing operations total</i>	<i>0.0373</i>	<i>0.1000</i>	<i>2.8012564</i>	<i>8.4256501</i>
<u>Index value</u>	<u>0.0708</u>	<u>0.3744</u>	<u>5.3203206</u>	<u>31.541011</u>

Source: Australian Productivity Commission website [www.pc.gov.au](http://www.pc.gov.au).

Kalirajan et al. (2002) note that banks provide a wide range of financial services including deposit-taking, lending, insurance and securities. But they emphasize that although banks are diversified entities, their core business remains the matching of depositors and lenders. Thus, the price of banking services can be measured by the net interest margin (NIM), the difference between the interest rate banks charge on their loans and the rate they pay on their deposits.

<sup>20</sup> This conclusion is based on the experience of Turkey with respect to moral hazard problems.

Restrictions on trade in banking services is expected to increase the interest margin or the price of banking services.

The effect of these restrictions in the banking sector on the net interest margin is shown in column 2 of Table 6 for the EU countries and Turkey. The table reveals that as a result of restrictions in the banking sector net interest margin in EU increases relative to the free trade net interest margin by 5.3203 percent, and that the increase amounts to 31.541 percent in the case of Turkey. One could thus infer that the net interest margin in Turkey will decrease by 26.22 percent when Turkey would adopt and implement the EU rules and regulations on banking services.

#### ***4.2 Restrictions on the Banking Services during 2005***

To estimate the ad valorem equivalent of barriers to the banking services sector in Turkey during 2005 we first calculate the restrictiveness index following the methodology of McGuire and Schuele (2000) and Kimura et al. (2003). Table 7 shows the restriction categories, weights for them, and scoring for each category. The weights show the importance of the category in terms of how significantly the restriction of the category would limit service suppliers from entering or operating in the market. The sum of weights for all categories is 1. A score with a range from 0 (least restrictive) to 1 (most restrictive) is assigned for each category, according to the degree of restrictiveness, so that the score reflects the type of restriction imposed by the economy.

**Table 7: Restrictions on Banking Services in Turkey**

Weight	Scoring	Score chosen in this paper	Category
<b>Restrictions on Commercial Presence</b>			
0.10			<u>Licensing of banks</u>
	1.00		Issues no new license. / No new license is allowed.
	0.75		Issues up to 3 new licences with only prudential requirements. / Licenses are issued through complicated (discriminately) and costly procedure.
	0.5/0.2		Issues up to 6 new licences with only prudential requirements. / Licenses are generally issued with application fee and several requirements.
	0.25/0.1		Issues up to 10 new licences with only prudential requirements. / Licenses are generally issued with application fee.
	0.00	0.00	Issues new licenses with only prudential requirements / Licenses are automatically issued upon application without any cost.
0.10			<u>Form of commercial presence</u>
	1.00		Measures which restrict or require a specific type of establishments.
	0.00	0.00	No restriction on establishment.
0.20			<u>Direct investment: equity participation permitted</u>
		0.00	The score is inversely proportional to the maximum equity participation permitted in an existing domestic bank.
0.10			<u>Direct investment: restrictions on certain types of services</u>
	1.00		Restrictions on providing some types of banking services.
	0.00	0.00	No restriction on providing any type of banking services.
0.10			<u>Joint venture arrangements</u>
	1.00		Issues no new banking licenses and no entry is allowed through a joint venture with a domestic bank.
	0.50		Bank entry is only through a joint venture with a domestic bank.
	0.00	0.00	No requirement for a bank to enter through a joint venture with a domestic bank.
0.02			<u>Permanent movement of people</u>
	1.00		No entry of executives, senior managers and/or specialists.
	0.80		Executives, specialists and/or senior managers can stay up to 1 year.
	0.60		Executives, specialists and/or senior managers can stay up to 2 years.
	0.40		Executives, specialists and/or senior managers can stay up to 3 years.
	0.20		Executives, specialists and/or senior managers can stay up to 4 years.
	0.00	0.00	Executives, specialists and/or senior managers can stay a period of 5 years or more.
<b>Cross-border Trade</b>			
0.10			<u>Raising funds by foreign banks</u>
	1.00		Banks are not permitted to raise funds in the domestic market./ Foreign banks are not permitted to have crossborder deposits of Turkish banks, corporations, and households.
	0.75		Banks are restricted from raising funds from domestic capital market. / Foreign banks are permitted to have crossborder deposits of only some types of Turkish residents or any type of Turkish residents with specific ceiling amount .
	0.50		Banks are restricted in accepting deposits from the public./ Foreign banks are permitted to have cross-border deposits of Turkish banks, corporations, and households with licenses.
	0.00	0.00	Banks can raise funds from any source with only prudential requirements. / Foreign banks are permitted to have cross-border deposits of any type of Turkish residents without restrictions.
0.10			<u>Lending funds by foreign banks</u>
	1.00		Banks are not permitted to lend to domestic clients./ Foreign banks are not permitted to have cross-border lending to Turkish banks, corporations, and households.
	0.75		Banks are restricted to a specified lending size or lending to government projects. / Foreign banks are permitted to have cross-border lending to only some types of Turkish residents or any type of Turkish residents with specific ceiling amount .
	0.50		Banks are restricted in providing certain services such as credit cards, leasing and consumer finance. / Foreign banks are permitted to have cross-border lending to Turkish banks, corporations, and households with licenses.
	0.25		Banks are directed to lend to housing and small business.
	0.00	0.00	Banks can lend to any source with only prudential restrictions. / Foreign banks are permitted to have cross-border lending to any type of Turkish residents without restrictions.
<b>Other Restrictions</b>			
0.10			<u>Other business of banks -insurance and securities-</u>
	1.00		Banks can only provide banking services.
	0.50	0.50	Banks can provide banking services plus one other line of business -insurance or security services.
	0.00		Banks have no restrictions on conducting other lines of business.
0.05			<u>Expanding the number of banking outlets</u>
	1.00		One banking outlet with no new banking outlet permitted.
	0.75		Number of banking outlets is limited in number and location.
	0.25		Expansion of banking outlets is subject to non-prudential regulatory approval.
	0.00	0.00	No restrictions on banks expanding operations.
0.02			<u>Composition of the board of directors</u>
		0.00	The score is inversely proportional to the percentage of the board that can comprise foreigners.
0.01			<u>Temporary movement of people</u>

Summarizing the above considerations we note that there are no restrictions on private and foreign ownership in the provision of banking services of existing and new banks in Turkey. There are no restrictions on maximum private equity and maximum foreign equity permitted in existing and new banks. Banks are allowed to hold equity in non-financial and financial firms. But for non-financial firms a stake shall not exceed fifteen percent of banks' own funds. The total amount of such shares shall not exceed sixty percent of the bank's own funds. For financial firms there is no limit. The establishment by a bank of a company abroad or its participation in a company already established abroad shall require the permission of the BRSA. Banks that fail to achieve the standard ratios shall not be allowed to acquire new subsidiaries in any manner whatsoever, except bonus shares acquired from their existing subsidiaries.

Regarding commercial presence we note that there are no policy restrictions on new entry of banks, and this applies for entry of domestic as well as of foreign banks. Foreign banks can be established as subsidiaries, branches and representative offices. There are no restrictions on the number of foreign bank branches and on the number of foreign bank ATMs. Foreign banks are allowed to raise capital domestically. Domestic and foreign commercial banks are allowed to provide the following services: real estate lending, securities services, foreign currency lending, foreign exchange services, and credit card services. Commercial banks are not allowed to provide insurance and leasing services.

Regarding cross-border banking trade we note that there are no restrictions on short term and long term capital inflows and capital outflows. Capital up to US\$ 5 million can be freely transferred abroad via banks and finance houses, but for amounts exceeding US\$ 5 million permission of the Ministry is required. Domestic banks, domestic corporations and domestic households are allowed to borrow cross border from foreign banks, and they are allowed to make cross-border deposits with foreign banks. Banks are not subject to any qualifications in order to be able to access foreign capital. We note that the nationally owned banks are not subsidized by the government. There are no controls on deposit rates, no ceilings on lending rates, and banks are not subject to directed lending.

As mentioned before the BRSA became functional in the year 2000. BRSA, financed entirely by budgetary allocation, is independent of the Ministry of the Economy, and employs as of 2005 about 260 professional staff members. Regarding the issuance of banking licenses we note that a license fee amounting to 10 percent of minimum paid-up capital is charged by BRSA. In addition the BRSA asks for the presentation of detailed business plan and fulfillment of the minimum capital requirements. The number of providers is not limited by policy. The applicants are asked to satisfy the home country regulations. Once the licenses have been allocated permission of BRSA is required for banks to be able to sell or dispose of the licenses. The foreign banks are not subject to different licensing requirements from domestic banks, and no separate licenses are required to establish branches in each province.

With the choice discussed above, our study obtains the foreign restrictiveness index for Turkish banking services, 0.05, as Table 8 shows. The foreign discriminatory restrictiveness index, which is a subset of the former and covers discriminatory restriction imposed only on foreign services providers, is 0.025.



Here we regard ‘licensing of banks’, ‘other business of banks – insurance and securities’ and ‘expanding the number of banking outlets’ as those that partially restrict activities of both domestic and foreign services suppliers, that is possible non-discriminatory restrictions. Since such restrictions could still be imposed on foreign suppliers more discriminatorily but could be removed at the same time for both domestic and foreign suppliers, half of their weights are assigned for these restriction categories in calculating the foreign discriminatory restrictiveness index.

**Table 8: The Estimated Restrictiveness Index for the Banking Services Sector in Turkey**

Weight in this paper	Estimated score (FR index)	Estimated score (FDR index)	Category
<b>Restrictions on Commercial Presence</b>			
			Licensing of banks Licenses are issued through complicated (discriminately) and costly procedure.
0.10	0.0000	0.0000	Form of commercial presence Measures which restrict or require a specific type of establishments.
0.10	0.0000	0.0000	Direct investment: equity participation permitted The score is inversely proportional to the maximum equity participation permitted in an existing domestic bank.
0.20	0.0000	0.0000	Direct investment: restrictions on certain types of services No restriction on providing any type of banking services.
0.10	0.0000	0.0000	Joint venture arrangements No requirement for a bank to enter through a joint venture with a domestic bank.
0.10	0.0000	0.0000	Permanent movement of people Executives, specialists and/or senior managers can stay a period of 5 years or more.
0.02	0.0000	0.0000	
<b>Cross-border Trade</b>			
			Raising funds by foreign banks Foreign banks are permitted to have cross-border deposits of Russian banks, corporations, and households with licenses. Domestic banks/companies/households are required to take the procedure regulated by CBR to make deposits with foreign banks abroad.
0.10	0.0000	0.0000	
			Lending funds by foreign banks Foreign banks are permitted to have cross-border lending to Russian banks, corporations, and households with licenses. Domestic banks/companies/households are required to obtain a special permission of CBR to open an account abroad to borrow from foreign banks abroad.
0.10	0.0000	0.0000	
<b>Other Restrictions</b>			
			Other business of banks -insurance and securities- Banks can provide banking services plus one other line of business -insurance or security services. Banks are allowed to provide securities services but are not permitted to supply insurance services in Russia
0.10	0.0500	0.02500	
			Expanding the number of banking outlets Expansion of banking outlets is subject to non-prudential regulatory approval.
0.05	0.0000	0.00000	
			Composition of the board of directors The score is inversely proportional to the percentage of the board that can comprise foreigners.
0.02	0.0000	0.00000	
			Temporary movement of people Temporary entry of executives, senior managers and/or specialists over 90 days.
0.01	0.0000	0.00000	
1.00	0.050	0.025	Total

Notes: Estimated score is obtained by multiplying score chosen in each of the studies by "weight".

To convert the index values into tax equivalents we use the coefficients estimated by Kalirajan et al. (2000) that quantify the impact of restrictions on trade in banking services on the net interest margins (NIM) of banks. The ad valorem equivalent of restrictions is then calculated from the formula

$$100 * \left[ \frac{NIM_1 - NIM_0}{NIM_0} \right] = 100 * (e^{0.732 * TRI} - 1)$$

where  $NIM_1$  denotes net interest margin under restrictions,  $NIM_0$  net interest margin under free trade, and TRI the value of trade restrictiveness index.

Based on this equation we calculate ad valorem tariff equivalents of restrictions in the banking sector measured by foreign restrictiveness index as 3.73 percent. On the other hand the tariff equivalent of restrictions in the banking sector measured by foreign discriminatory restrictiveness index is 1.85 percent. The calculations reveal that Turkish banking sector is quite liberal. As of 2005 the price effect of adopting and implementing the EU rules and regulations on banking services is negligible.

### ***4.3 Implications of EU Accession***

To study the economic effects of EU integration in the banking sector we compare the situation of the Turkish economy in the base case with the case when Turkey adopts and implements in the banking sector all of the rules and regulations of the EU. As the 'base case' we consider the Turkish economy with rules and regulations as they have prevailed during the latter half of 1990's, when Turkey did not introduce the EU rules and regulations in the banking sector. Here we base our analysis of the linkages between regulatory regimes and performance indicators of Table 6. From the table we know that the EU member states follow rather liberal trade and investment policies in banking sector relative to the policies pursued by Turkey. We then assume that Turkey with liberalization implements similar rules and regulations as those followed by the EU countries.

Given the change in the price of banking services resulting from the change in Turkish regulatory regime one can compute the change in Turkish consumer surplus as a measure of the welfare effect of EU integration from information on the consumer demand schedule for banking services. But banking services is an intermediate good that is used in the production of other commodities. Hence, prices of other commodities in the economy will change as a result of the change in the price of telecommunications. To study the welfare effects of EU integration one has to consider not only the change in consumer surplus due to the change in price of banking services but also the changes in consumer surpluses due to the changes in the prices of other commodities.

To analyze the effect of the change in the price of banking services on the prices of other commodities we consider the 1996 Input-Output Table of the Turkish economy which has 97 sectors. Banking is sector 84. Consider the case of Turkey adopting and implementing the EU rules and regulations on banking services. Let A be the 97x97 matrix of input coefficients. Given A, form the 96x96 input matrix B by deleting the 84<sup>th</sup> column and 84<sup>th</sup> row referring to the banking sector. Denote the 84<sup>th</sup> row where the 84<sup>th</sup> column element has been deleted by e. Let p be the 1x96 price vector of the 96 commodities excluding banking sector and va the corresponding 1x96 unit gross value added vector. The price equation can be written as

$$p = p B + p_b e + va.$$

where  $p_b$  denotes the price of the banking services. Hence we have

$$p = p_b e (I-B)^{-1} + va (I-B)^{-1}$$

Thus, given the price of banking services that will prevail in Turkey after it adopts and implements the EU rules and regulations,  $p_b$ , we determine the equilibrium prices of the other 96 commodities from the above equation assuming that there is no change in the unit gross value added vector  $va$ . Given the equilibrium price vector  $p$  form the  $1 \times 97$  price vector as  $\pi = (p \ p_b)$ . Let  $CON$  be the  $96 \times 1$  consumption expenditure vector obtained from the 1996 input-output table by deleting the value of consumption of banking sector and  $con_b$  the value of consumption of banking services. Form the  $97 \times 1$  consumption vector as

$$CONS = \begin{bmatrix} CON \\ con_b \end{bmatrix}.$$

Noting that initially all base year prices equal unity we can express the value of total consumption expenditure evaluated at base prices as

$$C = u \text{ } CONS$$

where  $u$  denotes the  $1 \times 97$  unit vector. The value of total consumption expenditure evaluated at the prices that will prevail after Turkey adopts and implements the EU rules and regulations in the banking sector is then given by

$$C^* = \pi \text{ } CONS$$

The effect on consumer welfare can now be calculated as

$$(C - C^*) \times 100 / C^*.<sup>21</sup>$$

Note that this measure of the change in consumer welfare gives a downward biased estimate of the welfare effect as we do not consider the increases in consumer demands for the different commodities with the decreases in the prices of these commodities. But such an estimate would require the use of price elasticities of demand for the 97 commodities of the input-output table, which we did not have at our disposal. Thus, the welfare gain will have to be higher than the figure given by the estimate we present in this paper.

By construction, prices in 1996, the year the input-output table has been constructed for, are all unity in the input-output table. We assume that with the adoption of the EU rules and regulations in the banking sector, banking sector price will decrease by 26.22 percent. Hence, with the new price of banking services we observe that the welfare of the society will increase by 1.38 percent. Thus, the effect of the adoption of EU rules and regulations in the banking sector similar to those of the EU countries amounts to US\$ 2.1 billion annual increase in the real income of the Turkish consumers. Since during 1996 consumption formed 72.95 percent of GDP, the percentage change in welfare of the society is equivalent to 1 percent increase in real GDP.

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<sup>21</sup> Note that this approach determines the equivalent variation in consumer' income.

As mentioned above the cost of the 2001 financial crisis has been estimated as \$53.2 billion. Considering the figure of 6.86 percent for the annual real interest rate we note that the annual cost of the currency crisis amounts to US\$ 3.65 billion.<sup>22</sup> Turkey would not have incurred this cost if it had adopted and implemented the legislative, regulatory and institutional framework of the EU banking system at the beginning of the 1990's. Noting that GDP in 2004 has amounted to US\$ 300.63 billion, the welfare gain from adopting the EU rules and regulations in the banking sector can be thus calculated as 2.2 percent of GDP.<sup>23</sup> As of 2005 Turkey has adopted most of the EU rules and regulations in the banking sector. It all depends now to a large extent on implementation of these rules and regulations by the related institutions in Turkey.

## 5. CONCLUSION

The message of the paper is that there is tremendous scope for Turkey to benefit from adopting and implementing the legislative, regulatory and institutional framework of the EU banking system. If Turkey had adopted the legislative, regulatory and institutional framework of the EU banking system at the beginning of the 1990's and had enforced these rules, then the cost of the banking crisis faced in 2001 would have been much smaller than the estimated cost of banking crisis of \$53.2 billion. Furthermore, Turkey by adopting and implementing the legislative, regulatory and institutional framework of the EU banking system would lead to an increase competition in the financial sector. Here we assume that Turkey will also recognize the Supervisory Authorities' competence of EU Member States and introduce to its legislature the principle of home country control. With liberalization in financial markets the penetration rates of foreign banks in Turkey are expected to increase substantially causing adjustment costs in the sector.<sup>24</sup> Increased competition will improve the quality and availability of financial services in the domestic market, enable the application of modern banking skills and technology, enhance the country's access to international capital, lower prices for consumers and lead to a larger variety of financial instruments. Some of the Turkish banks will benefit from larger markets by concentrating on activities in which they have a comparative advantage. Other Turkish banks may be forced to merge with foreign banks or exit from the market. As a result of these forces we can expect the net interest margin to reduce by 26.2207 percent, which in turn would lead to an increase in the GDP of the society by 0.9921 percent. Adding to this amount the annual gain from not having financial crisis in the future the annual welfare gain from adopting and implementing EU rules and regulations in the banking sector amounts to 2.2 percent of GDP. Thus the adoption and implementation of the legislative, regulatory and institutional framework of the EU banking system is expected to generate considerable benefits for the economy.

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<sup>22</sup> We determine the foreign interest rate from Eurobond issues of the Turkish Treasury. The average rate of return on Turkish US\$ Eurobonds during the time of issue was 10.13 percent in 1998, 12.08 percent during 1999, 11.61 percent in 2000, 11.35 in 2001, 10.66 percent in 2002, 10.08 in 2003 and 8.06 percent in 2004. By deflating the nominal return figures by US CPI inflation rates observed during the following period we obtain as the average figure for the time period 1998-2004 7.84 percent, and for the time period 2002-2004 6.86 percent. In the calculations we set the value of foreign real interest rate as 6.86 percent. We would like to thank Tekin Çotuk of the Undersecretariat of the Treasury for providing the data on Turkish Eurobonds.

<sup>23</sup> The welfare gain of adopting the EU rules and regulations in the banking sector equals the sum of the gain from not encountering currency crisis amounting to 1.21 percent of GDP and the price effect amounting to 0.9921 percent of GDP.

<sup>24</sup> The share of foreign banks in total banking assets in Turkey during 2002 has amounted to only 4.9 percent.

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## 2. Banking Sector in Egypt

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The banking sector is of great importance to the Egyptian economy. According to the latest information in 2005, there are currently 56 down from 61 banks in Egypt with 2,783 branches in June 2004 and 62 banks in 2003 (see table 1.). In 2000/2001 the banking sector employed around 120,000 employees representing about 0.70% of the total labor force<sup>28</sup> (CAPMAS, 2002)<sup>29</sup>. More than 80% of the banking labor force is employed by state-owned banks and the Central Bank of Egypt (CBE)<sup>30</sup>. The assets held by the banking sector represent more than 100% of the Gross Domestic Product (GDP) (National Democratic Party, 2004; World Bank and IMF, 2002)<sup>31</sup>.

The study provides an overview of the banking sector in Egypt, its regulatory framework while trying to estimate the tariff equivalent of the restrictive regulator measures adopted and benchmarking it with the European Union (EU) status of liberalization and finally to assess the impact of liberalization of this sector using input-output analysis. The first section, following the introduction focuses on the major developments in the sector. Section two provides a descriptive analysis of the regulatory framework where it displays the laws, regulations and policies governing the sector over the period 1991-2004. Section three aims at quantifying the barriers to trade in the sector. Finally, section four tests the economy wide effects of liberalizing the banking sector using the input-output table.

### 1. MAJOR DEVELOPMENTS IN BANKING SECTOR

In general, the Egyptian banking sector has suffered from low profitability in recent years, despite the relative improvement in the private sector banks profitability. There are several reasons for the low profitability, among the most important are the overall economic recession that the Egyptian economy has been experiencing since 2001 which has resulted in weak credit demand, the shortage of foreign exchange, and most prominently non-performing loans. The non-performing loan problem affected both state-owned and private banks but had a larger impact on the former. In mid 2002 the Government released the figure of non-performing loans to be estimated at about 16%

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<sup>28</sup> Central Agency for Public Mobilization and Statistics (CAPMAS) (2002), "The National Economic Statistics: Financial and Insurance Statistics 2000/2001", Cairo.

<sup>29</sup> CAPMAS, 2002 *The National Economic Statistics, The Financial Statistics for Banks and Insurance Companies Bulletin 200/2001*

<sup>30</sup> Egyptian Banking Institute (2001), "Ten Years Serving the Banking Community", Cairo, Central Bank of Egypt (CBE).

<sup>31</sup> National Democratic Party (2004) *Evaluation of the Financial Sector in Egypt*, unpublished report and World Bank and IMF (2002) *Assessment of the Financial Sector in Egypt*, unpublished report. Total domestic credit (LE 329 billion at end 2001) is roughly equal to one year's GDP.



of total outstanding loans. Such figure is considered to be underestimated by some international organizations which put it in the range of 20-30%. The problem of non performing loans is a result of exogenous factors such as recession and of endogenous factors such as low quality loans provision policy and diversion of the “Big Four” state owned banks commercial interests to social goals<sup>32</sup>. Low profitability can result in negative consequences leading to banks’ failures if affected by waves of liberalization.

There is relatively high concentration in the banking sector which comprised 61 banks by the end of June 2003 (the number of banks decreased to 56 banks in 2005 as a result of mergers and acquisitions). Most of the banks are commercial banks which reached 28 by end of June 2003 (the commercial banking sector comprises of state owned, joint venture, and wholly privately owned banks). The four state-owned banks, called the Big Four, dominate the market providing more than 60% of the market loans and controlling more than 50% of assets in the commercial banking industry.

**Table 1 – Annex I : Egypt: Financial Soundness Indicators for the Banking Sector, 1997–2001**

(In percent, unless otherwise

indicated)

	Dec-97	Dec-98	Dec-99	Dec-00	Dec-01
<b>Capital Adequacy</b>					
Regulatory capital to risk-weighted assets	10.6	10.8	10.2	10.2	9.9
Regulatory Tier 1 capital to risk-weighted assets	8.4	8.1	8.0	8.1	8.1
Capital (net worth) to assets	4.9	5.2	5.3	5.0	4.9
<b>Asset Quality</b>					
Sectoral distribution of loans to total loans:					
Loans granted to Agriculture sector to total Loans	1.8	1.8	2.0	1.8	1.7
Loans granted to Industry sector to total loans	34.5	34.1	35.5	37.5	38.3
Loans granted to Trade sector to total loans	26.6	26.7	25.5	23.6	23.2
Loans granted to Services sector to total loans	25.4	26.0	27.1	26.8	27.3
Loans granted to Individuals sector to total Loans	9.1	8.9	8.1	8.2	7.5
Loans granted to Non-Resident (foreign sector) to total Loans	1.1	1.7	1.1	1.5	1.3
Other loans to total loans	1.4	0.8	0.7	0.7	0.7
Geographical distribution of loans to total loans					
Loans granted in Egypt	98.9	98.3	98.9	98.5	98.7
Loans granted to Non-Resident (foreign sector)	1.1	1.7	1.1	1.5	1.3
FX loans to total loans	27.8	25.5	22.0	21.4	21.8
NPLs to gross loans	13.9	11.7	12.4	14.9	16.0

<sup>32</sup> For reviewing different indicators and descriptive analysis of the bad performance of the big four compared to private banks see Mohieldin, Mahmoud and Sahar Nasr (2003), “Bank Privatization in Egypt”, ERF Working Paper No. 0325.

Provisions to NPLs <sup>1/</sup>	77.7	82.4	78.6	71.9	69.1
NPLs net of provisions to capital	28.0	15.5	26.7	46.0	53.4
Large exposures to capital	38.5	40.1	44.6	54.2	55.2
Spread between highest and lowest interbank rates			1.0	0.5	2.6
Earning and Profitability					
ROA	0.79	0.87	0.91	0.80	0.66
ROE	16.16	16.78	17.22	15.98	13.58
Interest margin to gross income	37.86	39.39	40.75	40.93	38.92
Noninterest expenses to gross income	33.66	30.90	32.16	35.08	35.71
Personnel expenses to noninterest expenses	45.77	52.40	48.84	47.61	49.80
Trading and Fee income to total income	45.89	44.66	43.09	46.32	47.06
Spread between reference loan and deposit rates	4.05	3.90	3.98	3.91	4.04
Liquidity					
Liquid assets to total assets	43.0	37.8	33.5	36.4	38.1
Liquid assets to total short-term liabilities	58.8	50.6	45.1	48.7	50.5
Customer deposits to total (non-interbank) loans	142.0	130.6	121.4	127.9	132.3
FX Deposits to total liabilities	15.3	15.7	15.8	16.8	18.2
Sensitivity to market risk					
Net open positions in FX to capital	8.4	17.5	2.7	(7.2)	8.1

Source: World Bank and IMF, 2002

**Table 1 – Annex II : Egypt – Schedule of Specific Commitments**

Modes of supply: (1) Cross-border supply (2) Consumption abroad (3) Commercial presence (4) Presence of natural persons			
Additional commitments	Limitations on national treatment	Limitations on market access	Sector or subsector
<b>FINANCIAL SERVICES</b>			
<b>Banking Services:</b>			
<u>Measures of specific application:</u>			
The main criteria on which the economic needs tests apply are as follows:			
1. Ratio of total financial assets held by the banking sector to total financial assets in the economy.			
2. Banking density.			
3. Ratio of total credit to total deposits.			
4. Ratio of number of foreign branches and joint venture banks to total number of banks.			
5. Stage of the general economic development of the Financial sector.			
<b>BANKING SERVICES</b>			
A. Joint-Venture Banks (JVBS):	(1) Unbound	(1) Unbound	(1) Unbound
-Acceptance of deposits and other forms of repayable funds	(2) Unbound	(2) Unbound	(2) Unbound
	(3) The share of non-Egyptians in the capital of	(3) Foreign service suppliers, in the context of	(3) Foreign service suppliers, in the context of
<b>LIMITATIONS ON MARKET ACCESS</b>		<b>LIMITATIONS ON NATIONAL TREATMENT</b>	<b>ADDITIONAL COM</b>

<p>-All types of lending, including consumer credit, and financing of commercial transactions</p> <p>-All payment and money transmission services, including credit, charge and debit cards, traveller's cheques and bankers draft</p> <p>-Guarantees and Commitments</p>	<p>JVB's and private banks may exceed 49 per cent of the issued capital of any bank, without ceiling. On a non-discriminatory basis, ownership of more than 10 per cent of the issued capital of any bank, except through inheritance, requires the approval of the CBE Board of Directors.</p> <p>(4)The General Manager should have banking experience in Egypt of no less than ten years for banks established in Egypt other than branches of foreign banks.</p>	<p>JVBs are required to offer on-the-job training for national employees.</p> <p>(4)None</p>	
<p>-Trading for own account or for account of customers in:</p> <p>a. Money market instruments (cheques, bills and certificates of deposits);</p> <p>b. foreign exchange;</p> <p>c. securities.</p> <p>-Participation in share issues and the provision of services related to such issues through subsidiaries</p> <p>-Money broking</p> <p>-Safekeeping of securities</p> <p>-Credit reference services</p> <p>-Safe custody services</p>			

<p>B. <u>Foreign Bank Branches</u></p>	<p>Same activities specified under (A) above</p>	<p>(1) Unbound  (2) Unbound  (3) Economic needs test shall be applied.</p> <p>(4) None</p>	<p>(1) Unbound  (2) Unbound  (3) Branches of foreign banks existing on 5 June 1992 (the date of enforcement of Law No. 37 of 1992) may be licensed to deal in local currency in addition to foreign currency subject to the satisfaction of minimum capital requirement, adequacy of provisions and other prudential measures (Art. 13 of the executive regulations of the said Law).</p> <p>(4) None</p>	
<p>C. <u>Representative Offices of Foreign Banks (R.O.'s)</u></p>	<p>(1) Unbound  (2) Unbound  (3) Foreign banks which desire to set up representative offices should not have branches in Egypt.</p> <p>-Activities of R.O.'s should be confined to conducting studies on potential investments, acting as liaison with their head offices and contributing to solving problems and difficulties that may confront their head offices' correspondents in Egypt.</p> <p>(4) None</p>	<p>(1) Unbound  (2) Unbound  (3) Unbound</p> <p>(4) None</p>		

**Table 1 – Annex III : The foreign restrictiveness index: restrictions on banking services in Egypt**

Weight	scoring	Score chosen in this paper	Egypt's index	Category
0.10				<i>Restrictions on Commercial Presence</i>
				Licensing of banks
	1.00			Issues no new license. / No new license is allowed
	0.75			Issues up to 3 new licenses with only prudential requirements. / Licenses are issued through complicated (discriminately) and costly procedure
	0.50/0.20			Issues up to 6 new licenses with only prudential requirements. / Licenses are generally issued with application fee and several requirements.
	0.25/0.10			Issues up to 10 new licenses with only prudential requirements. / Licenses are generally issued with application fee.
	0.00			Issues new licenses with only prudential requirements / Licenses are automatically issued upon application without any cost.
		0.75	0.075	<b>*Issues licenses according to discretionary decisions by the licensing authority (as geographical considerations)</b>
0.10				<i>Form of commercial presence</i>
	1.0			Measures which restrict or require a specific type of establishments
	0.0	0.0	0.0	<b>**No restriction on establishment</b>
0.20		0.0	0.0	<b>***Direct investment: equity participation permitted</b>
				The score is inversely proportional to the maximum equity participation permitted in an existing domestic bank.
0.10				Direct investment: restrictions on certain types of services
	1.0			Restrictions on providing some types of banking services.
	0.0	0.0	0.0	<b>No restriction on providing any type of banking services.</b>

0.10					Joint venture arrangements
					Issues no new banking licenses and no entry is allowed through a joint venture with a domestic bank
	1.0				Bank entry is only through a joint venture with a domestic bank.
	0.5				
	0.0	0.0	0.0	0.0	<b>**** No requirement for a bank to enter through a joint venture with a domestic bank.</b>
					<i>Permanent movement of people</i>
0.02					
	1.0				No entry of executives, senior managers and/or specialists
	0.80				Executives, specialists and/or senior managers can stay up to 1 year.
	0.60				Executives, specialists and/or senior managers can stay up to 2 years
	0.40				Executives, specialists and/or senior managers can stay up to 3 years
	0.20				Executives, specialists and/or senior managers can stay up to 4 years
	0.00	0.0	0.0	0.0	<b>****Executives, specialists and/or senior managers can stay a period of 5 years or more.</b>
					<i>Cross-border Trade</i>
0.10					Raising funds by foreign banks
	1.0				Banks are not permitted to raise funds in the domestic market/ foreign banks are not permitted to have cross-border deposits of Egyptian banks, corporations, and households
	0.75				Banks are restricted from raising funds from domestic capital market. / Foreign banks are permitted to have cross border deposits of only some types of Egyptian residents or any type of Egyptian residents with specific ceiling amount .
	0.50				Banks are restricted in accepting deposits from the public./ Foreign banks are permitted to have cross-border deposits of Egyptian banks, corporations, and households with licenses
	0.00	0.0	0.0	0.0	<b>****Banks can raise funds from any source with only prudential requirements. / Foreign banks are permitted to have cross-border deposits of any type of Egyptian residents without restrictions.</b>

0.10				Lending funds by foreign banks
	1.0			Banks are not permitted to lend to domestic clients./ Foreign banks are not permitted to have cross-border lending to Egyptian banks, corporations, and households
	0.75			Banks are restricted to a specified lending size or lending to government projects. / Foreign banks are permitted to have cross-border lending to only some types of Egyptian residents or any type of Egyptian residents with specific ceiling amount .
	0.50			Banks are restricted in providing certain services such as credit cards, leasing and consumer finance. / Foreign banks are permitted to have cross-border lending to Egyptian banks, corporations, and households with licenses
	0.25			Banks are directed to lend to housing and small business
	0.00	0.0	0.0	<b>***** Banks can lend to any source with only prudential restrictions. / Foreign banks are permitted to have cross-border lending to any type of Egyptian residents without restrictions.</b>
				Other restrictions
0.1				Other business of banks -insurance and securities-
	1.0			Banks can only provide banking services
	0.5	0.5	0.05	<b>Banks can provide banking services plus one other line of business -insurance or security services</b>
	0.0			Banks have no restrictions on conducting other lines of business
0.05				Expanding the number of banking outlets
	1.0			One banking outlet with no new banking outlet permitted
	0.75			Number of banking outlets is limited in number and location.
	0.25	0.5	0.025	<b>Expansion of banking outlets is subject to non-prudential regulatory approval</b>
	0.0			No restrictions on banks expanding operations
0.02				Composition of the board of directors
	0.00			The score is inversely proportional to the percentage of the board that can comprise foreigners
		0.1	0.002	<b>The score is inversely proportional to the percentage of the maximum number of foreigners employed in the bank (10%)</b>



0.01			Temporary movement of people
	1.0		No temporary entry of executives, senior managers and/or specialists
	0.75		Temporary entry of executives, senior managers and/or specialists up to 30 days.
	0.50		Temporary entry of executives, senior managers and/or specialists up to 60 days
	0.25		Temporary entry of executives, senior managers and/or specialists up to 90 days.
	0.00	0.0	<b>Temporary entry of executives, senior managers and/or specialists over 90 days.</b>

\* Concerning restrictions on commercial presence, licenses in Egypt are given according to the discretionary decisions of the CBE, an issue that seems to be rather restrictive and hence was given a high score. As for the number of foreign bank branches, there is no restrictions, however the issue is subject to economic needs test under CBE discretion (in cases of 1; not complying with Banking Law, its executive regulations, and/or any other related laws, 2; not in line with general economic interest or the needs of region applied for establishment, 3; if the commercial name is similar or equivalent to any of existing banks). These could be considered a sort of non-prudential regulations. Accordingly, 0.75 score was assigned due to the relatively high power of discretionary decisions.

\*\* as for the form of commercial presence , all legal forms of establishment are allowed , i.e., no restriction on establishment statement is chosen ,with a zero score.

\*\*\*as for equity participation permitted concerning FDI, no limitations on foreigners, ownership, but subject to: single ownership exceeding 5% of any bank's capital must be notified to CBE and maximum share of one person cannot exceed 10% of total capital, otherwise, CBE'S approval is compulsory

\*\*\*\* concerning foreign banks entry, no specific form as joint venture or other is required, in fact, foreign banks are welcomed to enter the market recently. However, the following issues have to be considered:

\*\*\*\*\*as for permanent movement of people, Egypt has no restrictions on the time (number of years of foreigners working), the constraint or restriction is on the number of those foreigners which is limited to 10% of the total labor in the economic unit (bank). This is according to its horizontal commitments in the GATS schedule and is consistent with its Labor Law.

\*\*\*\*\*Restrictions on new entry of banks focus on capital requirements and management profile, for ex., minimum authorized and fully paid capital for new banks is LE 500 million. US \$ 50 million (or equivalent) are required for branches of foreign banks. It depends also on CBE'S decision according to economic needs

Entry restrictions:

To give state-owned or national banks time to prepare for competition, reduce potential systemic risk believed to arise from over-banking, due to inadequate regulatory and supervisory capacity, or no perceived economic need for new banks

\*\*\*\*\*for cross border trade, Foreign banks are allowed to make cross-border deposits with domestic banks, domestic corporations, and domestic households, given that the domestic bank deposits held with single foreign correspondent shouldn't exceed 40% of capital base or 10% of total investment abroad or \$3million which is higher (i.e.,

the restriction is concerning the domestic partner, and hence the score is chosen to be zero indicating no restriction as for the foreign banks). As for lending funds by foreign banks, a zero score is assigned due to those banks freedom to have cross-border lending with Egyptian banks, corporations and households, however for public sector, including state owned banks and government necessary approvals should be fulfilled

\*it could be claimed that the banking sector in Egypt is relatively more liberal, or less restrictive than the calculated index. In other words, there is a degree of underestimation to the degree of liberalization of the sector. The following are some indicators:

\* No restrictions imposed on number of ATMs according to Banking Law, its amendments and/or related laws.

\* No control on deposit rates, No ceilings on lending rates, banks are subject to directed lending.

\* banks are permitted to hold equity in financial and non-financial firms (with a maximum stake of 40% of company's capital, without exceeding the bank's issued capital and reserves).

**Table 1: Structure of the Banking System in Egypt**

End Of June	Commercial Banks		Private & Joint Venture Banks		Non-Commercial Banks Business & Investment Banks		Specialized Banks		Total				
	Banks	Branches	Banks**	Branches	Banks+	Branches	The Egyptian Industrial Development Bank	Branches	Real Estate Banks	Branches	Principal Bank for Development & Agricultural Credit.	Banks	Branches
1990	4	663	40	221	11	43	1	3	2	11	1	81	1882
1991	4	663	40	221	11	43	1	3	2	11	1	81	1882
1992	4	772	40	254	11	74	1	8	2	15	1	81	2121
1993	4	811	26	253	11	74	1	8	2	15	1	66	2150
1994	4	831	24	261	11	80	1	8	2	18	1	64	2191
1995	4	851	24	273	11	86	1	9	2	19	1	64	2241
1996	4	866	24	288	11	88	1	14	2	21	1	64	2285
1997	4	883	24	298	11	90	1	14	2	22	1	64	2325
1998	4	908	24	312	11	98	1	14	2	23	1	63	2391
1999	4	918	24	323	11	105	1	14	2	25	1	63	2434
2000	4	913	24	340	11	112	1	14	1	26	1	62	2481
2001	4	921	24	367	11	126	1	14	1	26	1	62	2536
2002	4	919	24	375	11	136	1	14	1	26	1	62	2561
2003	4	917	24	383	11	148	1	14	1	27	1	62	2582

Source: Central Bank of Egypt, Annual Time Series, [www.CBE.org.eg](http://www.CBE.org.eg)

\* Egyptian banks abroad are not included, also two banks established under private laws and are not registered with CBE: the Arab International Bank, and Nasser Social Bank.

\*\* 13 banks of the development banks had been merged into the National bank for Development in Cairo in 1992 and 2 banks in 1994, also Bank of Credit and Commerce (Egypt) had been merged into Misr Bank in 1993.

+ One branch of the foreign banks operating in Egypt was crossed out in 1993 and another in 1998.

++ The Egyptian Real Estate Bank had been merged in the Arab Real Estate Bank in December 1999 according to the CBE decision in 21/6/1999

The Big Four, namely, National Bank of Egypt, Bank Misr, Banque du Caire and Bank of Alexandria are characterized by a 100% domestically owned equity. Their market share in total loans was 30%, 15%, 13% and 6%, respectively in the year 2000. In addition, there exist another two large commercial banks, the Commercial International Bank (CIB)<sup>33</sup> and MIBank<sup>34</sup> with a domestically owned equity 72% and 56%, respectively (major foreign equity in CIB: IFC 5% and foreign funds 4% and major foreign equity in MIBank: Banko di Roma, and British Arab Bank). Their market share<sup>35</sup> in total loans in 2000 was 6% and 3% respectively. The Big Four aside, all but eight of the 61 other banks have some foreign shareholding, and 24 (accounting for about 11 percent of industry assets) are either majority foreign-owned or are branches of foreign banks (World Bank and IMF, 2002).

Starting from the mid 1990s, the Big Four have constantly lost market shares, as most of their top-tier clients (mainly the profitable public sector companies that were privatized) shifted their business to private-sector banks. The combined market share of the Big Four dropped from over 58% of the sector's assets in 1994 to about 48% in 2003. Moreover, the private sector banks were more aggressive in expanding their branch networks. The return on equity (ROE) for the Big Four was about 4.4% in 2003 versus 18.7% for the three main private banks (CIB, National Societe General (NSGB) and MIBank) whereas the return on assets (ROA) was 0.19% versus 1.45% for private sector banks (HSBC, 2004<sup>36</sup>). For the whole banking sector, ROE dropped from 16.3% in 1999 to 8% in 2003, which is even below the CBE discount rate of 10%. On the other hand, ROA dropped from slightly over 1% in 1998 to 0.4% in 2003. Lower profitability stems from sluggish loan growth, deteriorating credit quality and shift in asset mix toward less rewarding liquid assets (HSBC, 2004). It seems that the banks in Egypt prefer a risk averse attitude where they continue to mobilize clients' deposits at subsidized rates, and invest the proceeds in high-yielding treasury bills to access generous spreads. They are reluctant to aggressively expand lending, especially given the uncertainties still hovering around credit climate. However, if treasury bills' yields started to decline, banks will start to expand loans in an effort to safeguard margins and boost interest income (HSBC, 2004).

The Big Four's lower profitability has been a result of lower interest margins, inflated costs and lower asset quality necessitating higher loan provisioning levels as they have to bear social responsibility including lending to public firms that have serious financial and economic problems, and in many cases on preferential basis<sup>37</sup> (see World Bank and IMF, 2002). This situation might have changed with the assignment of a new Governor for the Central Bank and with the change in Cabinet that took place in 2004, however there is no information that confirm whether such policy has changed or not. The interest margins of the Big Four ranged from 0.6% to 1.5%, while the weighted average net interest margin

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<sup>33</sup> Domestically owned equity includes 52% traded on local stock exchange and foreign equity includes 19% traded as GDRs on London Stock Exchange as of 26/12/02.

<sup>34</sup> Domestically owned equity includes 30% traded on local stock exchange and foreign equity includes 17% traded as GDRs on London Stock Exchange as of 26/12/02.

<sup>35</sup> Market share for CIB and MIBank are as of December 2001, for NBE, B. of Alex and B. Misr are as of June 2001, for B. du Caire as of June 1999. Market shares are relative to aggregate share of Commercial Banks only (excluding Specialized and Investment Banks)

Return over Equity calculations are on annual basis and as of same dates.

<sup>36</sup> HSBC (2004), "Egyptian Banks: Holding Pattern— Surfing the Yield Curve" Unpublished Report.

<sup>37</sup> Other social obligations include provision of services in remote and uneconomic areas, the support by means of credit, of activities whose benefits are seen as social more than financial, and the maintenance of a large staff in excess of what could be justified on purely commercial grounds.

for the three main private banks (CIB, NGSB and MIBank) was 2.8%. Lower margins at the public sector banks reflect the high proportion of lending at preferential rates to public sector entities, inferior loan book quality and highly liquid balance sheets. On the other hand, the Big Four's cost of funds, ranging between 6.0% and 7.2%, is higher than the 5.5% of private sector banks. Higher cost of funds indicates that public sector banks are overpaying their depositors. Higher funding costs and lower yields are translated into narrower spreads (HSBC, 2004).

Public sector banks' profitability has also been eroded by inflated costs which are a result of overstaffing and underdeveloped Information technology (IT) infrastructure. There are signs of improvements regarding the cost to income ratio, however this ratio is still higher than that of the private sector banks (HSBC, 2004).

Public sector banks' inferior asset quality is reflected in higher provisioning levels. Loan loss provision to total loans ranged between 10.3% and 13.4% for the Big Four versus an average of 6.7% for the private sector banks in 2003. Provision to operating income ratio at the Big Four was about 75% in 2003 versus 59% for the private sector banks. The difference in asset quality is a result of several factors: First, credit assessment at public sector banks is based on outdated methodologies. New management, is, however, upgrading risk assessment; Secondly, staff recruitment and training, particularly of middle management, is far inferior than in private banks (HSBC, 2004); and thirdly, The behavior of the Big Four tends to distort the rest of the banking sector. Their participation in the treasury bill market has seriously distorted the behavior of that market and greatly reduced its usefulness as an instrument of liquidity management and for the transmission of monetary policy (World Bank and IMF, 2002).

Banks, enjoying excessive liquidity<sup>38</sup>, took advantage of the tighter monetary policy stance (increasing their treasury holdings at the expense of higher risk assets e.g. loans to private sector) to boost asset yields. On the other hand, they were in a better position to cut deposit rates, thus reducing their costs of funds and ultimately widening interest spreads. Clients' deposits continued to capture a larger share of funding sources (HSBC, 2004). Moreover, the tight monetary policy resulted in loan volume growth that targets lower risk assets (treasuries) and wider spreads boosted margins, thus significantly enhancing net interest income. The real challenge facing Egyptian banks from 2005 onwards is to grow loan volumes if monetary policy becomes less restrictive and the yield on treasuries decreases.

The Economic Reform and Structural Adjustment Program (ERSAP) adopted by Egypt in 1991 was able to transform the deposits structure in Egypt tilting it toward local currency savings deposits. However, starting the series of devaluations of the Egyptian pound in 2000, the dollarization phenomenon of Egyptian deposits reappeared. Foreign currency deposits climbed to 26.6% of total deposits in 2002 from 23.2% in 1998 but down from 42% in 1992 (HSBC, 2004). After the announcement of floatation of the Egyptian pound in 2003 and the appointment of a new CBE Governor, the phenomenon of speculation started to be evaded where the black market premium almost vanished by August 2004. Hence, it is expected that the percentage of local currency saving deposits

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<sup>38</sup> Both commercial public sector banks and the private banks recorded a comfortable ratio of liquid assets to total assets of 38.1 percent at the end of 2001. The ratio of liquid assets to total short-term liabilities was also reasonably high at 50.5 percent.

to total deposits to climb again. On the other hand, Foreign currency loans have dropped from 26.6% of total loans in 1998 to 20% of 2002 total loans.

Concerning the total number of banks in the market, there are 7 fully state-owned banks (the previously mentioned 4 commercial banks, in addition to 3 specialized banks: The Egyptian Industrial Development Bank, The Arab Egyptian Real Estate Bank and The Principal Bank of Development and Agricultural Credit). There are, in addition, 35 fully domestically owned private banks as shown in the Figure 1.

The government, despite its several announcements of Big Four privatization, has failed to achieve any significant steps in this regard for more than 14 years. Instead, the Government has focused on improving the management of these banks by appointing well experienced young directors with international private banking experience. As argued by the World Bank and IMF, improving management is important and the steps taken and planned are encouraging, however not sufficient to shield from the Government's influence in undertaking social goals (World Bank and IMF, 2002). Even if the privatization of the Big Four is left aside, the privatization of the joint-venture banks should be accelerated. The government has publicly announced its intention to reduce its holdings in joint venture banks (which reaches more than 25% of their assets) in recent years. In 2004, Banque du Caire sold its 40% share in the joint venture Cairo Barclays Bank, which is considered the first significant sale of a government ownership in a joint venture bank, otherwise the government still holds significant shares in the majority of joint venture banks. By the end of 2002, the share of state-owned banks in joint venture banks were as follows: 2 banks above 50%, 2 banks above 20% and 12 banks below 12% (MOFT, 2003<sup>39</sup>). In September 2005 the government announced its intention to reduce the number of banks from 56 to 35 by the first quarter of 2006 through accelerating the processes of merging and acquisitions in the banking sector aiming at having a stronger banking sector<sup>40</sup>. By the end of September 2005 the government undertook a major significant step by merging Banque du Caire in Bank Misr. This move is considered the largest acquisition move in the history of the banking sector in Egypt and will result in establishing the largest entity in the banking sector controlling around 24 % of the market share of total assets compared to 23% for National Bank resulting in a total of 47% of total Banking sector assets controlled by the public sector<sup>41</sup>. A series of waves of mergers and acquisitions started to take place where for example the Misr American International Bank was merged into Arab African Bank creating a new entity<sup>42</sup>.

Other types of banking as investment banking have different market structures that can be largely described as monopolistic due to the presence of one bank only in such fields.

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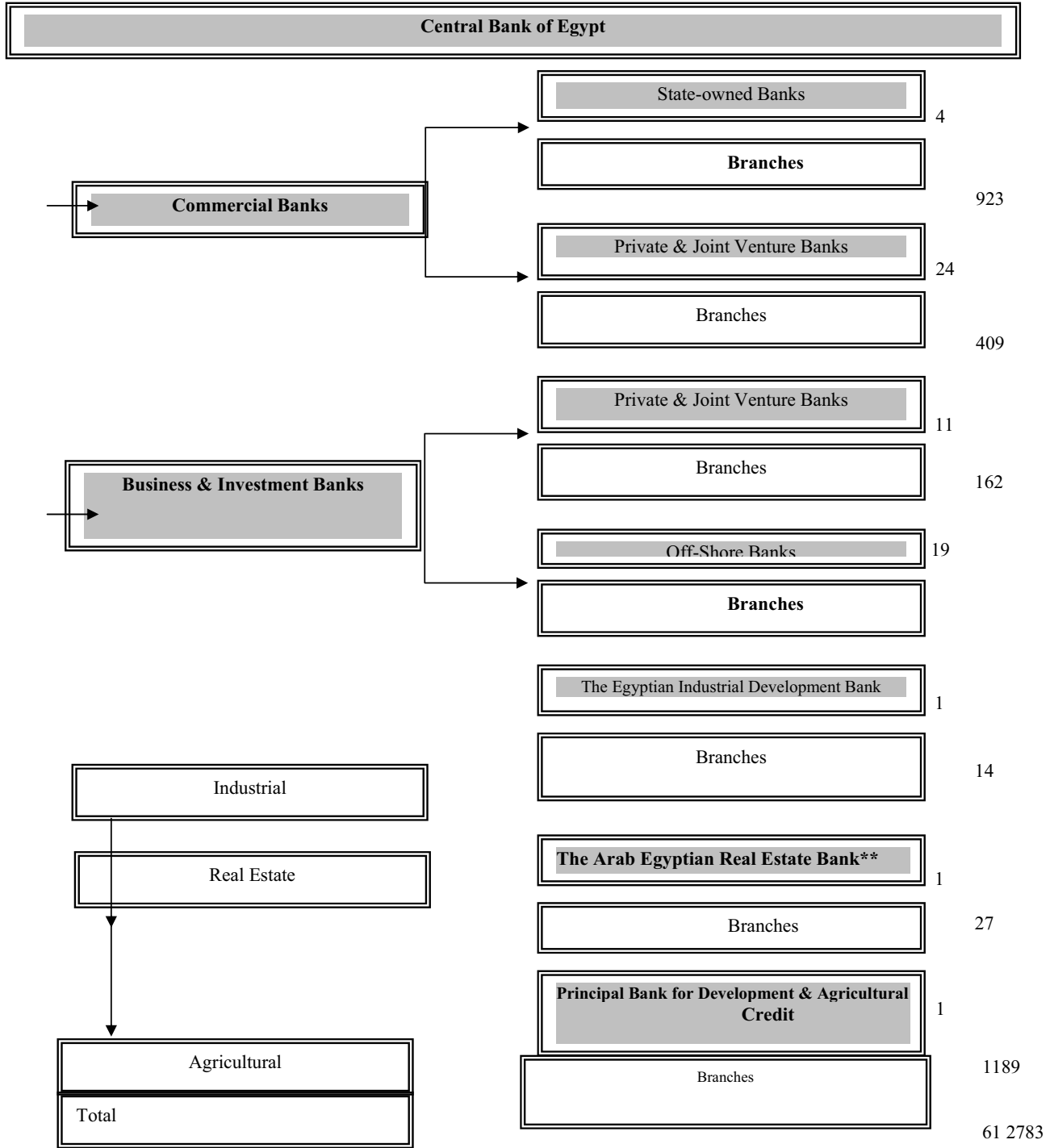
<sup>39</sup> Ministry of Foreign Trade (2003), *Quarterly Economic Digest January-March 2003, Vol IX, No. 1*.

<sup>40</sup> It was announced that the process of merging Mohandis Bank in the National bank will be completed in October 2005 whereas the process of merging the Commercial Bank in the National Bank will be completed by December 2005. The acquisition of National Société General of the International Misr Bank will be completed in October 2005. Misr Exterior was fully merged in MisrBank. Several studies for merging a number of other banks have been taking place, and finally the privatization of Bank of Alexandria will be fully completed in March 2006. See Ahram Newspaper 17/9/2005

<sup>41</sup> Akhbar and Gomherya newspapers dated 27/9/2005.

<sup>42</sup> Ahram newspaper 29/9/2005

**Figure 1: Structure of the Egyptian Banking System in Mid 2004\***



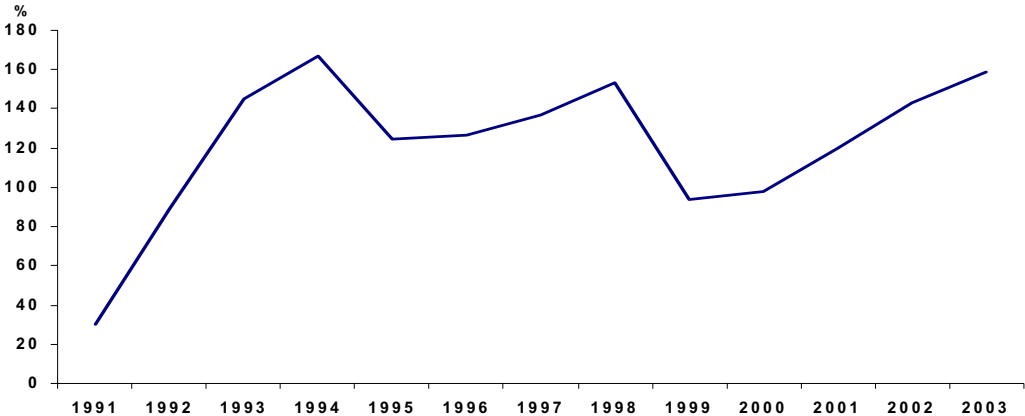
\*Egyptian banks abroad are not included, also two banks established under private laws and are not registered with CBE: Arab International Bank and Nassser Social Bank.

\*\*The Egyptian Real Estate Bank had been merged in the Arab Real Estate Bank in 21/6/1999

Source: Central Bank of Egypt Annual Report 2003/2004

The tight monetary policy adopted by the CBE since 2001 accompanied by slow economic growth, higher interest rates, payments of government’s debt arrears to the private sector and the increased amount of non-performing loans resulted in mounting liquidity (see figure 2) in the banking system and increased interest rate spread (see table 2). Such liquidity is not efficiently intermediated to the private sector due to two main reasons, namely: the fear of the problem of non-performing loans, and the high interest rate provided on government bonds and securities which banks prefer to buy instead of lending to the private sector. The higher interest rate spread is a symptom of an inefficient market and if banks depend heavily on such margins as a source of funding, which is the case in Egyptian banking, then liberalization can definitely have serious negative effects on such banks. However, after achieving stability in the exchange rate market, the Central Bank took several initiatives to lower the interest rate on the Egyptian pound for the deposits which helped to increase the interest rate spread after 2001. It should be noted that the spreads between lending and deposit rates differ between large business firms and low-income households. Lending rates differ between different corporations and between individuals based on their credit worthiness, purpose of loan, source of payback, collateral and size of loan.

**Figure 2: Liquidity Ratio during the Period (1991-2003)**



**Source:** Authors’ Calculations Based on Central Bank of Egypt, Annual Time Series, [www.CBE.org.eg](http://www.CBE.org.eg)

**Note:**  
 Liquidity ratio was calculated according to the following equation:  
 $(\text{Cash} + \text{Treasury Bills}) / \text{Demand Deposits}$   
 we used treasury bills as a proxy for Due for Banks



**Table 2 – Annex I : Key Regulatory Requirements According to the Unified Banking Law**

<b>Item</b>	<b>Requirement</b>
Capital Adequacy	<ul style="list-style-type: none"> <li>• Minimum adequacy of 10% is required, which is higher than the 8% stipulated under Basle II</li> </ul>
Liquidity Ratios	<ul style="list-style-type: none"> <li>• 20% daily average reported on a monthly basis for Egyptian currency portion of bank liabilities</li> <li>• 25% daily average reported on a monthly basis for foreign currency portion of bank liabilities</li> </ul>
Reserve Requirement	<ul style="list-style-type: none"> <li>• 14% of Egyptian currency dominated deposits (excluding 3 years+ maturities) to be held at the CBE at zero interest on fortnightly basis</li> <li>• 10% of foreign currency deposits to be held at the CBE at zero interest on quarterly basis</li> </ul>
Lending Limits	<ul style="list-style-type: none"> <li>• Exposure to a single customer (and its affiliates/subsidiaries) is limited to 30% of the bank's registered net worth, general bank provisions for good loans and subordinated debt available to the bank</li> </ul>
Related party Limits	<ul style="list-style-type: none"> <li>• Banks are banned from extending loans to their directors, members of heir directors' families, or those companies in which their directors are holding directorships and/or have beneficial ownership</li> </ul>
Foreign Currency Limits	<ul style="list-style-type: none"> <li>• Foreign currency liabilities are to be capped at 105% of foreign currency assets</li> <li>• Net foreign currency position is limited to 15% of the bank's capital</li> <li>• Foreign currency exposure is limited to 10% of capital (in single currency terms) and 20% of capital (in gross terms)</li> <li>• Proprietary trading in foreign currencies and precious metals is banned by CBE</li> <li>• Foreign currency position is reviewed on a weekly basis by CBE</li> </ul>
Investment Limits	<ul style="list-style-type: none"> <li>• Ownership limit in an associated company is capped at 40% of the company's capital</li> <li>• Banks must differentiate between investments in affiliates, held till maturity, available for sale and trading</li> <li>• Limit on investments with one foreign correspondent should not exceed 10% of the bank's overseas investments or US dollar 3 million whichever is higher. Total investments with all foreign correspondents are limited to 40% of the bank's capital</li> <li>• Mortgage loans are limited to 5% of the bank's loan portfolio</li> <li>• Banks are bound by anti-money laundering regulation (Law 80 of 2002)</li> </ul>
Anti-money Laundering	
Inter-bank Deposit Limits	<ul style="list-style-type: none"> <li>• Inter-bank deposits placed with a single bank are capped at 10% of the respective bank's client deposits</li> </ul>
Loan loss Provisions	<ul style="list-style-type: none"> <li>• Banks are required to take a general loan-loss provision equivalent to 1% of good loans that are not covered by cash deposits</li> <li>• If the borrower fails to pay interest and/or principal on the loan for 90 days, the bank must take a 20% provision on the loan</li> <li>• If non payment is extended to 180 days, 50% provision is required</li> <li>• Delinquency of 365 days requires a 100% provision</li> </ul>
Accounting Standards	<ul style="list-style-type: none"> <li>• Publicly-held banks are required by the Capital Market Authority to prepare their audited financial statements in accordance with Egyptian Accounting Standards, which are in compliance with International Accounting Standards</li> <li>• Audited annual financial statements of listed banks are to be filled with Cairo and Alexandra Stock Exchanges within maximum three-month period from balance sheet date</li> <li>• All authorized banks are required to prepare monthly financial statements for submission to the CBE</li> </ul>
Prudential Regulations	<ul style="list-style-type: none"> <li>• Upon government's request, the CBE is required to cover the seasonal budget deficit for a maximum of 12 months, at a ceiling equivalent to 10% of the average annual budgetary revenues of the preceding three years</li> <li>• Minimum issued and paid-in capital of licensed banks should not be less than 500 million Egyptian pounds and 50 million US dollars for branches of foreign banks</li> <li>• CBE should be notified of equity holdings ranging between 5% and 10% of any bank's capital. Acquiring more than 10% requires prior approval from the CBE</li> <li>• Single obligor limit is capped at 30% of the bank's capital base</li> <li>• CBE can prevent banks from distributing dividends in cases of insufficient provisioning and/or failure to meet minimum capital adequacy requirements</li> </ul>

Source: Unified Banking Law

**Table 2 – Annex III : Interest Rate Spread, 1990-2002**

	Year	Interest rate spread (%)	
	1990	7.0	
	1991	..	
	1992	8.3	
	1993	6.3	
	1994	4.7	
	1995	5.6	
	1996	5.0	
	1997	4.0	
	1998	3.7	
	1999	3.7	
Source: World Bank,	2000	3.8	<i>World Development Indicators,</i>
2004	2001	3.8	
	2002	4.5	

Finally, one of the indicators for inefficiency of the banking sector is the low deposit to loan ratio as reflected in Table 1. in Annex 1. reaching only 130%. In addition the rate of return on assets has remained too low never exceeding the 1% and has suffered from a downward trend together with the rate of return on equity which averaged around 15% between 1997 and 2001.

## 2. DESCRIPTIVE ANALYSIS OF THE REGULATORY FRAMEWORK

In 2003, the Parliament has approved the Unified Banking Law (Law 88 for 2003). The law has several features related to the independency of the CBE, regulations of banking sector, and foreign currency regulations. Table 2 in Annex 1. provides a summary of the main features of this law. Below we discuss briefly the main features of the regulatory framework governing the banking sector.

### *1) Restrictions on Capital Flows and on Entry and Conduct of Banks:*

There exist no restrictions on capital flows<sup>43</sup>. Regarding entry of foreign banks, market access is controlled via prudential regulations which are subject to the discretionary power of the CBE. (According to Articles No. 31 and 33 of the Unified Banking Law restrictions on new entry of any new domestic or foreign bank are focused on capital requirements and management profile). For example, a minimum authorized and fully paid capital for new banks is LE 500 million and US \$ 50 million (or equivalent) are required for branches of foreign banks. The inability of some foreign banks to accommodate to such changes have resulted in the announcement by four foreign commercial banks of their withdrawal from the Egyptian market (Ahram newspaper 17/9/2005). The total number of banks allowed depends on the CBE's decision according to economic needs<sup>44</sup>. In theory, no separate licenses are required to establish branches in each governorate, only a notification to the CBE is required. In practice, however, some specialists argue that entry restrictions are imposed for reasons decided upon discretionary decisions of the CBE. For example, such restrictions are imposed to give state-owned or national banks time to prepare for competition and, to reduce potential

<sup>43</sup> According to Article No. 40 in Unified Banking Law—which is a repetition of Article No. 2 in Law 38/1994- there exist no restrictions on capital inflows and outflows both in the short and long runs.

<sup>44</sup> According to some commentators, it is alleged that the CBE does not favour expansion of private banks' branch network in locations already dominated by public sector banks in major cities. See for example: El Shazly, Alaa (2002), "Incentive-Based Regulations and Market Discipline in Banking: An Empirical Investigation" CEFRS Economic Studies, Vol.27, Cairo: CEFRS.

systemic risk believed to arise from over banks, due to inadequacy of regulatory and supervisory capacity. There is also a perceived economic need for new banks (See El Shazly, 2002<sup>45</sup>).

According to Articles No. 31 and 34 of the Unified Banking Law, all legal forms of establishment are allowed for foreign banks. There are no restrictions on the number of foreign bank branches, however, it is subject to economic needs test under the discretion of CBE following certain criteria that are clear in phrasing but rather vague in implementation, hence giving more room for discretionary decisions. The criteria of applying the economic needs test are in the following cases; (i) not complying with Banking Law, its executive regulations, and/or any other related laws; (ii) not in line with the general economic interest or the needs of the region applied for establishment; (iii) if the commercial name is similar or equivalent to any of the existing banks (Article No. 33 in Unified Banking Law). In addition, there are no provisions in the Banking Law, its amendments and/or related laws which state that there are restrictions on the number of foreign bank Automated Teller Machines (ATMs).

All commercial banks (both domestic and foreign) are permitted to provide many services domestically. These services include real estate lending, securities services (as a custodian only and not brokerage services), foreign currency lending, foreign exchange services (according to articles No. 1,2,3,4, and 5 of the executive regulations of the Ministerial Decree 331/1994 of the Law of Foreign Exchange Regulations 38/1994) and credit card services. As for insurance and reinsurance activities the law has neither mentioned them as activities that banks are not allowed to be engaged in nor allowed it explicitly. All banks registered with the CBE are allowed to engage in financing investments in the domain of purchase, building, repair of real estate or companies operating in real estate mortgage<sup>46</sup>.

The CBE issues the necessary licenses for the operation of banks. Once the licenses are allocated, a CBE's approval is required as a restriction for the banks ability to sell or dispose of these licenses following Articles No. 40, 41 in Unified Banking Law.

## *2) Capital Adequacy Requirements:*

Despite the strict control of CBE on banks in Egypt, many of them have failed to meet the capital adequacy requirements that have been asserted by Basel Convention and the CBE has tried to enforce (see below in Section 4). In 2003, following the Unified Banking Law, the CBE raised the capital adequacy ratio to 10% which is even higher than the 8% following Basel II convention, as part of a more comprehensive banking sector reform and modernization process. The CBE is working with banks to comply with such standards by 2006. Hence, the banking sector is likely to experience a large number of mergers and acquisitions so that small banks which are not able to fulfil the CBE requirements are expected to disappear from the scene. As a result of such regulations and as mentioned above the number of banks has declined from 61 in mid 2003 to 56 in 2005 and are expected to reach 35 by the first quarter of 2006. Stipulating in the New Unified Law the necessity of increasing the capital requirement for all banks from 100 LE million to 500 LE million is likely to result in a wave of banks' mergers and

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<sup>45</sup> El Shazly, Alaa (2002), "Incentive-Based Regulations and Market Discipline in Banking: An Empirical Investigation" CEFRS Economic Studies, Vol.27, Cairo: CEFRS.

<sup>46</sup> The CBE Board of Directors' decree dated 28 February 2002, and the Mortgage Law 148/2001 and its executive regulations

a major consolidation of the whole banking system. Hence, it is very likely that the number of banks will be reduced in the coming years resulting in higher concentration of the market which can lead to negative results on banks' efficiency if not complemented by contestable open markets. Hence, imposing more strict prudential regulations and adopting higher capital adequacy can ensure the ability of the big four and other low profitability banks to face the negative effects of liberalization. However, raising the capital adequacy ratio (which faced several implementation problems before<sup>47</sup>), above the Basle II requirements is very likely to result in higher concentration ratios which can have negative consequences on competition. When high concentration is complemented by lack of privatization their joint effect can stifle the sector and affect harshly its performance. It is worth noting that the percentage of total bank government owned assets in Egypt is 67% whereas it is 42% in Germany and 0% in the United Kingdom and France. Moreover, the percentage of deposits accounted for by the five largest banks is 65% in Egypt compared to 12% in Germany, and 70% in France (Barth, et.al, 2001<sup>48</sup>).

### *3) CBE is the Sole Setter of Monetary Policy and Regulator:*

According to the Unified Banking Law, the independence of the CBE in setting the monetary policy has been strengthened. Following the law, the Governor (who is appointed by the President) is required to set the monetary policy in conjunction with the government coordinating council. In 2003, the CBE governor announced that the anchor of the monetary policy in Egypt is inflation targeting instead of nominal exchange rate which is subject to a full floating regime.

Regulation of the banking sector is the sole responsibility of the CBE which is in charge of issuing all decrees and regulations concerning banks in Egypt. It is an independent body where its independence has been recently strengthened by the new Unified Banking Law (Article 10). Yet, such independence is somewhat questionable as it follows the President who is given the right to interfere in the government's decision using his right provided by the constitution and re-emphasized in the new law. In fact, many of the CBE's decisions are subject to its discretionary power and do not follow certain specified rules. For instance, the allocation of banking licenses depends on such discretionary decisions as well as other criteria as geographical considerations; where it is alleged –as previously referred to- that the CBE does not favour expansion of private banks' branch network in locations already dominated by public sector banks in major cities while there

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<sup>47</sup> The capital adequacy requirement ratio that was determined to be 8% minimum for all banks (state-owned, nationally owned, foreign owned: branches and subsidiaries) was not fulfilled in many cases. Egyptian banks maintained capital adequacy ratios ranging between 6% and 7% of total assets, i.e., less than the Basle committee (1988) standard of 8%. But following the implementation of the reform program in the early 1990s, the CBE issued a circular dated 31 January 1991 which informed banks under its supervision that they were to abide by the following capital adequacy timetable, so banks which at the end of December 1990 maintained the 8% ratio, were to preserve and banks with the ratio from 7 to 8% were to reach the required 8% ratio by 31 December 1992. Banks with the ratio of 6 to 7% were to reach it by 31 December 1993, and those below 6% were to reach it by end of December 1995. But in spite of this ambitious schedule designed to bring the banks within the 8% limit within 5 years, the delay until 1995 was deemed unacceptable because of its deviation from the Basle timetable. In April 1991, a new circular stated that banks below 8% were to reach this ratio by the end of December 1993 rather than 1995. It has been recently announced that the ratio for the whole banking system is 10% for the end of June 1996, but this does not necessarily mean that all operating banks have complied with the capital adequacy rule. For more details see Bahaa Eldin, Ziad and Mahmoud Mohieldin (1998), "Prudential Regulation in Egypt", ECES Working Paper No. 29, Cairo: Egyptian Center for Economic Studies.

<sup>48</sup> Barth, Jame R., Gerad Caprio Jr, and Ross Levine (2001), "The Regulation and Supervision of Banks Around the World", World Bank Working Paper No. 21001

are no restrictions on branching in locations that are deprived of adequate banking services as new communities and provinces. Although, public banks are favoured, yet the authorities have designed a bank privatization program as an attempt to reduce market concentration and enhance private competition particularly in large cities (See El Shazly, 2002) which has only started to be implemented effectively in 2004 whereas before it has stumbled as aforementioned. Despite several delays the process of the privatization of Bank of Alexandria started to gain pace and is expected to be completed by March 2006.

#### *4) Dealing with Banks' Failure:*

Egypt has an explicit transparent policy for dealing with failed banks. The Government can, upon the proposal of the Governor of the CBE, remove any of the members of the board of directors of a bank. If a bank experiences financial problems, the CBE is required to ask the bank's management to recapitalize. If management does not fulfill the request, the CBE has the right to conduct recapitalization using several methods which include selling it to newly subscribed shareholders, merging the troubled institution with another bank, or revoking the failed bank's charter. In practice, merger rather than closure seems to have been the main exit policy in recent years. For instance, 15 small regional banks were merged in 1993 into a single institution (National Bank for Development). Moreover, during the period 1990-2005 there was only one bank failure (the case the Bank of Credit and Commerce-Egypt). Also, the two specialized real estate banks merged in 1999. Notwithstanding this, a number of private commercial banks have continued to operate for a number of years undercapitalized without intervention (Bahaa Eldin, and Mohieldin, 1998). The new reforms focused more on upgrading and strengthening the level of prudential regulations to lessen the probability of CBE's direct intervention in the case of bank failures.

#### *5) Prudential Regulations:*

There is no formal subsidizing or protection system for the state-owned banks. The Unified Banking Law included a number of provisions to enhance the prudential regulation of the banking sector (see Table 2. in Annex 1.) in addition to the already prevailing ones as requirement of publishing quarterly financial statements of state-owned and private banks which are listed in the Stock Exchange (Capital Market's Law No. 95 for 1992). In many cases, they are rather precautions undertaken to ensure that the banking system does not face any drastic changes that might affect its stability; and is not threatened by competitive actions from other foreign-owned or domestic private banks. In fact, state-owned banks are sometimes used as tools to impose certain behavior on other banks.

*a) Concerning foreign currency lending*, it is to be extended with certain purposes related to the borrower's line of business, and is further regulated by the following<sup>49</sup>:

The loans are not to be extended for foreign currency speculation purposes, and are not to be used for establishing time deposits, or purchasing monetary bills (i.e., exchange rates or interest arbitrage)<sup>50</sup>. The lending interest rate is to be in line with the real costs of funds and banks are to set acceptable margins between both the applied lending interest rate and the cost of funds<sup>51</sup>.

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<sup>49</sup> CBE Governor's meeting with Banks' Chairmen on November 19<sup>th</sup> 2001

<sup>50</sup> See minutes of CBE Governor's meeting with Banks' Chairmen on February 17<sup>th</sup> 1998.

<sup>51</sup> See minutes of CBE Governor's meeting with Banks' Chairmen on February 10<sup>th</sup> 1998.

Such regulations and others, including limiting the foreign exchange exposure and the short or long term positions in foreign currency not to exceed 10% of the state-owned banks' capital, were included in the Unified Banking Law, to shield the Egyptian banks from exchange rate risks. Egyptian banks are subject to two main exchange rate risks: a balance sheet mismatch in foreign currency and an increase in doubtful debts resulting from the distress of companies with foreign currency exposure. The CBE tried to deal with such problem by invoking the aforementioned provisions in the Unified Banking Law.

*b) Concerning cross-border banking trade:* Domestic banks, corporations and households are allowed to borrow cross-border from foreign banks. There are some limits for the public sector (including state-owned banks) and government, as necessary approvals should be fulfilled (CBE directives in 1991/92)<sup>52</sup>.

Domestic banks, are also allowed to make cross-border deposits with foreign banks, with only one limit that bank deposits held with single foreign correspondent should not exceed 40% of the capital base of the domestic bank or 10% of the domestic bank total investment abroad or \$3 million whichever is higher<sup>53</sup>.

*c) Concerning ownership:* It has several limitations that are undertaken to ensure the stability of the banking system, and protection from any abuse of the dominant role that could be played by one of the major shareholders. According to Articles No. 48 and 49 in the Unified Banking Law, private domestic and foreign ownership in the provision of banking services is allowed, subject to certain conditions among which are the following: if single ownership exceeds 5% of any bank's capital, it must be notified to CBE and the maximum share of one person cannot exceed 10% of the total capital. Otherwise, the approval of the CBE is compulsory. Both domestic and foreign banks are allowed to hold equity in both financial and non-financial firms. The maximum stake permitted in each case is 40% of the company's capital, but without exceeding the Bank's issued capital and reserves as stated in the executive regulations of the Unified Banking Law.

#### *Major Weaknesses Still Prevailing in the Regulation Infrastructure:*

- **Poor quality lending supervision where rules for loan classification are still weak:** The CBE has strict rules for specific provisioning that are based on satisfactory loan payment history as reflected in the Unified Banking Law<sup>54</sup>. However, the law has set rules for loans provisioning without taking in consideration the profitability of the loan *per se*. Moreover, procedures and terms for rescheduling and restructuring loans are still weak. A new amendment of the law is currently being discussed to deal with the latter issue. Banks have already

<sup>52</sup> Source: for banks, see Law 120/1975, for domestic corporations and households see El Shazly, Alaa (2002), op.cit.

<sup>53</sup> CBE circulars and Annual Report, 1993.

<sup>54</sup> The loan classification requirement is 90 days: substandard, 180 days: doubtful, and 365 days: bad loans. This applies for all types of banks, illustrated above. Provision for a substandard loan is 20%, for a doubtful loan 50%, and for a bad loan 100% of net exposure. In case of provision inadequacy, the CBE is empowered to prohibit the bank from distributing dividends to its shareholders in order to strengthen its financial position.

started a new policy in 2004 of rescheduling loans instead of aggressively prosecuting the bad debtors as it was the case from 2001 till 2003.

- **Lack of Transparency:** There is a lack of clarity in the law on some aspects of bank registration and supervision, including the purposes for which particular powers may be exercised and the nature of the CBE's powers in particular circumstances. There is also a lack of specificity on the CBE's powers to respond to bank distress and failure. Finally, some aspects of banking supervision rely excessively on informal understandings between the CBE and banks, without being fully documented or formally expressed as prudential requirements. The banking supervision arrangements should be comprehensively documented and made more transparent.
- **Criteria for the Deposit Insurance Systems:** The Unified Banking Law allows the establishment of a deposit insurance fund operating as an autonomous entity with an independent budget and supervised by the CBE. The entity has not yet been established. However, there exist no main guidelines ensuring that this new entity will be designed to minimize moral hazard risks and preserve market discipline in the banking system.
- **Inadequate accounting of nonperforming loans in Specialized Banks:** The Unified Banking Law did not deal with the problem of underreporting of arrears and hidden rescheduling, as well as insufficient provisioning as a result of inadequate classification into nonperforming categories of specialized banks. Lax collection practices in such banks still prevail and there are indications of noncompliance with risk diversification guidelines where there is high portfolio concentration involving a small number of large clients (particularly in industry and real estate).<sup>55</sup>

### 3. QUANTIFICATION OF BARRIERS TO TRADE IN THE SECTOR

The GATS commitments by Egypt reflect partially the reforms undertaken in the banking sector. Liberalization undertaken domestically surpasses the GATS commitments in the banking sector. The GATS schedule (Annex 2.) which represents the most updated schedule of commitments submitted by Egypt in 1998 shows that there is a large gap between what is mentioned in such schedule and what is implemented in reality or specified by Egyptian law. For example, Egypt made no commitments regarding mode (1) whereas as stipulated by Law (in Section 2 above), domestic banks have the right to be engaged in cross border operations. Comparing the rules, regulations, and policies conducted by the CBE and domestic banks (as explained above) with the GATS commitments, it is clear that domestic reforms have surpassed the GATS commitments. This implies that reforms or liberalization have been undertaken domestically but not anchored in the GATS. Examples include the provision of services related to real estate lending, securities services (as a custodian only and not brokerage services), foreign

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<sup>55</sup> For an overview of the problems facing the banking sector in Egypt and the type of constraints prevailing before privatization and reform and those likely to appear during the reform process and afterwards see Mohieldin, Mahmoud and Sahar Nasr (2003), "Bank Privatization in Egypt", ERF Working Paper No. 0325

currency lending, foreign exchange services, etc. Many of such services have not been registered in the GATS schedule of Egypt.

In this section we aim at measuring the tariff equivalent of real practice in the Banking sector in Egypt based on law and practices taking place as revealed by interview results based on the questionnaire used for this study (see Annex 3). Hence, the tariff equivalent estimated is likely to be more liberal than the one based on GATS commitments and more restrictive than what law postulates due to restrictive practices that take place but are not revealed by law. We calculate first the restrictiveness index following the methodology adopted in McGuire and Schuele (2000)<sup>56</sup>, Dee (2003)<sup>57</sup>, and Kimura et. al (2003)<sup>58</sup>. We utilize collected information from the questionnaire on the regulatory environment. Restrictions against foreign services suppliers are listed in sector-specific restriction tables, and weights are assigned for listed restrictions. In order to keep comparability with previous studies, we apply the restriction table for banking services developed by Kimura et. al. Based on the questionnaire survey and interviews, scoring sheets are filled out to obtain the overall restrictiveness of financial services in Egypt. We obtain the foreign restrictiveness index (FR index) and the foreign discriminatory restrictiveness index (FDR index), the latter is a subset of the former and covers discriminatory restrictions imposed only on foreign services providers. Then, using the estimated restrictiveness indexes and, based on the methodology adopted by McGuire and Schuele (2000), and Kimura et. al (2003) we convert our estimated restrictiveness indexes into ad valorem equivalents of barriers to the financial sector in Egypt.

The method to obtain the index is as follows: *first*, possible restrictions are classified into restriction categories with weights. The weights are determined, according to the importance of the category in terms of how significant the restriction category is in limiting service suppliers from entering or operating in the market. The sum of weights for all categories is 1. *Second*, a score with a range from 0 (least restrictive) to 1 (most restrictive) is assigned for each category, according to the degree of restrictiveness, so that the score reflects the type of restriction imposed in the specific sector. *Third*, the estimated score for each category is obtained by multiplying the selected score by the weight that is assigned to each restriction category. Finally, a restrictiveness index is calculated by summing up the estimated scores.

Our study estimates the (FR index), based on the information collected by the questionnaire we filled upon reviewing the Unified Banking Law and other relevant recent literature and undertaking interviews with experts in the field (both academic and policy makers). We estimate also the (FDR index), which captures restrictions imposed specifically on foreign services suppliers and not on domestic services suppliers. In order to estimate this index, lower weights (than those in the calculation of the FR index) are

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<sup>56</sup> McGuire, Greg and Michael Schuele (2000), Restrictiveness of International Trade in Banking Services, in Findlay, Christopher and Tony Warren eds., *Impediments to Trade in Services: Measurement and Policy Implications*, London; Routledge, pp201-214

<sup>57</sup> Dee, Philippa (2003), "Measuring and Modelling Barriers to Services Trade: Australia's Experience", *mimeo*.

<sup>58</sup> Kimura, Fukunari, Mitsuyo Ando and Takamune Fujii (2003), "Estimating the Ad Valorem Equivalent of Barriers to Foreign Direct Investment in Financial Services Sectors in Russia" available at the World Bank website.



assigned for some restriction categories that apply to both domestic and foreign services suppliers. Since such restrictions could still affect foreign suppliers more seriously, a half of the weight is assigned for these restriction categories to reflect the degree of possible and partial discriminatory restrictions.

To convert FR indexes estimated into tax equivalents, our study uses coefficients estimated by Kalirajan, et al. (2000)<sup>59</sup> as cited in Kimura et. al (2003) that quantify the impact of restrictions on trade in banking services on the net interest margins of banks.

Finally we compare our results with those calculated for the most liberal EU country based on McGuire and Schuele (2000) estimations.

Based on these calculations we obtained a FR Index=0.152 and FDR Index= 0.077. Using the formula for estimating the tariff equivalent ( $100*(e^{0.732-TRI} - 1)$  where TRI is the FR) we obtained a tariff equivalent equal to 11.769 %. In fact we believe that the Egyptian banking sector is even more liberal than what the index reveals. We build our assessment on a number of indicators that were not reflected in the index. For example there are no restrictions imposed on the number of ATMs according to Banking Law, its amendments and/or related laws. There is also no control on deposit rates, no ceilings on lending rates, and banks can have cross border lending with any type of Egyptian residents without any restrictions. Banks are also permitted to hold equity in financial and non-financial firms (with a maximum stake of 40% of company's capital, without exceeding the bank's issued capital and reserves). All such indicators are not captured by the FR index which if included will imply a more liberal banking sector.

#### 4. ECONOMY WIDE EFFECTS OF THE LIBERALIZATION OF THE BANKING SECTOR USING INPUT-OUTPUT TABLE<sup>60</sup>

The banking sector is included in the trade, finance, and insurance sector of the Egyptian input-output (IO) table (the latest available for 2003/2004 using constant prices. According to the IO table, the trade, finance, and insurance sector (which includes banking) has the highest productivity (measured by dividing value added by total production) among 32 sectors, surpassed only by two sectors (oil and tobacco manufacturing) and equivalent to the agriculture sector in terms of value added.

To analyze the effect of the change in the price of banking services on the prices of other commodities we consider the 2003/2004 IO Table of the Egyptian economy which has 32 sectors. Banking services are included in sector 29. Let A be the 32x32 matrix of input coefficients. Given A, form the 31x31 input matrix B by deleting the 29th column and 29th row referring to the banking sector. Denote the 29th row where the 29th column element has been deleted by e. Let p be the 1x31 price vector of the 32 commodities excluding the banking sector and via the corresponding 1x31 unit gross value added vector. The price equation can be written as

<sup>59</sup> Kalirajan, Kaleeswaran, Greg McGuire, Duc Nguyen-Hong and Michael Shuele (2000), The Price Impact of Restrictions on Banking Services, in Findlay, Christopher and Tony Warren eds., *Impediments to Trade in Services: Measurement and Policy Implications*, London; Routledge, pp215-230

<sup>60</sup> We adopt here the methodology applied by Akdemir, Erkan Erdem Başçı and Sübidey Togan (2005), "EU Integration and the Telecommunications Sector: The Case of Turkey".

$$p = p_B + p_t e + va.$$

where  $p_t$  denotes the price of the banking services. Hence we have

$$p = p_t e (I-B)^{-1} + va (I-B)^{-1}$$

Thus, given the price of banking that will prevail in Egypt after it adopts and implements the EU rules and regulations,  $p_t$  is set to be at 0.94 (the difference of 6% between the 11% of the Egyptian tariff equivalent and the 5% of the EU tariff equivalent), we determine the equilibrium prices of the other 31 commodities from the above equation assuming that there is no change in the unit gross value added vector  $va$ . Given the equilibrium price vector  $p$  form the 1x31 price vector as  $\pi = (p \ p_t)$ . Let  $CON$  be the 31x1 consumption expenditure vector obtained from the 2003/2004 IO table by deleting the value of consumption of banking sector and  $con_t$  the value of consumption of banking services. Form the 32x1 consumption vector as

$$CONS = \begin{bmatrix} CON \\ con_t \end{bmatrix}.$$

Noting that initially all base year prices equal unity we can express the value of total consumption expenditure evaluated at base prices as

$$C = u \text{ CONS}$$

where  $u$  denotes the 1x32 unit vector. The value of total consumption expenditure evaluated at the prices that will prevail after Egypt adopts and implements the EU rules and regulations in the banking sector is then given by

$$C^* = \pi \text{ CONS}$$

The effect on consumer welfare can now be calculated as

$$(C - C^*) \times 100 / C^* \text{.}^{61}$$

The results we get based on such methodology are expressed below

The value of total consumption expenditure evaluated at base prices

$$C = u \text{ CONS} = 530827633 \text{ Egyptian pounds}$$

The value of total consumption expenditure after adopting the EU regulations,

$$C^* = \pi \text{ CONS} = 523300000 \text{ Egyptian pounds}$$

The effect on consumer welfare is calculated by  $(C - C^*) \times 100 / C^* = 1.438\%$

The reduction of prices in the banking sector by 6% to be in line with the EU will result in increasing the welfare of the Egyptian population by 1.438% of consumption. As the percentage of consumption to GDP represented 83.7% in 2003/2004, the increase in welfare as a percentage of GDP would thus be equal to 1.203%. It is worth noting that a

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<sup>61</sup> Note that this approach determines the equivalent variation in consumer' income.

similar exercise by adopting a 26% price reduction was undertaken and the welfare effect was around 6.54% of consumption, representing 5.47 % of GDP.

Note that this measure of the change in consumer welfare gives a downward biased estimate of the welfare effect as we do not consider the increases in consumer demands for the different commodities with the decreases in the prices of these commodities. But such an estimate would require the use of price elasticities of demand for the 32 commodities of the IO, which we did not have at our disposal. Moreover, the banking is lumped in the trade, finance, and insurance sector that can affect the precise estimate of our results, but we neglect this issue in our calculations. Thus, the welfare gain will have to be higher than the figure given by the estimate we present in this study.

## 5. CONCLUSION

The study showed that the banking sector in Egypt has experienced several developments in the liberal direction. The pace of the liberalization efforts was relatively slow during the 1990s but accelerated significantly after issuing the Unified Banking law in 2002. The liberalization move was accompanied by the adoption of several prudential regulations which aimed at having a strong banking sector. As a result the liberalization was not accompanied by reduction of the concentration ratio in the banking sector where the 4 state-owned firms still control the market. An important phenomenon experienced by the banking sector starting 2004 was the large number of mergers and acquisitions taking place which will result in reducing the number of banks in Egypt significantly when such mergers and acquisitions are fully implemented. The liberalization moves were translated into a sector enjoying a relatively low tariff equivalent rate (11.7%) compared to 5% in the case of the EU. A number of additional indicators not included in our calculation if taken into consideration would have even resulted in a lower tariff equivalent. Nevertheless, the sector still suffer from a number of problems related to lack of transparency, absence of criteria for the deposit insurance system newly announced, and the weak and inadequate accounting of the non performing loans. Our simulations showed that if the banking sector in Egypt was more liberalized reaching the extent of liberalization in the EU this would not be translated into significant welfare gains for the Egyptian economy where a 6% reduction of prices will result only in 1.44% welfare gains in consumption and 1.2% of GDP. Moreover, even if larger price cuts were undertaken it will not result into larger welfare gains where a 26% price reduction will increase the welfare gains to 6.54% of consumption and 5.47%of GDP.. The policy implications that can be derived from such study are that adoption of EU regulations in the Egyptian banking sector or further liberalization of banking services is not likely to result into significantly high welfare gains.

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# LIBERALIZATION OF THE BANKING SECTOR IN TUNISIA

Mongi BOUGHZALA and Dhafer SAIDANE

## 1. INTRODUCTION

Starting in the nineties, Tunisia implemented important reforms and modernization programs in many financial areas, and important progress has been achieved mainly in terms of modernizing the banking system (IMF 2000). However, exposure to high credit risks and other important weaknesses persist within this system; for instance, many banks continue to suffer heavily from non performing loans (NPL), a low level of provisioning, a large volume of non-interest bearing assets, and a high exposure to vulnerable and risky activities, for instance in tourism. Nevertheless, a more radical liberalization process is considered and it is expected that new actions will be taken in order to prepare the banking system for deeper integration, especially within the EU region. Opening banking services to EU competition may arguably lead to improvement within the Tunisian system and open the way to better and cheaper services. Tunisia (and many of its neighboring countries) is indeed considering, and arguably willing, to open up gradually its service sector to EU competition; that is to extend to trade of services its Free Trade Agreement with the EU (signed in 1995) so far covering only manufactured goods.

What are more precisely the expected benefits from liberalization of the banking sector? This is our basic question. It is clear that the answer depends on the way we define liberalization and we measure the barriers against trade of services, the focus being on trade in the form of commercial presence, which is accompanied by foreign direct investments. Trade of services differs from trade of goods not only because it may be done according to the four conventional modes but also because of the way the domestic market is protected. In the case of services, the domestic market is protected not by tariffs but by the country's legislations and institutions. This makes the measurement of the degree of protection difficult and problematic. However, it has been possible and convenient to calculate tariff equivalent of the restrictive regulations. Once tariff equivalents are estimated, it becomes easy to estimate the impact of liberalization on various indicators, including prices and social welfare. In addition, it is not conceivable to remove all regulations and all forms of restrictions in the case of services, and, in the banking sector in particular, it is not desirable to remove the prudential regulation considered essential for its survival. Thus, we have to define a base line for any meaningful comparison.

In this study, a special meaning is given to service liberalization in the case of Tunisia (and also Egypt, Morocco, and Turkey); it is equivalent with the alignment of the country's legislations and institutions with those commonly adopted by the EU countries, and which define the requirements for financial integration within the EU. This also provides the base line. Whether liberalizing trade of services in this sense is a meaningful hypothesis or not depends on its expected impact on the Tunisian banking sector and more generally on the Tunisian economy. Adopting the EU regulations is of course only a hypothetical situation for Tunisia given that the negotiation process is still at an early stage.

The objective of this paper is basically to explore the impact of the liberalization of the Tunisian banking sector on its own performance and to try to measure its net benefit (or loss), while assuming the country undertakes the reforms needed for a successful integration. To this end, we need, in a preliminary step, to know more about the integration process in the EU and its basic requirements and regulations (section 2), and we also need to give an overview of the recent evolution of the banking sector in Tunisia and briefly indicate the conditions for achieving the greatest benefits from liberalization (section 3). In section 4, the impact of liberalization of the banking sector is presented.

## 2. THE EU FINANCIAL SECTOR INTEGRATION

The Common European Banking Market was created in January 1993 after a long integration process. Ever since, 80 to 90 % of major banking regulations and decisions governing the banking sector all over the EU countries are made in Brussels and less than 20% of the decision about the market regulation remains in the member countries. This was indeed the outcome of a long process given that the first EU directive concerning banking coordination was published back in 1977.

The common banking market is set on three main pillars: i) banks are governed by the legislations of their country of origin and ii) they only need to go through a unique licensing procedure within their home country and iii) then they are automatically and mutually recognized in all other EU countries. Under these circumstances, the free establishment and free service delivery principles prevail and essential EU directives were enacted in order to ensure the smooth functioning and fair competition of this market and harmonize and coordinate ownership and free movement of capital, solvency ratios, licensing conditions and the prudential rules.

Moreover, in September 2002 a **Directive on distance service delivery** was approved organizing services by fax, by telephone and through the internet, and, In December 2002, the **Directive on financial conglomerates monitoring** was passed.

As a result of this integration of the European banking market, the number of establishments by banks from other EU countries increased significantly (more than 50% increase). In France, for instance, starting in 1993, the number of French branches in other EU countries has increased quite rapidly, especially in 2001 and 2002 (27.5% increase). Close to half of the French establishments abroad are in the rest of Europe, mainly UK, Italy, Belgium and Germany.

The reciprocal is also true: 217 credit institutions from 15 EU countries (UK, Germany, Luxembourg, Netherlands...) are active in France corresponding to 69.5% of the total number of foreign banks in France.

Several studies have shown that financial integration within the EU has contributed to economic growth, to employment and mainly to reducing financial costs in the member countries. Up to half a percentage point a year of GDP growth and more than <sup>62</sup>a half a percentage point a year in terms of interest rate or financial cost reduction and a betterment of the quality of financial services are generated by this integration and by the increased competition. European consumers have significantly benefited and may expect higher improvements in their welfare as a result of this ongoing integration process and of the wider market where they now operate, and investors have access to a much wider and more diversified and hence much less risky market. These benefits were also the outcome of sizable investments and restructuring in particular in the banking system.

**Can Tunisia expect as much of the integration of its financial sector within the EU market?** Tunisia's objective is indeed to benefit from wider opportunities to export services to the EU countries and from foreign investments in banking and also in insurance and other financial services. It is expected that more lending possibilities will be available and also that higher competition would generate important beneficial effects in terms of technical progress and better quality of the service supplied by the domestic banks and, hence, of modernizing the national banking institutions.

## 3. SOME BASIC FACTS ABOUT THE TUNISIAN ECONOMY AND THE BANKING SYSTEM

Over the past decade (1995-2004), GDP growth in Tunisia was around 4 percent, inflation was reduced to less than 3 percent and the saving rate was around 21 percent while the investment rate was higher. The latter remained under 25% and not as high as expected, even though higher in 2002 than in 1995. Private investment, in particular, did not increase fast enough.

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<sup>62</sup> *European Financial Services Round Table* (EFR), " l'Institut für Europäische Politik » (IEP) and the "Zentrum für Europäische Wirtschaftsforschung" (ZEW), 2002



Overall, the domestic and external balances indicate that the economy has been stable but growth was not as high as expected when the reform process was launched.

### 3.1. The financial system: structure and reforms

Several financial sector reforms have been implemented, establishing a full financial institution infrastructure. The following are among the most remarkable actions taken.

- Privatization of the Tunis Stock exchange (BVM) is now entirely owned by financial intermediaries.
- The creation of the financial market board (Conseil du Marché Financier), as a regulator and main auditor of the financial market, filled an essential institutional requirement.
- It was followed by the creation of a central depository institution and a guarantee fund.

However, in spite of these reforms, the stock exchange remains weak and the banking system predominating within the financial sector.

**Table 1: Structure of the financial System in 2001**

Type of institution	Assets (US\$Mn)	Percent in total assets	Number of institutions	of Assets as a percentage of
Commercial banks	13715.03	63.6	14	72.8
State controlled commercial banks	7437.20	34.5	6	39.5
Private banks	6277.83	29.1	8	33.3
Development banks	782.24	3.6	6	4.2
Offshore banks	999.72	4.6	8	5.3
CCP (Post Office)	699.30	3.2	1	3.7
CENT (National Saving Fund)	559.44	2.6	1	3.0
Leasing companies	601.89	2.8	9	3.2
SICAV*	977.62	4.5	28	5.2
SICAF**	327.97	1.6	85	1.7
SICAR***	144.76	0.9	26	0.8
Insurance companies	909.09	4.2	16	4.8
Brokerage houses	NA	NA	26	NA
Pension funds	1748.25	8.1	2	9.3
Total	21551.82	100.0	366	114.5

Sources: IMF (2002), BCT, CMF, and DGA

\*SICAV: (Société d'Investissement à Capial Variable); Open end Fund.

\*\*SICAF : (Société d'Investissement à Capial fixe); close end Fund.

\*\*\*SICAR : (Société d'investissement à capital risque) ; Venture capital fund.

## 3.2. The banking system

The banking system is indeed fairly developed and diversified. It includes mainly the central bank (BCT), 14 commercial banks and 6 development banks.

On top of this backbone structure, a network of small institutions, including off-shore banks, brokers, financial consulting institutions and investment banks cover a larger and larger share of the regular banking activities without abiding by the same legal banking requirements.

ABC : Arab Banking Corporation

ATB : Arab Tunisian Bank

BCT : Banque Centrale de Tunisie

BDET : Banque de Développement Economique de Tunisie

BH : Banque de l'Habitat

BIAT : Banque Internationale Arabe de Tunisie

BNA : Banque National Agricole

BNDT : Banque Nationale de Développement Touristique

BS : Banque du Sud

BT : Banque de Tunisie

BTEI : Banque Tunisie Emirates d'Investissement

BTKI : Banque Tunisie Koweïtienne d'Investissement

BTQI : Banque Tunisie Qatarie d'Investissement

BTS : Banque Tunisienne de Solidarité

CITI : Citi Bank

STB: Société Tunisienne de Banque

STUSID : Société Tunisie Saoudienne d'Investissement et de Développement

UBCI : Union Bancaire pour le Commerce et l'Industrie

UIB : Union Internationale des Banques

### Bank licensing in Tunisia:

Bank licenses are issued by the Ministry of Finance based on the Central bank recommendations. The latter is responsible for undertaking the required appraisal; it receives the proposals and applications and assesses the candidate assets, worthiness and credibility, and decides about the type of documents and guaranties to require. The recent tendency was towards bank concentration rather than to licensing new ones. Tunisian banks are certainly small by international standards.

### Restructuring and modernizing the banking sector:

There is also a consensus in favor of the need to restructure and modernize the banking sector. It is considered crucial and it has to be pursued. The recent July 2001 banking law, enabling the establishment of a more liberal banking environment, was designed for this purpose. This law removed the legal separation between development banks and commercial banks, and introduced universal banking, leaving to each bank the possibility to decide about its strategic choices. Several development banks have already decided to convert to universal banking. The Tunisian Emirates Investment Bank (BTEI) and the Qatar Tunisian Investment Bank (BTQI) are now regular universal banks, while the Tunisian Kuwaiti (BTKD) and the Tunisian Saudi (STUSID) are on the way. Five other development banks have already recovered from their previous unhealthy financial

situations after the sale of some of their assets and of their shares in investment funds (SICAF) and the transfer of their non performing loans to debt collection companies. All these banks have regained their ability to receive additional foreign investments.

Other forms of foreign investment in connection with privatization are also ongoing in Tunisia. For instance, "Société Générale", the French Bank, acquired 52% of UIB (Union Internationale de Banque) in November 2002 and is planning additional investment and considering an increase in UIB capital. The Tunisian government intends to sell the rest of its banking portfolio, except for STB, the largest bank, which already absorbed two development banks (BDET and BNDT), BNA and BH, three public banks expected to remain state owned. However, these three banks own about half of total assets of the banking sector. The government total share in the banking business will remain high (more than half of total assets) for a long time. Privatization of the government's remaining share (31.76%) of BS has been rather sluggish.

There are currently five private banks closely linked to foreign investors: ATB belonging to the Arab Bank, UBCI to BNP-Paribas, UIB to Société Générale- France. Citibank and the Arab Banking Corporation are branches of foreign banks. There are also minor foreign participations, mainly by French banks: for instance CIC and Proparco (subsidiary of l'Agence Française de Développement) own shares of BT, and la Société Marseillaise de Crédit and Natexis Banques Populaires have BIAT shares. La Banca Monte dei Paschi di Siena owns part of BS, which is on the way of full privatization. The only fully private Tunisian bank is Amen bank. Altogether, private access to the banking system, be it domestic or foreign remains highly restricted.

Currently, more technical progress is the objective of various ongoing programs. In 1997, the Tunisian central bank launched an ambitious program aiming at up-grading the banking system as part of a financial sector reform. Electronic banking, tele-compensation, establishment of a central data base, improving the accounting system are major components of this program. It is now possible to complete any financial operation in less than 48 hours. Special measures were also taken in favor of lending to medium industrial and service enterprises.

Anti money laundering regulations have also been approved and are worth mentioning as part of the modernization process.

Important new measures have also been taken in order to reinforce transparency: the Central bank now requires that full information about credits, including renewed loans, be conveyed to its central database, and banks, of course, have access to this vital source of information.

The principle of a leading bank for each enterprise dealing with several banks has been another step forward towards modernization. The leading bank is supposed to facilitate information sharing between these banks.

#### Competition and concentration:

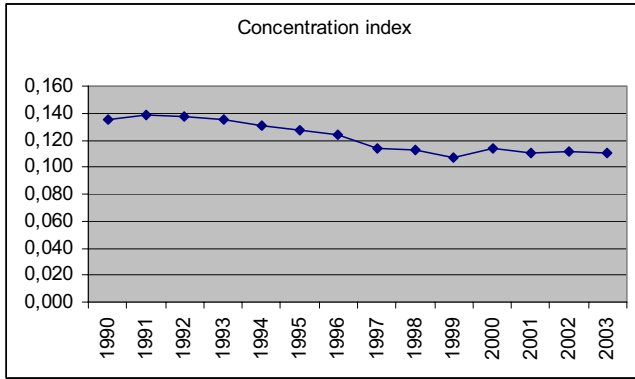
The main objective of the ongoing reform process is to make the system more efficient and more competitive according to two opposite mechanisms: competition and concentration. On the one hand universal banking, privatization more foreign direct investment and information sharing should enhance competition. On the other hand, because the Tunisian banks are too small in international standards mergers are expected and larger banking institutions may be allowed to form. The real outcome has been modest so far. Smaller and private banks have been able to increase their market share some how and one merger was achieved as mentioned above (between STB, the largest public commercial bank and two development banks).

Altogether, the concentration index has slightly decreased within the main banking system, instead of increasing; while the development banks are in the process of transforming into universal banks, which will increase the number of banks. In the following table the distribution of banks according to their share in total banking assets and the Hirschman-Herfindhal concentration index are provided.

**Table 2: Commercial (universal) banks structure (%) and concentration index (IHH)**

	BNA	STB	BIAT	UIB	BH	BS	BT	UBCI	Amen	ATB	BFT	CITI	BTS	ABC	IHH
1990	23,92	18,92	11,57	7,01	7,62	6,87	6,67	6,59	5,71	3,27	1,62	0,22	-	-	0,135
1991	25,06	18,57	11,47	6,79	7,46	6,31	7,05	6,75	5,76	3,40	0,89	0,49	-	-	0,139
1992	25,89	16,40	11,92	7,15	7,93	6,94	6,72	5,92	5,70	3,76	0,85	0,82	-	-	0,137
1993	25,92	15,23	12,02	7,41	7,05	7,53	6,82	5,68	5,21	5,68	0,87	0,59	-	-	0,135
1994	24,09	16,95	11,80	7,86	7,52	7,88	6,69	5,12	5,35	4,66	0,74	1,36	-	-	0,131
1995	23,02	16,55	12,17	7,66	7,98	7,38	6,97	5,70	5,70	4,85	0,94	1,08	-	-	0,127
1996	22,33	16,50	12,06	7,75	8,25	6,93	6,91	5,25	6,26	5,45	0,76	1,55	-	-	0,124
1997	17,86	17,36	12,32	8,73	9,00	6,96	7,18	5,71	7,07	5,04	0,56	2,21	-	-	0,114
1998	17,55	17,38	12,29	7,73	9,29	6,86	7,12	5,73	7,88	4,46	0,56	2,98	0,20	-	0,113
1999	16,29	15,01	12,34	8,57	10,83	7,30	6,63	5,77	8,66	5,60	0,55	2,14	0,33	-	0,108
2000	14,78	19,48	11,64	7,86	10,99	7,31	6,41	5,27	8,09	4,94	0,56	2,13	0,53	-	0,113
2001	14,92	17,74	12,04	7,73	12,34	7,18	6,28	4,95	8,31	4,71	0,48	1,59	0,86	0,87	0,111
2002	14,32	18,60	12,32	7,69	11,81	7,25	6,68	4,39	8,42	4,44	0,48	1,31	1,22	1,07	0,111
2003	14,84	17,11	13,08	7,18	12,22	7,41	6,65	4,40	8,47	5,14	0,45	0,99	1,25	0,83	0,111

Graph 1



### 3.3. Challenges and risks

In spite of the reforms implemented and the progress achieved, a number of issues remain unresolved and additional conditions are required before integrating the EU market: Prudential norms have also to be reinforced in order to protect investors and depositors. Regarding commercial presence of foreign (European) banks in Tunisia, harmonization with the EU legislations is a real important pre-requisite.

**Many fundamental preconditions are to be fulfilled:** Stable and higher growth, low inflation, an adequate exchange rate regime, an attractive fiscal system, and good institutional and physical infrastructure, in particular in transportations and telecommunication... Institutionally, stable, well governed, transparent and accountable institutions constitute important conditions for efficient and non discriminatory allocation of financial resources through the banking system. Otherwise, liberalization may lead to capital flight as it happened in the Philippines, Chile and Argentina in the eighties.

**CONVERTIBILITY of the local currency is an issue:** the Tunisian Dinar (TND) is convertible for current transactions only, while full integration within the EU banking market is not conceivable without full convertibility of the TND. Tunisian and foreign firms would need this convertibility to fully benefit from all available financing opportunities. In principle, Tunisia has decided to gradually move towards full convertibility and to free capital movement further if not fully. It is not clear how fast this will be done.

So far, the Tunisian financial sector has been shielded against foreign competition and external risks. The Tunisian financial authorities fear that capital account liberalization will give rise to major risks, the way it happened in various Asian and Latin American countries. They fear that liberalization would lead to massive capital flight and to corruption, since foreign banks may be used as an easy channel for capital drain. The robustness of the banking system is indeed a precondition for a successful liberalization of capital flows.

Other impediments and challenges regarding the banking system are in the governance and political area. In spite of all the reforms and the legal measures recently taken, transparency and credibility of the banks with respect to lending are still an issue. In 2004, the rate of nonperforming loans was above 23%.

**Table No3: Nonperforming loans (commercial banks)**

	1993	1996	1999	2000	2001
Gross NPLs	3,503.0	3,601.3	2,949.8	3,082.0	2,949.8
<i>of which state controlled banks</i>	<i>2,872.2</i>	<i>2 518.881</i>	<i>2,063.2</i>	<i>2,155.7</i>	<i>2,063.2</i>
As a % of gross claims	34.0	25.1	18.8	21.6	19.5
As a % of GDP	23.9	16.7	12.6	15.8	14.3

Source: IMF 2002, and own calculation

There is also a significant amount of discrimination, in particular against foreign banks in terms of market access.

Conflicts and distrust with the fiscal administration also raise a painful issue as regards local and national investors. Fiscal administration is often slow, and does not possess the resources and the incentives to ensure a full and smooth auditing of all the contributing enterprise population, but when it does it is harsh and conflict generating. Indirectly, this has an impact on the quality of information conveyed to banks by their client enterprises.

#### 4. THE RESTRICTIVENESS INDEX AND THE TARIFF EQUIVALENT OF THE CURRENT REGULATIONS IN TUNISIA

##### 4.1. Methodology

Now we turn back to the main issue raised in this study regarding the impact of liberalization of banking services; that is to the estimation of the level of restrictions imposed in Tunisia on trade of banking services and of the impact on the performance of the sector and the economy of liberalizing this sector, in the sense of removing the existing restrictiveness and adopting the EU regulations. The adoption of the EU regulation, admittedly much less restrictive, would follow the extension of the existing free trade area with the EU to the banking services and to other services as well.

Our methodology for the estimation of the level of protection of the banking sector and of the impact of the adoption of the EU regulation is based on the work of McGuire and Schuele (2000). This methodology allows for the calculation of restrictiveness indices in financial services covering all forms of restrictions except the prudential requirements. The information needed for the calculation is obtained from a questionnaire on the Tunisian banking system we filled for the purpose of this study<sup>63</sup> and annexed to this study. After the

<sup>63</sup> The authors are very grateful to Mr Ezzeddine Saïdane, a banking expert, for his help with filling the questionnaire.

estimation of the restrictiveness index following McGuire and Schuele, we estimate a tariff equivalent of the current restrictions on trade. The work by Kalirajan, et al. (2000) will be used to convert the restrictiveness index into a tariff equivalent. We assume implicitly that the result of the estimation by Kalirajan, et al. (2000), can apply to Tunisia.

The restrictiveness index is obtained by first classifying possible restrictions into various categories with weights corresponding to them and reflecting the importance of the restrictiveness. The weights indicate how significantly each category of restriction would limit service suppliers from competing in the market. The sum of weights has to equal one.

Once these categories and weights are defined, a score is assigned to each category, according to its actual degree of restrictiveness. The conventional scores are between 0 and 1. 0 is assigned if there is no restriction at all, and if the regulation is so restrictive that no access or freedom is left for any competitor. The scores are assigned on the basis of the knowledge of the regulation and the functioning of the system. The restrictiveness index is calculated as the sum of weighted scores.

To convert the restrictiveness index into a tariff equivalent, our study uses coefficients estimated by Kalirajan, et al. (2000) that quantify the impact of restrictions on trade in banking services on the net interest margins of banks, which are selected as indicators of domestic prices of banking services. The Kalirajan procedure is based on econometric estimations. Basically, the econometric model specifies that:

$$p_b = p_B * e^{bRI} \quad (1)$$

Where  $p_b$  is the bank interest margin (the price level), and  $p_B$  is the interest margin when all restrictions are removed, and RI indicates the restrictiveness index.  $p_B$  is estimated as a function of prudential requirements (capital requirements, reserve/liquidity requirements...), and net non-interest operating expense.  $b$  is a coefficient to be estimated.

The tariff equivalent rate may then be given by:

$$TER = (p_b - p_B) / p_b, \text{ or, in percentage, by: } 100 * (p_b - p_B) / p_b \quad (2)$$

Using equation (1), we can write:

$$TER = 100 * (e^{bRI} - 1). \quad (3)$$

The coefficient  $b$  is estimated by Kalirajan, who obtained  $b = 0.732$

## 4.2. The existing barriers against trade of banking services in Tunisia

The questionnaire on the Tunisian banking system, annexed below, gives a fair description of the restrictiveness of the Tunisian banking regulation and on the limits they impose on foreign trade, in terms of operating services (trans-border transactions or mode one) and direct investments (commercial presence or mode three).

Indeed, capital flows, in and out and in the short and the long run, are still quite restricted, and the local currency, the TND, is not fully convertible. Although direct foreign investment is encouraged, trans-border deposits are very restricted and the financial market is still shielded against full exposure to capital movement because of the fear of foreign shocks.

Formally, there is no explicit limit on the number of domestic or foreign banks, but licensing of new banks is submitted to a complicated procedure, especially for onshore banking. The

reason seems to be the reduction of potential systemic risk believed to arise from over-banking and the perception that there is no economic need for additional banks. However, there are few or no limits on the number of branches existing banks may create and on the type of services they may offer. Universal banking is now the basic principle.

In spite of the variety of services provided by the banking system and the achievements in terms of its modernization, the high spreads between lending and deposit rates, especially to small businesses and to households, and the level of non performing loans show that the system performances are not high enough. Thus, further reforms and liberalization are likely to generate significant gains for the sector and the economy, assuming that the prudential regulations are strengthened. It is clear that all sectors need and use banking services as intermediate, and that they are important for households as well. Consequently, gains in banking prices generate additional gains in terms of reduced costs in other sectors.

Using the conceptual framework defined by Kalirajan, the restrictiveness index as defined above was calculated on the basis of the information available in the questionnaire. The following table gives the weights and summarizes the calculation.

**Table No 4: Banking restrictiveness index**

<b>Weight</b>	<b>Scoring</b>	<b>category</b>	<b>SCORE</b>
<b>Restriction on commercial presence</b>			
0,1	0,5	Licensing of Banks	0,05
0,1	1	Form of commercial presence	0,1
0,2	0,5	Direct investment: equity participation permitted	0,1
0,1	1	Direct investment: restrictions on certain type of services	0,1
0,1	0	Joint venture arrangements	0
0,02	0	Permanent movement of people	0
<b>Cross- border trade</b>			
0,1	0,75	Raising funds by foreign banks	0,075
0,1	0,75	lending funds by foreign banks	0,075
<b>Other restrictions</b>			
0,1	0,5	Other business of banks-insurance and securities	0,05
0,05	0	Expanding the number of banking outlets	0
0,02	0,5	Composition of the board of direction	0,01
0,01	0	Temporary movement of people	0
<b>Total = RI</b>			<b>0,55</b>

The result obtained gives a rate of restrictiveness (RI) of 55 percent; which is quite remarkable: this rate is high but comparable to other results obtained for other similar developing countries. It implies, approximately, a 50 percent tariff equivalent rate, as given by:

$$TER=100*(e^{0.732*RI} - 1)=49,5\% \quad \text{for } RI=0.55$$

#### 4.3. The impact of barriers removal on prices and welfare

Let us now assume that the non prudential restrictions are almost all removed, so that the level of protection of the Tunisian banking sector is reduced to the EU level. Obviously, this should lead to lower prices for banking services. This price reduction is directly beneficial for all households and enterprises and also for the government who will have access to cheaper financial resources. There are also indirect benefits: since banking services are inputs for almost all other activities, further price reductions should be generated by the gain in banking prices. All of these benefits may be expressed in terms of welfare gains, namely in terms of equivalent variation, which may be approximated using available data. Both the impact on prices and on welfare has been computed with the help of input output coefficients and sector value added components.

The basic cost price equation based on the usual matrix of input output coefficients is of the form:

$$\mathbf{p} = \mathbf{A}'\mathbf{p} + \text{remuneration of production factors} = \mathbf{A}'\mathbf{p} + \mathbf{va} \quad (4)$$

Where  $\mathbf{A}'$  is the transpose of the input output matrix  $\mathbf{A}$ ,  $\mathbf{p}$  is the price vector, and  $\mathbf{va}$  is the vector of unit value added. This is really a system of  $n$  equations corresponding to the  $n$  commodity prices. It can be used in many ways, including determining the equilibrium commodity prices for given factor prices. And it can be expressed in variation terms ( $\Delta p_i$  instead of  $p_i$ ). An exogenous change of a given price, in our case a change in the price of the banking services ( $\Delta p_b$ ), leads to changes in all prices subject to (4).

Using the 1997 Tunisian 99 sector input output table, the calculations of the price and welfare variations were performed, and the following results are obtained.

SECTOR	1	2	3	4	5	6	7	8	9	10	11			
Price change	0.000	0.002	0.000	0.001	0.000	0.002	0.002	0.000	0.006	0.003	0.003			
Welfare gain in 1000TND	1018,827	13,829	0,752	727,748	1,107	497,897	1205,028	7,539	2503,763	2483,899	478,552			
	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL GAIN
	0.001	0.011	0.001	0.000	0.002	0.005	0.006	0.004	0.006	0.004	0.003	0.000	0.000	76854,5
	139,76	901,909	52,694	0,281	681,176	495,806	2348,23	353,608	769,504	291,52	746,300	25,917	4,278	

It comes out that the gains are positive, significant but modest. Prices, other than the banking price, would decrease by no more than 1 percent and often by less than 0.5%. And the total welfare gain is less than 0.5 % of the current GDP. However, this abstracts from the even more important gain produced by a more competitive banking sector, the effect on investment and growth, which is non captured by the input output equations.



## Annex 1: **banking questionnaire**

### I. Policy Section

#### A. Market Access

##### Macroeconomic policies

Are there restrictions on capital flows?		
Capital inflows Short term  <input type="checkbox"/> No ➤ <input checked="" type="checkbox"/> Yes	Capital outflows Short term  <input type="checkbox"/> No ➤ <input checked="" type="checkbox"/> Yes	If yes, what type of restrictions? Is the authority allowed to impose temporary restrictions?
Long term <input type="checkbox"/> No ➤ <input checked="" type="checkbox"/> Yes	Long term <input type="checkbox"/> No ➤ <input checked="" type="checkbox"/> Yes	<i>The Tunisian currency (Dinar or TND) is convertible for current transactions only Limitations on capital in flows for investment through the stock exchange.</i>

##### Commercial presence

2. Are there policy restrictions on new entry of banks?			
Entry by any bank  <input type="checkbox"/> No ➤ <input checked="" type="checkbox"/> Yes	If yes, total number of banks allowed	Entry by foreign banks  <input type="checkbox"/> No ➤ <input checked="" type="checkbox"/> Yes	If yes, total number of foreign banks allowed
<i>A license is required to set up a new bank be it with local or foreign capital. There are now 16 commercial banks, 5 off-shore banks and 3 development banks. There are also 10 leasing companies.</i>			
. If entry is restricted, what are the reasons provided by the government?			
<input type="checkbox"/> To give state-owned or national banks time to prepare for competition <input type="checkbox"/> To increase government revenue from privatization or license fees <input type="checkbox"/> Exclusive rights to allow the provision of universal service <input checked="" type="checkbox"/> To reduce potential systemic risk believed to arise from over-banking <input type="checkbox"/> Inadequate regulatory and supervisory capacity <input checked="" type="checkbox"/> No perceived economic need for additional new banks <input type="checkbox"/> Other: _____			
4. Which of the following legal forms of establishment are allowed for foreign banks?			
➤ Subsidiaries   ➤ Branches   ➤ Representative Office   ➤ All			
5. Are there restrictions on the number of foreign bank branches?   ➤ No <input type="checkbox"/> Yes			

If yes, what is the maximum number of foreign bank branches permitted? \_\_\_\_\_

6. Are there restrictions on the number of foreign bank ATMs?   ➤ No    Yes

If yes, what is the maximum number of foreign bank ATMs permitted? \_\_\_\_\_

7. Which of the following services are commercial banks permitted to provide domestically?

	Domestic banks	Foreign banks
Real estate lending	<input type="checkbox"/> No   ➤ Yes	➤ No <input type="checkbox"/> Yes
Insurance services	<input type="checkbox"/> No   ➤ Yes*	➤ No <input type="checkbox"/> Yes
Securities service	<input type="checkbox"/> No   ➤ Yes	➤ No <input type="checkbox"/> Yes
Foreign currency lending	<input type="checkbox"/> No   ➤ Yes	<input type="checkbox"/> No   ➤ Yes
Foreign exchange services	<input type="checkbox"/> No   ➤ Yes	<input type="checkbox"/> No   ➤ Yes
Credit card services	<input type="checkbox"/> No   ➤ Yes	<input type="checkbox"/> No   ➤ Yes

*\*sales only*

*Foreign banks can operate either as offshore banking units (OBU) or as resident banks. Their status, not their being domestic or foreign, makes the main difference.*

Cross-border banking trade

8. Are the following allowed to borrow cross-border from foreign banks?

Domestic banks        No   ➤ Yes\*  
 Domestic corporations  No   ➤ Yes\*  
 Domestic households   ➤ No    Yes

If applicable, please specify borrowing limits:

*\* Limits are imposed by central bank circulars. The limitation for banks has recently been lifted.*

9. Are the following allowed to make cross-border deposits with foreign banks?

Domestic banks        No   ➤ Yes\*  
 Domestic corporations   ➤ No    Yes  
 Domestic households   ➤ No    Yes

If applicable, please specify deposit limits:

*\*For their off-shore deposits only; the origin of the funds is important.*

## B. Ownership

Is private ownership in the provision of services allowed?

Existing banks	Maximum private equity permitted (%)	New banks	Maximum private equity permitted (%)
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100% no limitations
Is foreign ownership in the provision of services allowed?			
Existing banks	Maximum foreign equity permitted (%)	New entrants	Maximum foreign equity permitted (%)
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>No limitations</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>No limitations</i>
12. Are banks allowed to hold equity in the following firms?			
	Non-financial firms	financial firms	
Domestic banks	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Foreign banks	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
If yes, please indicate maximum stake permitted in each case. <i>No limitations</i>			

### C. Regulation

13. Characteristics of regulator: Name of regulator : Central Bank of Tunisia (BCT)
Year of establishment : 1958
Is the regulator independent of the ministry of finance/economy or other regulatory bodies? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Number of professional regulatory and supervisory staff: about 200
14. How are banking licenses allocated?
a) If the number of providers is limited by policy, through what mechanism are licenses allocated? <input type="checkbox"/> First come, first served basis <input type="checkbox"/> Competitive bidding <input checked="" type="checkbox"/> Discretionary decision by the licensing authority <input type="checkbox"/> Other:
b) Once the licenses have been allocated, are there restrictions on banks ability to sell or dispose of these licenses? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify: every transaction on capital has to be pre-approved by the Central Bank
c) Are foreign banks subject to different licensing requirements from domestic banks?

No ➤ Yes

If yes, please specify what additional requirements have to be met by foreign banks: *the investors have to be approved*

d) Are separate licenses required to establish branches in each state/province?

➤ No  Yes

15. Please provide information on the following indicators of prudential regulation for the latest year available.

Category	Capital adequacy requirement <sup>64</sup>	Loan Classification Requirement <sup>65</sup>	Liquidity ratio <sup>66</sup>	Single exposure Limit <sup>67</sup>	Foreign exchange risk exposure limit <sup>68</sup>	Required to join deposit insurance Scheme?	Lender of last Resort facility Available?	Required frequency of publication of financial statements <sup>69</sup>
All	8%	90 days		25%	None	<input type="checkbox"/> No ➤ Yes		Listed banks in the Stock exchange are requested to publish quarter annual financials.
Nationally Owned banks						<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No ➤ Yes	
Foreign owned:						<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No ➤ Yes	
Branches Subsidiaries						<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No ➤ Yes	

6. Is home country supervision of foreign banks recognized?  No ➤ Yes

If yes, please list the countries whose bank supervisory systems are recognized

17. Public consultation and transparency

Which of the following are consulted in advance of regulatory decisions?

<sup>64</sup> Capital Adequacy ratios for a bank are usually measured by the ratio of capital to risk-weighted assets.

<sup>65</sup> Refers to the number of days after which an unpaid loan has to be classified as a non-performing loan.

<sup>66</sup> Refers to the percentage of assets to be held against deposits for liquidity purposes.

<sup>67</sup> Refers to percentage limits on lending to an individual company.

<sup>68</sup> Refers to the percentage of foreign exchange assets to be held as a proportion of deposits

<sup>69</sup> Please indicate whether financial statements have to be published annually or quarterly.

<input type="checkbox"/> Service providers <ul style="list-style-type: none"> <li><input type="checkbox"/> Consumer groups</li> <li><input type="checkbox"/> User industries</li> <li><input type="checkbox"/> Other: _____</li> </ul>
<i>None</i>

D. Regional Integration Agreements in Banking Services

18. Please indicate if there are any preferential and/or cooperative arrangements affecting banking services, and list the measures<sup>70</sup>.

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures
<i>NOT APPLICABLE</i>			

E. Past and Future Changes in Policy

19. Please indicate major changes in market access policies, ownership rules, and regulation since 1990 as well as changes that are anticipated (e.g., privatization of state-owned banks, introduction of competition, entry of foreign banks, creation of an independent regulatory agency, liberalization of capital account, etc.).

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
<i>Fundamental banking law.</i>	2001	<i>The new law allows for universal banking; Many changes are expected; their objective is to enhance the sector openness and to align it with international standards;</i>

20. Administered allocation of resources

a)

Category	Controls on deposit rates?	Ceilings on lending rates?	Subject to directed lending?	List of sectors benefiting from directed lending
State owned	<input type="checkbox"/> No ➤ Yes	➤ No <input type="checkbox"/> Yes	<input type="checkbox"/> No ➤ Yes	Tourism, agriculture...

<sup>70</sup> Please specify how the treatment of banks of member countries of the agreement differs from the treatment of banks of non-member countries.

banks				
Private nationally owned banks	<input type="checkbox"/> No ➤ Yes	➤ No <input type="checkbox"/> Yes	<input type="checkbox"/> No ➤ Yes	Tourism, agriculture...
Foreign banks	<input type="checkbox"/> No ➤ Yes	➤ No <input type="checkbox"/> Yes	➤ No <input type="checkbox"/> Yes	

b) Does the government subsidize nationally owned banks?

No ➤ Yes through domiciling special funds

## II. Market Structure Section

21. Please list the characteristics of the 6 largest banks in the market for loans:

Name of bank	Year of establishment	Domestically owned equity (%)	Foreign equity (%)	Market share in total loans <sup>71</sup> (%)	Return over equity (%)
STB	1958	More than 90%	<10%	25	3
BNA	1958	More than 90%	>10%	20	3
BIAT	1974	More than 80%	>20%	15	10
BS	1970	More than 80%	>20%	10	0
UIB	1970	48%	52%	8	0
AMEN	1970	More than 90%	>10%	6	5

Total number of banks in the market for loans:

22. Please provide the following information on the actual number of banks:

Number of fully state-owned banks: (commercial , specialized): 0  
Number of privatized banks: 1  
Number of fully domestically owned private banks: 1  
Number of foreign minority-owned banks: 20  
Number of foreign majority-owned banks: 3

## III. Performance Indicators Section

### A. Employment

23. Main employment indicators

How many people are employed in the banking sector? 15000

What share of the total labor force is employed in this sector? 0.5%

What share of banking labor force is employed by state-owned banks?	50%
Source:	
What share of banking labor force is employed by foreign banks?	3%
What is the annual average wage in the banking sector?	US\$20000
If time series data on these employment indicators are available, please attach them separately.	

B. Prices and Performance Indicators:

25. Please provide information on the following price indicators for the latest year available. For a comprehensive assessment of banking sector performance, it would be extremely useful to have historical data on these prices measures. If time series data are available, please attach them separately (preferably electronically).

Category	Average monthly bank charges for a basic checking account*	Average monthly ex – post spread <sup>72</sup> as a % of bank assets	Non-performing Loans as a % of total bank assets	Ratio of no. of employees to operating income
Nationally Owned banks	US\$6.0	0.25%	23%	
Foreign owned: Branches	US\$20.0	0.35%	5%	
Subsidiaries				

C. Quality and Access to Banking Services

26. Which of the following services have been introduced by foreign banks in the last 10 years?  
 Credit cards   ➤  Debit cards   ➤  Online banking   ➤  ATM network    other (specify)

27. Do foreign banks participate in rural lending?   ➤  No    Yes  
 If yes, what is the share of foreign banks in total rural loans? \_\_\_\_\_

28. Do spreads between lending and deposit rates differ between large business firms and low-income households?    No   ➤  Yes  
 If yes, please provide a time series (if available) for sample spreads for a large business firm and a poor household below  
 Spread for large business: \_ 1.5%   Spread for low-income household: 5 %

29. Indicate the following:  
 Number of commercial banks per 1000 000 people: 1.6  
 Average wait time for loan approval: 3months  
 Average wait time for credit card approval: not available  
 No. of bank failures during 1990-2000: 0

<sup>72</sup> The Ex-Post Spread of a bank is defined as the accounting value of the difference of the realized interest revenue and total interest cost of that bank and is also referred to as the Net Interest Margin.





# The Impact of Liberalizing International Trade of Banking Services in Morocco

*Revised version*

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## Introduction

The purpose of this paper is to assess welfare effects of regulating the banking sector in Morocco along the European Union lines. The agreement between the EU and Morocco, signed in February 1996 and came into force in March 2000, provides for the gradual establishment of an industrial free-trade zone by 2012 and progressive liberalization of trade in agriculture. The agreement between Morocco and the EU foresees, in addition to that, to start negotiations for a free trade area in services. The agreement contains, however, no binding commitments. But Morocco is expected to deepen further its relationships with Europe within the framework of the *Neighboring Policy*. The relevance of the issue of banking services' liberalization goes beyond Morocco's agreement with the EU. On the one hand, Morocco's free trade agreement with the US encompasses services, more specifically financial services, in addition to manufactured goods, agricultural products, intellectual property rights, and government procurement. This agreement is expected to come into force in 2006. On the other hand, under GATS, Morocco is projected to increase its commitments and opens up further its banking sector to foreign competition. The last commitments made by Morocco in Uruguay Round were mainly under commercial presence (mode 3) as compared to cross-border supply (mode 1) and consumption abroad (mode 2). Except lending to finance investment in Morocco or commercial transactions with Morocco allowed under the mode 1, no commitment has been made in other items (Achy 2002). Hence, there is a real need to understand opportunities and challenges of liberalizing banking services on the Moroccan economy.

So far, the potential impact of liberalizing trade in goods on the Moroccan economy has received much more academic attention (Rutherford and Tarr (1997), Chater and Hamdouch (2001), Achy and Milgram (2003) and Chater (2004)). In contrast, the potential impact of liberalizing trade in services in general, and banking services more specifically, has not received comparable interest. The main objective of this research is to filling this gap in the literature. The potential impact of liberalizing banking services goes beyond the banking sector itself since these services are cost components in other activities. Liberalization is expected to lead to more competition, lower interest rates margins, better quality and higher access to banking services.

Theoretically, an efficient financial market is assumed to contribute to economic growth by collecting more funds and allocating them to those projects with the highest returns, by providing liquidity and reducing the need for precautionary savings, and dealing with adverse selection, moral hazard and transaction costs issues. The link between financial sector development and economic growth has been widely documented in the literature. Evidence supports that the extent of financial intermediation in an economy is crucial for its growth (Bencivenga and Smith (1991), Levine (1997), Levine & Zervos (1998)).

In Morocco, banking sector dominates financial landscape. Bank assets and loans represent respectively, about 96 and 56 percent of GDP by the end of 2004. Banks also control about 80 percent of the leasing companies, manage 70 percent of mutual fund assets, own 10 of the 15 securities firms, and listed bank shares account for about 30 percent of the Casablanca stock exchange (World Bank 2000). For these reasons, our focus is on the banking services and the potential impact of their liberalization on the rest of the economy.

The rest of this paper is organized as follows. The first section presents the major developments in the banking sector in Morocco. Section two examines the Moroccan regulations as well as institutions in charge of monitoring banking sector activity. Section three computes the degree of restrictiveness of this sector in Morocco with respect to that of the European Union. Section four provides a first approximation of the potential welfare effects of harmonizing Moroccan regulations in the banking sector with those of the EU. Finally, section five concludes.

## 1. Major developments in the banking sector in Morocco

### *a. Brief historical overview*

During the pre-adjustment period (before 1983), the allocation of financial resources were highly distorted by the government interventions. This allocation was largely driven by non-market mechanisms such as ceiling of refinancing by the central bank, credit rationing, mandatory holding of government securities by banks, and administratively set interest rates. These constraints limited the scope for competition and innovative practices among banks and leads to an excessive risk-averse banking sector. The weight of mandatory holding (35% of banking sector assets) limited the ability of banks to manage their resources, and prevented them from allocating sufficient resources to acquiring and processing information on the private sector. During the pre-adjustment era, the primary task of the banking sector was to provide cheap finance to cover government deficit, and “priority sectors” needs through mandatory holding of government securities, and bonds issued by the development or specialized banks.

By mid-1983 Morocco adopted a comprehensive structural adjustment program. In addition to the financial sector reform, different reforms took place during the adjustment period such as trade liberalization, exchange control liberalization, tax reform, and public enterprises reform and privatization. The Moroccan banking sector experienced substantial steps towards market oriented system from mid eighties and particularly in the nineties. Interest rate subsidies to priority sectors were reduced or eliminated. The monetary authorities started to manage liquidity through a more active use of reserve requirements and a more market-based allocation of refinancing. The share of refinancing of banks through the central bank intervention on the money market grew from 2.6 percent in 1985 to 27.4 percent in 1994.

The process of their liberalizing interest rates was gradual. Roughly, two periods can be distinguished. During the first period, monetary authorities continued to set minimum rates of return on deposits, and maximum rates for credits. While stimulating competition among banks in saving collection and credit extension, these measures allowed the authorities to prevent interest rates volatility and protect savers and borrowers from banks’ potential abuse. During the second period, a quasi liberalization of interest rates on deposits took place. Interest rates on credits were set on the basis of a “reference rate”. Initially, “*interest rates on government bonds*” were taken as reference. Interest rates on credits to the private sector could not exceed the reference rate by more than one third. In 1991, the *weighted average of returns on 6 months and one year deposits* became the reference rate. This mode of determination of interest rates allowed overcoming the weaknesses of the former mode. The maximum rate on credits amounted to 15.6 percent in 1992 and 15.8 percent in 1993. These high levels can be justified neither by inflation rates, nor by the cost of the banking resources. A new reference rate, “*the banking basis rate*”, took place in April 1994. This rate is based on the average cost of all banking deposits. The maximum rate should not exceed by more than three points the reference rate for credits extended for less than seven years, and four points for more than seven years. The maximum rates ranged between 12 and 13 percent.

Regarding the monetary policy, the government priority was to reduce inflation and external deficit by controlling monetary aggregates. M2 was set as an intermediate target and monetary authorities succeeded to a large extent to keep money supply under control except in 1990 and 1991 due to the effect of abolishing credit ceiling system implemented in 1990. Monetary authorities increased their use of indirect instruments to manage money supply. The central bank intervention to provide banking sector with liquidity relied on auctions and advances on the money market, open market operations, and the minimum reserve requirements. Since 1995, the control of money supply is done through the interest rate on the money market.

During the adjustment era, the banking sector started to play more effectively its role in providing funds for private agents. Credits to the private sector experienced higher growth rate compared to those allocated to the government sector. The share of private credits in GDP increased from 31.5 percent in 1983 to 41.9 percent in 1992. At the same, banks began to allocate more funds to medium and long term credits. Their share in total credits doubled over the adjustment decade rising from 11.2 percent in 1983 to 22.7 percent in 1992.

A new banking law was adopted in 1993. This legal framework unified the banking system and abolished sectoral specialization. Prudential regulation in line with international standards was implemented and was extended to other credit institutions such as leasing and consumer finance companies. The Stock market legislation was updated in 1993. The Casablanca Stock Exchange (CSE) was privatized and its management was transferred to the association of brokerage house.

The Central Bank has been gradually acquiring its independence from the executive authority, and the monetary policy has been more driven by liquidity conditions than by the government's requirement to finance its fiscal deficit. Moreover, the government has been meeting its financial needs through the market. An ambitious program of public debt management has taken place, and seems to have already produced a sensitive effect on the cost of the public debt by substantially reducing its burden on the economy.

Morocco reformed its foreign exchange system in the late 1980s and early 1990s by, gradually, unifying and liberalizing foreign exchange markets. It has established current account convertibility since 1993, but still imposes restrictions on capital account movements and most of these restrictions are imposed on outflows. Only non residents are permitted to hold accounts in foreign currencies.

#### ***b. Recent developments***

The Moroccan banking sector is made of the Central Bank (Bank Al Maghrib) and seventeen banks after the Banque Commerciale du Maroc (BCM) took over Wafabank, which leads to the creation of the largest private bank in Morocco, *Attijariwafa Bank*; and the absorption of BNDE by CNCA<sup>73</sup>. The State's presence in the banking sector, although has relatively decreased, remains important. Some estimates indicate that public banks control 46 percent of banking sector assets in 2001 (Commission of the European Communities 2004). Foreign capital is gradually representing a significant share of the Moroccan banks' equity. A number of international banks have increased their ownership in the major Moroccan banks. French banks became the main shareholder in a number of Moroccan banks: 53 percent of BMCI is owned by *Banque Nationale de Paris*, BNP Paribas, 51 percent of *Crédit du Maroc* is controlled by *Crédit Lyonnais*, and 52 percent of SGMB belongs to *Société générale of France*. In addition, there are two direct foreign subsidiaries: Citibank, owned by the US Citibank, and Arab Bank Morocco, which is controlled by

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<sup>73</sup> BNDE (Banque Nationale de Développement Economique) and CNCA (Caisse Nationale de Crédit Agricole) are both public banks and former specialized banks.

the Jordanian Group. Foreign capital is also present in private-Moroccan owned banks such as Attijariwafa Bank and BMCE.

Banking sector concentration increased tremendously over the last few years. The three largest banks own 63.7 percent of the banking sector cumulated net wealth in 2004 compared to 52.8 percent in 2003 and 46.8 percent in 2000. In the meantime, the share of the nine smallest banks does not exceed 5 percent of the banking sector cumulated net wealth in 2004 compared to roughly 7 percent in 2000. The high degree of concentration in the banking sector, and banking dominance over the other compartments of financial services are often seen as signal of limited market opportunities (Oxford Business Group 2004).

The branch banking network has developed rapidly over the last years as the number of branches rose from 976 in 1990 to 1 356 at the end of 1998 and 2043 by the end of 2004. However, most branches are located in urban areas more specifically in the largest cities. Overall, the density of the banking network in Morocco remains low, with nearly 15,000 inhabitants per branch by the end of 2004. Moreover, estimates indicate that less than 20 percent of the Moroccan population have bank accounts, and a large share of small and medium enterprises continue to rank "access to finance" as one of the most important difficulties they suffer from in their business (ICA<sup>74</sup> survey 2004). The under banking situation of the Moroccan economy suggest also the existence of substantial room for banking services demand in the coming years. The international experience shows that further liberalization of banking services increases competition and pushes banks as well as other financial institutions to explore new segments of the market. Hence, liberalization is expected to generate a *price effect* by pushing down interest rates and reducing margins; but also a *quantity effect* through higher market coverage.

Table 1 presents the balance sheet of the banking sector in Morocco from 1997 to 2004. On the asset side, banks allocate roughly 60 percent of their balance sheets to lending to customers and invest around 20 percent in the government fixed-income securities (treasury bills). Regarding the liability side, the table shows that almost three quarter of banking resources comes from deposit and saving accounts. Deposit accounts are not remunerated which reduces the cost of funds for banks and increases their margins. Moreover, the share of unremunerated deposits represented less than 33 percent in 1997 and attained almost 44 percent in 2004. Finally, provisions for bad loans represent 8 percent in 2004 compared to 5.2 percent in 1997.

**Table 1**  
**Structure of the Moroccan Banking Sector's Balance Sheet**

	1997	2000	2001	2002	2003	2004
<b>Assets</b>						
Treasury and financial intermediaries	10.3	12.1	10.9	11.5	13.2	15.2
Treasury bonds (BDT)	23.3	19.2	20.6	20.5	19.2	16.9
Loans to customers	60.2	62.0	59.0	58.3	58.2	58.3
Securities and shares	5.4	6.0	6.5	6.7	6.5	6.6
Fixed assets	3.6	3.2	3.1	3.1	2.9	3.0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Liabilities</b>						
Deposit accounts	32.7	35.2	37.9	40.2	41.9	43.8
Saving accounts	35.0	34.3	33.1	32.2	31.9	31.2
Provision for bad loans	5.2	5.4	6.3	6.7	7.4	7.9
Own funds	9.4	9.2	9.3	8.9	8.2	8.0
Other liabilities	17.7	15.9	13.4	12.0	10.7	9.1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Total balance sheet (billion DH)</b>	<b>251</b>	<b>321</b>	<b>351</b>	<b>368</b>	<b>397</b>	<b>424</b>

<sup>74</sup> ICA. : Investment Climate Assessment.

*The banking system has a relatively adequate capital base. On the basis of the data provided by the central bank, the capital adequacy ratio of the banking system at end-June 2004 was 10.2 percent, higher than the minimum capital adequacy of 8 percent set by prudential regulation. However, this comfortable average dissimulates large variations among banks. In particular, former specialized public banks are well below the prudential threshold despite that some of them have already benefited from recapitalization operations in 2000-2001 (IMF 2003). State-owned specialized banks continue to operate in exemption of key prudential rules, and their risk is only contained by the government support. Clearly, it does seem from the precarious situation of state-owned specialized banks that they are prepared to face liberalization challenges.*

**Table 2**  
**Capital adequacy of the Banking Sector in Morocco**

	1997	1998	2000	2001	2002	2004
Statutory capital as a proportion of risk weighted assets	11.2	12.6	12.8	12.6	12.5	10.8
Commercial banks	12.7	13.1	14.7	15.3	15.3	
Specialized banks	6.1	11.1	5.9	1.2	0.5	

*The level of non-performing loans (NPLs), in the banking system is relatively high but unevenly distributed among banks. It amounts to 19.4 percent of bank loans at the end of 2004 compared to 12.6 percent at the end of 1998. This is mainly due to the former specialized public banks (CIH, BNDE, CNCA)<sup>75</sup> for which the share of NPLs stands at 36.4 percent in 2002 (IMF 2003). The recent increase of their share reflects the tightening of the classification rules, which banks were required to comply with. In fact, the average age of non-performing loans is estimated to more than five years.*

**Table 3**  
**Non performing loans in the banking system in Morocco**

	1997	1998	2000	2001	2002	2003	2004
Non performing loans in billions of DH	16.6	21.1	35.8	35.7	38.0	43.2	48.1
NPLs as a share of banking credits in %	11.0	12.6	17.5	17.2	17.7	18.7	19.4
Provisions as a share of NPLs in %	57.5	52.6	45.7	53.0	53.8	55.0	59.3
NPLs as a share of banking assets in %	6.8	7.7	11.2	10.3	10.3	10.8	11.3
NPLs as a share of GDP in %	5.2	6.1	10.1	9.3	9.5	10.3	10.8

*Available data on the composition of NPLs indicate that much of credit risk borne by banks is due to large customers, rather than small and medium-sized businesses. According to the World Bank (2000), loans larger than DH 500,000 accounted for 90 percent of the total of NPLs in arrears in 1998. Nearly 60 percent of their total value is accounted for by 394 loans larger than DH 10 million. On the sectoral front, a high*

<sup>75</sup> CIH: Crédit Immobilier et Hôtelier, BNDE: Banque Nationale de Développement Économique, CNCA : Caisse Nationale de Crédit Agricole.

*concentration of non-performing loans is found in textiles, garment and leather, in commercial activities and in the construction sector (Bank Al Maghrib report 2004). There are two issues that need to be addressed to overcome the problem of bad loans in the future. First, a significant effort has to be done to improve "credit scoring system" of individuals as well as corporate sector in Morocco. Second, the capacity of legal and judiciary system in recovering loans needs to be strengthened. In particular, legal provisions on bankruptcy and creditors' rights have to be reformed.*

Payments in Morocco are predominantly settled in cash. However, the use of non-cash instruments has made a dramatic progress over the last years. Various indicators confirm this trend. The number of bankcards increased by more than 20 percent in 2004 and stood at 2.2 millions. The number of ATM machines, which did not exceed 1071 units in 2002, reached 1839 units by the end of 2004. The total amount settled by cards increased by 41% in 2004.

Clearance and settlement operations are being modernized in order to reduce settlement lags for inter-cities transactions and meet international standards. Two major projects have been implemented over the last few years. The first is the *Moroccan Interbank Teleclearing System* (SIMT<sup>76</sup>), which started in Casablanca in May 2002, extended to other large cities in 2003 and, in principle, has been generalized to all other parts of the national territory since September 2004. In spite of that, clearance of checks between different cities continues to take time and can last as much as one week. The second project is the *interbank electronic banking center* (CMI<sup>77</sup>), which has been effective since February 2004.

Regarding profitability, there are wide differences between commercial and state owned specialized banks as shown in table 4. Average return on assets in the banking sector declined from 1 percent in 1997 to 0.7 percent in 2002. This downward trend is entirely attributed to a significant deterioration of profitability in specialized banks with an average ROA of (-1) percent in 2002. Moroccan banks are achieving relatively high levels of ROE although they are declining. In 1997, average ROE stood at 11 percent compared to 7.8 percent by the end of 2002. But while profitability is very comfortable in commercial banks, its level in specialized banks is very worrying and might threaten the overall stability of the banking sector.

**Table 4**  
**Profitability indicators of the banking sector in Morocco**

	1997	1998	2000	2001	2002
Average return on assets (ROA)	1.0	0.9	0.7	0.9	0.7
Commercial banks	1.1	1.1	1.1	1.1	1.1
Specialized banks	0.2	-0.1	-1.0	-0.1	-1.0
Average return on equity (ROE)	11.0	9.5	8.1	10.2	7.8
Commercial banks	13.4	12.4	13.0	12.7	11.8
Specialized banks	2.8	-1.8	-14.8	-0.9	-10.0
Interest margins (as % of gross revenues)	77.2	75.0	80.0	77.8	-
Average spread between loan and deposit rates	6.27	5.54	5.10	4.81	4.81
Demand accounts (as % of bank resources)	32.7		35.2	37.9	40.2

<sup>76</sup> SIMT stands for "Système interbancaire marocain de télécompensation".

<sup>77</sup> CMI stands for : "Centre monétique interbancaire".

Banking spread, defined as the interest rate charged by banks on loans to customers minus the interest rate paid on deposits, is on a downward trend since mid 1990s. However, its level continues to be relatively high by international standards. In 2002, the average spread recorded is 4.8 percent. This is particularly high given that more than one 40 percent of bank resources are obtained for free. Various factors can explain this situation such as insufficient competition among banks, high reserve requirements by the central Bank (16.5 percent of deposits), and high proportion of non performing loans. A stronger competition is expected to lead banks to further decrease their lending rates, and offer better opportunities for customers' deposits. International experience shows that such an amount of free resources cannot be sustained in the long term as the financial system deepens, and a broader variety of competing financial assets becomes available (IMF 2003).

As far as exchange rate risk is concerned, prudential regulations limit open positions to 10 percent of capital any one currency, and to 20 percent for all currencies combined. Current positions are far below these limits (between 2 and 3 percent) and don't expose the Moroccan banks to exchange risk.

## **Regulatory framework analysis**

The banking sector in Morocco is governed by the banking law of July 1993, which replaced the Royal Decree of April 1967 enacting the law concerning the banking profession and credit. The 1993's law has unified between commercial banks and specialized financial institutions (specialized banks) and created a unified body of legal provisions applicable to all credit institutions. This law has also extended the powers of the monetary authorities and created new bodies for dialogue with the profession and economic agents.

Under the terms of the 1993 *banking law*, the concept of *credit institution* encompasses banks and financing companies. Banks are institutions with a universal function, while financing companies engage only in the activities for which they have been approved (consumer credit, leasing, real estate credit, factoring, provision of warrants, or management of means of payment). In addition, only banks are permitted to collect demand deposits or deposits at up to two years.

### *2.1. Supervisory and advisory bodies*

The *supervisory authorities* (monetary authorities) in Morocco consist of the Minister of Finance and the Governor of Bank Al-Maghrib.

*The Minister of Finance* has important decision-making powers with regard to regulation of the activity of banks and to monetary policy. He is authorized to issue the approval to exercise the profession of banking and to fix the minimum amount of the capital or endowment of banks, after the *Credit Institutions Committee* has expressed its opinion. It can also establish the conditions and procedures for the granting of credits, as well as the minimum or maximum prudential ratios which have to be respected. The Minister of Finance, on the proposal of the Governor of Bank Al-Maghrib and based on the opinion of of the *Disciplinary Commission*, may also impose penalties, which can go as far as withdrawal of the license to exercise.

**The Governor of Bank Al-Maghrib** is in charge of the implementing procedures of the banking law provisions. He is also in charge of surveillance of the activity of banks through conducting on-the-site and documentary verifications. The Bank Al-Maghrib is also in charge of managing a Risk Centralization Service and Payment Incidents Centralization Service. It can create or manages any other common-interest service at the request of banks' representatives.

The Moroccan banking law has created two **advisory bodies**: the National Money and Saving Council (CNME<sup>78</sup>) and the Credit Institution committee (CEC<sup>79</sup>).

The **CNME** is consulted by the monetary authorities on all issues relating to monetary and credit policies and the means of their implementation. It provides its opinion on the general conditions of operation of credit institutions and may make proposals or suggestions within the field of its competence. The CNME can create internal working groups to carry out studies which it considers useful for appropriately accomplishing its duties. The CNME is chaired by the Minister of Finance or, in case he is unable to attend, by the Governor of Bank Al-Maghrib, the Vice-Chairman, and includes 29 permanent members representing, in particular, the public authorities, the economic operators and members of the Moroccan Professional Group of Banks -(Banks' representatives). The CNME meets at least twice a year, and has its quorum when at least half of its members are present. Its recommendations and proposals are adopted by the majority of the members present. The secretariat of the CNME is performed by Bank Al-Maghrib.

The **Credit Institutions Committee (CEC)** has to be consulted before any decision concerning the activity of credit institutions is taken, or on the technical aspects of monetary policy and prudential rules. The CEC provides its opinion on various issues concerning the activity of credit institutions, especially as regards: the granting, renewal or withdrawal of approval to exercise banking activity, the conditions for the acquisition of participating interests in the capital of enterprises, the conditions for the publication of annual and half-yearly accounts, the setting up of subsidiaries, the opening of branches and agencies abroad. The CEC is also consulted on matters relating to the terms and conditions of operation of the deposit protection scheme (*collective deposit guarantee fund*<sup>80</sup>). The CEC is chaired by the Governor of the Bank Al-Maghrib and includes as other members: the Vice-Governor of the Central Bank as vice-chairman, two representatives of the Minister of Finance, two representatives of the Moroccan Professional Group of Banks (GPBM), and two representatives of the Professional Association of Financing Companies (APSF). The secretariat of the CNME is performed by Bank Al-Maghrib. The committee has a quorum when at least half of its members are present and adopts its recommendations and proposals by a majority of the members present.

The 1993' banking law has also created a third advisory body in charge of **disciplinary matters**, the **Credit Institutions Disciplinary Commission** (Commission de Discipline des Etablissements de Crédit). The CEC is assigned the duty of drawing up the disciplinary matters and proposing penalties which can be imposed on credit institutions by the monetary authorities. Among penalties that can be suggested: prohibition or restriction of the exercise of certain operations, the appointment of a temporary director

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<sup>78</sup> CNME stands for «Conseil National de la monnaie et de l'Épargne ».

<sup>79</sup> CEC stands for : « Comité des Etablissement de Crédit »

<sup>80</sup> The deposit protection scheme is known as « Fond Collectif de Garantie des Dépôts ».



and the withdrawal of the approval to exercise. The CEC is chaired by the Vice-Governor of the Central Bank or his representative, and comprises a representative of Bank Al-Maghrib, two representatives of the Minister of Finance, and one magistrate appointed by the Minister of Finance on the proposal of the Minister of Justice. The commission's opinions are adopted by a majority of the members present.

## *2.2. Entry conditions in the banking sector*

Any legal person, before exercising the activity of credit institution, must send his application to the Minister of Finance for approval as a bank or financing company. In support of his application it submits a dossier consisting of information on technical, financial and human resources (quality of founders, shareholders and managers), and on its short-term and medium term plan of action (opening of branches and agencies). Approval is granted or refused after consultative advice has been provided by the Credit Institutions Committee, which is in charge of examining the dossier and is consequently authorized to request all documents and information which it deems necessary.

A credit institution may be created only in the form of a fixed-capital limited liability company, except for institutions on which the law has conferred a special status and those whose registered head office is located abroad.

Application for a new approval is required whenever changes affect the nationality of a credit institution, its control, the location of its registered head office or the nature of the operations which it habitually carries out. Approval is also required before merging of two or more credit institutions or the absorption of one or more institutions by another. The setting up of subsidiaries or the opening of branches, agencies and offices abroad by institutions which have their registered head office in Morocco are subject to prior approval by the Minister of Finance, given after the Credit Institutions Committee has given its approbation.

## *2.3. Prudential regulation in the banking sector in Morocco*

The banking sector's prudential framework has been significantly improved in recent years. However, additional measures need to be implemented by the central bank to be in accordance with the Basle Core Principles for Effective Banking Supervision. Credit institutions are required to comply with the prudential rules, the accounting standards, and information disclosure to the monetary authorities.

Prudential rules relate to capital requirement, minimum liquidity and solvency ratios, maximum concentration of risk ratio, and limits to open positions in foreign currencies. Other prudential rules deal with classification of nonperforming loans and their provisioning requirements.

The minimum capital was raised from 15 million DH in 1983 to 100 million DH in 1991. The liquidity ratio, which represents the ratio of cash and short term assets to short term liabilities, should be kept at a minimum of 100 percent as allow banks to be able to meet their short term liabilities. The computation of the solvency ratio has been changed to account for the nature of risks incurred by banks. The solvency ratio is defined as the ratio of banks' net capital and reserves to their assets and their disbursement liabilities or liabilities by signature (off-balance sheet). The risks are weighted by proportions 0, 20,

50 and 100 percent depending on the nature operations, the quality of lenders, and the importance collateral. The minimum solvency ratio that has to be observed is 8 percent. The objective of concentration of risk ratio is to limit excessive exposure to a limited number of clients. The ratio requires that the maximum lending exposure to a single client cannot exceed 20 percent.

Regarding nonperforming loans, banks are required to categorize them into three categories (potentially doubtful, doubtful and lost). Provisioning rules are designed to safeguard banks against risk of default of their customers. Provisions are equal to 20, 50 or 100 percent depending on their respective category.

## **Assessment of barriers to trade in the banking sector in Morocco**

Measurement of barriers to trade in services is not as simple as in the case of trade in goods. The issue of quantifying restrictions to trade in services and the economic effects of their removal has received a special interest from academic researchers over the last few years. But, measurement of trade in services appears to be also very crucial to policy makers in their bilateral, regional and multilateral negotiations.

For the specific case of Morocco, the potential impact of liberalizing trade in goods has received much more academic attention (Rutherford and Tarr (1997), Chater and Hamdouch (2001), Achy and Milgram (2003) and Chater (2004)). In contrast, the potential impact of liberalizing trade in services in general, and banking services more specifically, has not received comparable interest. The main objective of this research is to provide a first assessment on this potential impact. The basic assumption that lies behind this exercise is that by removing barriers to trade, liberalization will increase competition in the domestic market, and lower interest rates margins. Since banking services are inputs for other activities, any reduction of their cost will improve competitiveness and generate welfare effects.

### *3.1 Methodology of computing the restrictiveness index*

Various methodologies have been used to quantify barriers to trade in services. One the most widely used is based on "frequency measures" developed by Hoekman (1995). This methodology has been applied to GATS commitments scheduled by member countries. A more elaborate set of frequency measures has been constructed by the Australia's productivity commission and applied to various services such as banking, telecommunications, maritime transport, education, distribution and professional services. The Australian methodology is based on the actual impediments to trade rather than scheduled commitments under GATS. These restrictions are assigned scores and grouped into categories, each of which has its specific numerical weight. These scores and weights are chosen as to reflect the costs of the existing restrictions on the economic efficiency. Based on these scores and weights, an aggregate restrictiveness index is computed for each service in each country.

In assessing restrictiveness of trade in banking services and their economic impact, this paper follows a methodology similar to that of the Australian team. It has been developed by McGuire and Scheuele (2000) Kalirajan et al. (2000) and revisited by Kimura et al. (2003). This methodology is made up of three steps.

- In the *first step*, restrictions are listed and weights are assigned to them. These weights are determined based on how significantly a given restriction would limit service suppliers from entering and/or operating in the domestic market.
- In the *second step*, based on surveys and interviews, scoring sheets are filled out. The assigned scores vary from 0 (least restrictive case) to 1 (most restrictive case). For each item, the restrictiveness index (partial restrictiveness index) is obtained by multiplying the assigned score by its corresponding weight. The overall restrictiveness index is calculated by summing up all partial indexes.
- Finally, in the *third step*, ad valorem equivalents of barriers are estimated on the basis of the overall restrictiveness index.

As shown below, restrictions are classified into three categories:

- (1) Restrictions on commercial presence,
- (2) Restrictions on cross-border trade,
- (3) Other restrictions.

The score is chosen for each category of restrictions depending on the nature of its legal and regulatory provisions complemented by field interviews conducted with experts in the banking sector in Morocco. Legal and regulatory provisions, are not strictly enforced in some cases, and hence don't offer an accurate reference for measuring the extent of restrictions. On the other hand, a *new banking law* and a *new legal status of the central bank* are being adopted. Their implementation in the near future is expected to narrow the gap between the legal and regulatory frameworks in Morocco and their international counterparts. Therefore, the assessment of restrictions to the banking services in Morocco is based on a combination of objective and subjective evaluations.

On the basis of our computation, the overall restrictiveness index for the Moroccan banking services is 0.35.

McGuire and Scheuele (2000) have computed trade restrictiveness indexes for 27 countries (19 developed and 8 developing countries). Their results are very useful for comparative purposes. The indexes for developed countries are less than 0.1 (for instance US: (0.06); UK: (0.07); Switzerland (0.08); Italy: (0.07)) except Australia (0.12) and Japan (0.19). Conversely, the indexes are substantially higher in developing economies (for instance Malaysia (0.65); Indonesia (0.55); Korea (0.43), Chile (0.40) and Columbia (0.23)). Argentina is an exception with an index of (0.07) similar to that of developed countries.

The degree of restrictiveness to trade in banking services in Morocco, which takes the value 0.35, seems to be located in the middle among developing countries but significantly high when compared to that of industrialized economies.

In comparison to other countries in the region, the restrictiveness index in Morocco seems to be significantly higher than those of Egypt and the Turkey (Kheir-El-Din et al. 2005) and (Berument and Togan 2005) respectively and lower than the Tunisian index

(Boughzala et al. 2005). Overall, these results are somewhat expected. The main explanation of these findings is that Egypt and Turkey have their capital accounts liberalized, while both Maghreb Arab countries continue to impose significant restrictions on foreign exchange and on the ability of residents to hold foreign currency accounts.

### 3.2. *Tariff equivalent of banking services' barriers to trade in Morocco*

Theoretically, the presence of impediments to free trade of banking services affect access, quality and price of these services. In a more liberalized environment, banking services would be accessible to a wider range of customers; they would be of a better quality, and cheaper than under restrictions. The focus of this paper is on *price-based measure* of the impact of liberalizing banking services. The two other components are important, particularly when access to banking services is still limited (less than 20 percent of the population has access to banking services in Morocco) and the quality of their delivery could be substantially improved. However, access and quality components need more subtle approach to assess their potential impact, and hence left to future research.

The price-based approach derives estimates of barriers to trade from the difference between domestic and foreign prices. It is assumed that the existence of barriers to trade acts as an *ad valorem tax* on foreign service providers. If data on prices are available, such measure can be directly computed by comparing domestic price of the imported service with a reference foreign price. The percentage difference between the domestic and foreign prices is similar to a tariff. In our case, this would mean to compare the price of banking services in Morocco to that of the EU, and derive the magnitude of tariff equivalent due to barriers to trade. The implementation of this approach poses two issues. The first relates to the availability of suitable and accurate data on banking services prices. The second issue arises from the fact that the entire gap between domestic and foreign prices is supposed to originate from restrictions to trade. In practice, other factors, other than restrictions to trade, may justify the existence of price differences between domestic and foreign financial services' providers. To overcome these weaknesses, an alternative approach has been applied.

This alternative approach is based on Kalirajan et al. (2000) who combine restrictiveness indexes with other data to estimate econometrically the impact of barriers. Using data on the economic determinants of banking services prices, an econometric model has been formulated and estimated by Kalirajan et al. (2000). The estimated coefficient of the restrictiveness index variable, included as additional explanatory in the econometric model, provides an approximation of the effect of trade restrictions on prices, controlling for other relevant determinants included in the model.

By doing so, Kalirajan et al. (2000) quantified the impact of restrictions in banking services on the net interest margin of banks, which measures the price of banking services. The net interest margin (NIM) is defined as the difference between the interest rate banks charge on their loans and the rate they pay on their deposits. Restrictions on trade in banking services, by constraining the scope for competition, are expected to increase the interest margin or the price of banking services.

Under the assumption that the expected effects of restrictions to trade in banking services are common across countries, the same estimated coefficient found by Kalirajan et al.

(2000) has been extended Morocco, and applied to its restrictiveness index. The *tariff equivalent* of restrictions is then calculated from the formula

$$100 * \left[ \frac{NIM_1 - NIM_0}{NIM_0} \right] = 100 * (e^{b*TRI} - 1)$$

NIM<sub>1</sub>: stands for the net interest margin under restrictions and NIM<sub>0</sub> the net interest margin under free trade, TRI the value of trade restrictiveness index, and b is the estimated coefficient associated to the restrictiveness index variable. According to Kalirajan et al. (2000) estimates, b takes the value 0.732.

By applying the above formula to our restrictiveness index (0.35), the result shows that the existing barriers to trade in the banking sector in Morocco are equivalent to imposing a tariff of roughly 30 percent on net interest margins. In other words, the lack of foreign competition in the domestic market increases the cost of funding for economic actors by 30 percent compared to what would prevail under full liberalization. Protecting local banks and imposing restrictions to prevent their exposure to international competition generates an excess of 30 percent in the cost of banking services. This higher cost of finance weakens local producers' competitiveness, particularly those that rely on banking services for their funding.

In Kalirajan et al. (2000), the restrictiveness index for the banking services in the EU is estimated to 0.0708. Applying the same formula leads to a tariff equivalent of 6.3 percent in comparison with a scenario of full liberalization. Harmonizing the Moroccan banking sector regulations along the EU lines, would translate into a reduction of 19.3 percent of the cost of banking services. However, it has to be noticed that the EU restrictiveness index was computed by Kalirajan et al. (2000) on the basis of 1997's regulations. It is very likely that the EU has further liberalized its banking services over the period 1998-2005. Therefore, the magnitude of our tariff equivalent with respect to the EU estimated to 19.3 percent is probably only a lower band estimate. An attempt is made in next section to provide a first assessment of expected welfare effects using an input-output methodology.

## Welfare effects of liberalizing banking services in Morocco

The purpose of this paper is not just to measure the magnitude of barriers to trade in the banking services, but also to provide an approximation of the impact of these barriers on the rest of the economy. The same exercise has already been done in the area of removing barriers on goods using econometric, as well as partial and general equilibrium methodologies. The objective arises from the need to understand how the removal of barriers to trade in services will affect conditions of competition, productivity, allocation of resources, and economic welfare within and between sectors and countries (Deardorff and Stern 2004).

In our specific case, banking services are intermediate inputs used by various activities in the production of other commodities. Hence, it is expected that prices of other commodities in the economy will change as a result of removing impediments to trade in banking services.

In order to assess the effect a 19.3 percent decrease in the price of banking services on the economy computed earlier, the 1998 *Input-Output table* of the Moroccan economy has been used<sup>81</sup>. We assume that there are no significant changes in the structure of the Moroccan economy over the period 1998-2005. We suppose in particular that the banking sector plays more or less the same role in 2005 compared to 1998. This assumption is to some extent defensible. Although, the share of the banking sector's total assets increased from 80 to 96 percent of GDP from 1998 to 2004, and the share of total deposits rose from 56 to 71 percent of GDP over the same period; the share of private claim in GDP increased only from 49 to 55 percent. Furthermore, a large part of this increase is due to real estate and consumption credit extended to households.

The methodology of assessing welfare effects of liberalizing trade, applied in this paper, is made of several steps. First, Let  $A$  be the 36x36 matrix of input coefficients. On the basis of  $A$ ; the matrix  $B$  is created from the 35x35 input-output matrix by deleting the 30<sup>th</sup> column and 30<sup>th</sup> row referring to the banking sector. Denote the 30<sup>th</sup> row where the 30<sup>th</sup> column element has been deleted by  $e$ . Let  $p$  be the 1x35 price vector of the 35 commodities excluding banking sector and  $v.a$  the corresponding 1x35 unit gross value added vector. The price equation can be written as:

$$p = p B + p_b e + v.a$$

$p_b$  denotes the price of the banking services. By rearranging the above equation, we obtain:

$$p = p_b e (I-B)^{-1} + v.a (I-B)^{-1}$$

Given the price of banking services that will prevail in Morocco when it adopts and implements the EU rules and regulations,  $p_b$ , we determine the *equilibrium prices* of the other 35 remaining commodities from the above equation assuming that there is no change in the unit gross value added vector  $v.a$ .

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<sup>81</sup> This is the most recent input-output table available in Morocco.

We denote by  $\pi$  the 1x36 price vector composed by the price vector  $p$  and the scalar  $p_b$ .  $\pi = (p \ p_b)$ , and  $CON$  the 36x1 consumption expenditure vector obtained from the 1998 input-output matrix by deleting the value of consumption of banking sector and  $con_b$  the value of consumption of banking services. Then we form the 36x1 consumption vector as

$$CONS = \begin{bmatrix} CON \\ con_b \end{bmatrix}.$$

By construction, all base year prices are equal to unity. Hence, total consumption expenditure evaluated at base-year prices can be written as:

$$C = u \text{ } CONS$$

where  $u$  denotes the 1x36 unit vector. The value of total consumption expenditure evaluated at the prices that will prevail once Morocco has adopted and implemented the EU rules and regulations in the banking sector is then given by:

$$C^* = \pi \text{ } CONS$$

The effect on consumer welfare can be calculated as:

$$(C - C^*) \times 100 / C^*{}^{82}$$

As indicated earlier, this measure of welfare effect change focuses exclusively on the price effect of liberalization. It does not account for any potential increase in consumer demands for the different commodities following their price reduction. Hence, this approach provides a downward biased estimate of the welfare effect. Accounting for the other effects would require the use of *price elasticities of demand* for the 36 commodities included in the input-output table, which are nor readily available. Thus, the welfare gain is very likely to be higher than estimates provided in this paper.

On the basis of previous computations, the adoption of the EU rules and regulations in the banking sector is expected to lead to a reduction of banking services' price 19.3 percent. Accordingly, the welfare of the society captured through total consumption, will improve by 1.151 percent. Since in 1998 consumption represented 86.12 percent of GDP<sup>83</sup>, this welfare gain will translate into an increase of 0.9912 percent in GDP.

Since in 2004, GDP amounted to DH 444 billion or the equivalent of US\$ 50 billion, our first approximation of the welfare gain from adopting the EU rules and regulations in the banking sector is estimated to US\$ 495 million. It very likely that this figure underestimate the total effect of liberalizing banking services in Morocco.

<sup>82</sup> Note that this approach determines the equivalent variation in consumer' income.

<sup>83</sup> Haut Commissariat au Plan (2003), « Comptes et Agrégats de la nation 1980-2002 »

## Conclusion

The purpose of this paper is to assess welfare effects of regulating the banking sector in Morocco along the European Union lines. The issue of quantifying restrictions to trade in services and the economic effects of their removal has received a special interest from academic researchers over the last few years. But, measurement of trade in services appears to be also very crucial to policy makers in their bilateral, regional or multilateral negotiations.

As far as Morocco is concerned, the potential impact of liberalizing trade in goods has received much more academic attention. In contrast, the potential impact of liberalizing trade in services in general, and banking services more specifically, has not received comparable interest. The main objective of this research is to filling this gap in the literature.

Theoretically, the presence of impediments to free trade of banking services affect access, quality and price of these services. In a more liberalized environment, banking services would be accessible to a wider range of customers; they would be of a better quality, and cheaper than under restrictions. The focus of this paper is on *price-based measure* of the impact of liberalizing banking services. The two other components are important particularly when access to banking services is still limited (less than 20 percent of the population has access to banking services in Morocco) and the quality of their delivery could be substantially improved. However, access and quality components need more subtle approach to assess their potential impact, and hence left to future research.

This paper follows a methodology similar to that of the Australian team. It has been developed by McGuire and Scheuele (2000) Kalirajan et al. (2000) and revisited by Kimura et al. (2003). According to our computation, the overall restrictiveness index for Moroccan banking services is 0.35. McGuire and Scheuele (2000) have computed trade restrictiveness indexes for 27 countries (19 developed and 8 developing countries). Their results are very useful for comparative purposes. The degree of restrictiveness of trade in the banking services in Morocco seems to be located in the middle among developing countries but significantly high when compared to that of industrialized economies. In comparison to other countries in the region, the restrictiveness index in Morocco seems to be significantly higher than those of Egypt and the Turkey and respectively and lower than the Tunisian index.

Under the assumption that the expected effects of restrictions to trade in banking services are common across countries, the same estimated coefficient found by Kalirajan et al. (2000) has been extended Morocco, and applied to its restrictiveness index to compute the *tariff equivalent* of restrictions. The result shows that the existing barriers to trade in the banking sector in Morocco are equivalent to imposing a tariff of roughly 30 percent.

In Kalirajan et al. (2000), the restrictiveness index for the EU is estimated to 0.0708, which leads to a tariff equivalent of 6.3 percent in comparison with a scenario of full liberalization. Hence, harmonizing the Moroccan banking sector regulations along the EU lines, would translate into a reduction of 19.3 percent of the cost of banking services.

In order to assess the effect this reduction on the economy, the 1998 *Input-Output table* of the Moroccan economy has been used assuming that there are no significant changes



in the structure of the Moroccan economy over the period 1998-2005. Our results indicate that the welfare, captured through total consumption, will improve by 1.151 percent. Since in 1998 consumption represented 86.12 percent of GDP<sup>84</sup>, this welfare gain will translate into an increase of 0.9912 percent in GDP.

In absolute terms, our first approximation of the welfare gain from adopting the EU rules and regulations in the banking sector in Morocco is estimated to US\$ 495 million. However, this figure may be underestimating the total effect of liberalizing banking services. In particular, it is expected that dynamic and efficiency effects will be much substantial.

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<sup>84</sup> Haut Commissariat au Plan (2003), « Comptes et Agrégats de la nation 1980-2002 »

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## Appendix 1 (1/2)

### List of potential restrictions to free trade of banking services and their respective weights (1)

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#### **1. Restrictions on Commercial Presence (*weight w(1)=0,62*)**

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##### ***1.1. Licensing of banks (w(1.1)=0,10)***

- Issues no new license. / No new license is allowed.
- Issues up to 3 new licenses with only prudential requirements. / Licenses are issued through complicated (discriminatory) and costly procedure.
- Issues up to 6 new licenses with only prudential requirements. / Licenses are generally issued with application fee and several requirements.
- Issues up to 10 new licenses with only prudential requirements. / Licenses are generally issued with application fee.
- Issues new licenses with only prudential requirements / Licenses are automatically issued upon application without any cost.

##### ***1.2. Form of commercial presence (w(1.2)=0,10)***

- Measures which restrict or require a specific type of establishments.
- No restriction on establishment.

##### ***1.3. Direct investment: equity participation permitted (w(1.3)=0,20)***

- The score is inversely proportional to the maximum equity participation permitted in an existing domestic bank.

##### ***1.4. Direct investment: restrictions on certain types of services (w(1.4)=0,10)***

- Restrictions on providing some types of banking services.
- No restriction on providing any type of banking services.

##### ***1.5. Joint venture arrangements (w(1.5)=0,10)***

- Issues no new banking licenses and no entry is allowed through a joint venture with a domestic bank.
- Bank entry is only through a joint venture with a domestic bank.
- No requirement for a bank to enter through a joint venture with a domestic bank.

##### ***1.6. Permanent movement of people (w(1.6)=0,02)***

- No entry of executives, senior managers and/or specialists.
  - Executives, specialists and/or senior managers can stay up to 1 year.
  - Executives, specialists and/or senior managers can stay up to 2 years.
  - Executives, specialists and/or senior managers can stay up to 3 years.
  - Executives, specialists and/or senior managers can stay up to 4 years.
  - Executives, specialists and/or senior managers can stay a period of 5 years or more.
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## Appendix 1 (2/2)

### List of potential restrictions to free trade of banking services (2)

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#### 2. Cross-border Trade (*weight w(2)=0,20*)

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##### **2.1. Raising funds by foreign banks** (*w(2.1)=0,10*)

- Banks are not permitted to raise funds in the domestic market./ Foreign banks are not permitted to have cross-border deposits of Moroccan banks, corporations, and households
- Banks are restricted from raising funds from domestic capital market. / Foreign banks are permitted to have cross-border deposits of only some types of Moroccan residents or any type of Moroccan residents with specific ceiling amount
- Banks are restricted in accepting deposits from the public./ Foreign banks are permitted to have cross-border deposits of Moroccan banks, corporations, and households with licenses
- Banks can raise funds from any source with only prudential requirements. / Foreign banks are permitted to have cross-border deposits of any type of Moroccan residents without restrictions

##### **2.2. Lending funds by foreign banks** (*w(2.2)=0,10*)

- Banks are not permitted to lend to domestic clients./ Foreign banks are not permitted to have cross-border lending to Moroccan banks, corporations, and households
  - Banks are restricted to a specified lending size or lending to government projects. / Foreign banks are permitted to have cross-border lending to only some types of Moroccan residents or any type of Moroccan residents with specific ceiling amount
  - Banks are restricted in providing certain services such as credit cards, leasing and consumer finance. / Foreign banks are permitted to have cross-border lending to Moroccan banks, corporations, and households with licenses.
  - Banks are directed to lend to housing and small business.
  - Banks can lend to any source with only prudential restrictions. / Foreign banks are permitted to have cross-border lending to any type of Moroccan residents without restrictions.
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#### 3. Other Restrictions

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##### **3.1. Other business of banks -insurance and securities** (*w(3.1)=0,10*)

- Banks can only provide banking services.
- Banks can provide banking services plus one other line of business -insurance or security services.
- Banks have no restrictions on conducting other lines of business.

##### **3.2. Expanding the number of banking outlets** (*w(3.2)=0,05*)

- One banking outlet with no new banking outlet permitted.
- Number of banking outlets is limited in number and location.
- Expansion of banking outlets is subject to non-prudential regulatory approval.
- No restrictions on banks expanding operations.

##### **3.3. Composition of the board of directors** (*w(3.3)=0,02*)

- The score is inversely proportional to the percentage of the board that can comprise foreigners.

##### **3.4. Temporary movement of people** (*w(3.4)=0,01*)

- No temporary entry of executives, senior managers and/or specialists.
  - Temporary entry of executives, senior managers and/or specialists up to 30 days.
  - Temporary entry of executives, senior managers and/or specialists up to 60 days.
  - Temporary entry of executives, senior managers and/or specialists up to 90 days.
  - Temporary entry of executives, senior managers and/or specialists over 90 days
-

## Appendix 2

### Regulatory framework of Banking Services in Morocco (1)

1. Entry into Banking (1)	Answers	
What body/agency grants commercial banking licenses?	The Minister of Finance	
Is there more than one body/agency that grants licenses to banks?	No	
Is more than one license required (e.g., one for each banking activity, such as commercial banking, securities operations, insurance, etc.)?	No	
How many commercial banks were there at year-end 2004	15	
What is the minimum capital entry requirement? (in US\$ and/or domestic currency, state which)	MAD 100.000.000	
Is this minimum capital entry requirement the same for a foreign branch and subsidiary?	Yes	
Is it legally required that applicants submit information on the source of funds to be used as capital?	Yes	
Are the sources of funds to be used as capital verified by the regulatory/supervisory authorities?	Yes	
Can the initial disbursement or subsequent injections of capital be done with assets other than cash or government securities?	Yes	
Can initial disbursement of capital be done with borrowed funds?	No	
Which of the following are legally required to be submitted before issuance of the banking license?		
Draft by-laws?	Yes	
Intended organization chart?	Yes	
Financial projections for first three years?	Yes	
Financial information on main potential shareholders?	Yes	
Background/experience of future directors?	Yes	
Background/experience of future managers?	Yes	
Sources of funds to be disbursed in the capitalization of new bank?	Yes	
Market differentiation intended for the new bank?	Yes	
In the past five years, how many applications for commercial banking licenses have been received from domestic entities?	1	
How many of those applications have been denied?	0	
Number of applications from foreign entities to enter through the acquisition of domestic bank?	Received	4 <sup>85</sup>
	Denied	0
Number of applications from foreign entities to enter through new, capitalized subsidiary?	Received	0
	Denied	0
Number of applications from foreign entities to enter through opening a branch?	Received	0
	Denied	0
Number of applications from foreign entities to enter through some other means?	Received	4
	Denied	0
Are foreign entities prohibited from entering through		
Acquisition	Not prohibited	
Subsidiary	Not prohibited	
Branch	Not prohibited	

### Regulatory framework of Banking Services in Morocco (2)

<sup>85</sup> It is about demand to increase their parts of capital to assure(insure) the control of the Moroccan banks.

<b>2. Ownership</b>	<b>Answers</b>
Is there a maximum percentage of bank capital that can be owned by a single owner?	No
Can related parties own capital in a bank??	Yes
If yes, what are the maximum percentages associated with the total ownership by a related party group (e.g., family, business associates, etc.)?	None
Can non-financial firms own shares in commercial banks?	Permitted
Can non-bank financial firms (e.g. insurance companies, finance companies, etc.) own commercial banks?	Permitted

<b>3. Capital</b>	<b>Answer</b>
What is the minimum capital-asset ratio requirement?	8%
Is this ratio risk weighted in line with the Basle guidelines?	Yes
Does the minimum ratio vary as a function of an individual bank's credit risk?	No
Does the minimum ratio vary as a function of market risk?	No
What is the actual risk-adjusted capital ratio in banks as of year-end 2001, using the 1988 Basle Accord definitions?	12,60%
What is the actual capital ratio (i.e., not risk-adjusted) of banks as of year-end 2001?	7,50%
Is subordinated debt allowable as part of capital?	Yes
Is subordinated debt required as part of capital?	No
What fraction of revaluation gains is allowed as part of capital?	35%
What fraction of the banking system's assets is in banks that are:	
50% or more government owned as of year-end 2001?	35%
50% or more foreign owned as of year-end 2001?	21%
Before minimum capital adequacy is determined, which of the following are deducted from the book value of capital?	
Market value of loan losses not realized in accounting books?	Yes
Unrealized losses in securities portfolios?	Yes
Unrealized foreign exchange losses?	Yes

<b>4. Activities</b>	<b>Answer</b>
Securities	Permitted
Insurance	Permitted
Real Estate	Restricted
Bank Owning Non-financial Firms	Restricted

### Regulatory framework of Banking Services in Morocco (3)

5. External Auditing Requirements	Answer
Is an external audit a compulsory obligation for banks?	Yes
Are specific requirements for the extent or nature of the audit spelled out?	Yes
Are auditors licensed or certified?	Yes
Do supervisors get a copy of the auditor's report?	Yes
Does the supervisory agency have the right to meet with external auditors to discuss their report without the approval of the bank?	Yes
Are auditors required by law to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse?	Yes
Can supervisors take legal action against external auditors for negligence?	No; Bank Al-Maghrib can send one warning to every listener who does not release his mission with the competence and the diligence required or failed in its commitments. Bank Al-Maghrib can remove him(her) the approval if he does not take into account this warning.
Has legal action been taken against an auditor in the last 5 years?	No

6. Internal Management/Organizational Requirements	Answer
Can the supervisory authority force a bank to change its internal organizational structure?	Yes
Has this power been utilized in the last 5 years?	No



### Regulatory framework of Banking Services in Morocco (4)

7. Liquidity & Diversification Requirements	Answer
Are there explicit, verifiable, and quantifiable guidelines regarding asset diversification? (for example, are banks required to have some minimum diversification of loans among sectors, or are their sectoral concentration limits)?	No
Are banks prohibited from making loans abroad?	No; they can extend them after preliminary agreement of proper authorities.
Are banks required to hold either liquidity reserves or any deposits at the Central Bank?	Yes
If so, what are these requirements?	14%
Do these reserves earn any interest?	Yes
What interest is paid on these reserves?	0,50%
Are banks allowed to hold reserves in foreign denominated currencies or other foreign denominated instruments?	Yes
If yes, please state the ratio	Max ratio (net position/ net capital and reserves) of 10% in each currency and maximum ratio of 20% for all currencies
Are banks required to hold reserves in foreign denominated currencies or other foreign denominated instruments?	No
If yes, please state the ratio	
What percent of the commercial banking system's assets is foreign-currency denominated?	4%
What percent of the commercial banking system's liabilities is foreign-currency denominated?	5%
What percent of the commercial banking system's assets is in central government bonds?	20,60%
What percent of the commercial banking system's assets is funded with deposits?	73%
What percent of the commercial banking system's assets is funded with insured deposits?	73%

### Regulatory framework of Banking Services in Morocco (5)

Depositor (Savings) Protection Schemes	Answer
Is there an explicit deposit insurance protection system? If yes:	Yes
Is it funded by (check one) : the government, the banks, or both ?	The banks
How insurance premia collected	Regularly (ex ante)
Do deposit insurance fees charged to banks vary based on some assessment of risk?	No
If pre-funded, what is the ratio of accumulated funds to total bank assets?	0,80%
What is the deposit insurance limit per account?	MAD 50.000
Is there a limit per person?	Yes
If yes, what is that limit (in domestic currency)?	MAD 50.000
Is there formal co-insurance under which depositors are only insured for some percentage of their deposits, either absolutely or above some floor and/or up to some limit?	Yes
Does the deposit insurance scheme also cover foreign currency deposits?	Yes
Are inter-bank deposits covered?	No
Does the deposit insurance authority make the decision to intervene a bank?	No
If no, who does?	The Central Bank and The Ministry of Finance
Does the deposit insurance authority have the legal power to cancel or revoke deposit insurance for any participating bank?	No
As a share of total assets, what is the value of large denominated debt liabilities of banks-subordinated debt, bonds, etc.-that are definitely not covered by any explicit or implicit savings protection scheme?	6%
As part of failure resolution, how many banks closed or merged in the last 5 years?	1; It is about a fusion-absorption.
Were depositors wholly compensated (to the extent of legal protection) the last time a bank failed?	Never happened
On average, how long does it take to pay depositors in full?	Never happened
What was the longest that depositors had to wait in the last 5 years?	Never happened
Were any deposits not explicitly covered by deposit insurance at the time of the failure compensated when the bank failed (excluding funds later paid out in liquidation procedures)?	Never happened
Can the deposit insurance agency/fund take legal action against bank directors or other bank officials?	No
Has the deposit insurance agency/fund ever taken legal action against bank directors or other bank officials?	No
Are non-residents treated differently than residents with respect to deposit insurance scheme coverage?	No
Who manages the insurance fund? Is it managed:	
(a) solely by the private sector	No
(b) jointly by private-public officials	No
(c) solely by public sector	Yes

### Regulatory framework of Banking Services in Morocco (5)

<b>9. Provisioning Requirements</b>	<b>Answer</b>
Is there a formal definition of a "non-performing loan"?	Yes
The primary system for loan classification is based on which criterion?	The number of days a loan is in arrears
After how many days is a loan in arrears classified as: Sub-standard? Doubtful? Loss?	90 days; Pre-doubtful debts 180 days bad debts 360 days compromised debts
What is the minimum provisioning required as loans become: Sub-standard? Doubtful? Loss?	20% 50% 100%
If a customer has multiple loans and one loan is classified as non-performing, are the other loans automatically classified as non-performing?	Yes; When the loan is classified in the category of the compromised debts
What is the tax deductibility of provisions?	Specific provisions can be deducted; This deduction is not automatic.



## Part II: Telecommunications

# EU Integration and the Telecommunications Sector: The Case of Turkey

*Erkan Akdemir, Erdem Başçı and Sübidey Togan*

The telecommunications industry has many interesting aspects. First, it is a network industry, with high fixed costs and low marginal costs. Second, it is subject to rapid technological progress, and third, it provides the infrastructure for the information society and knowledge economy. The first aspect—the telecommunications industry as a network industry with high fixed costs—has been a challenge to both economic theorists and policymakers in general. Here, the problem is how to maintain an efficient outcome by an appropriate mix of competition and regulation policies. Regarding the second aspects of the telecommunications industry—its rapid technological progress—we note that private investments are becoming the main source of technology development and capacity building in the telecom industry. Licensing and privatization are the two main channels to attracting initial private capital and paving the way for further investments. Furthermore, convergence of the telecommunications, media and information technology sectors is occurring with implications for regulation. Finally, regarding the third aspect—the role of telecommunications sector in providing the infrastructure for the information society and knowledge economy—we note that human capital formation and innovation are facilitated by means of sharing knowledge at very low cost, and that easy access to networks promotes social cohesion and inclusiveness. Finally government-citizen and government-business relations are simplified through e-government projects. As a result of these developments the focus in recent years has shifted from building infrastructure to regulatory and market structure issues.

In Turkey the telecommunication services were provided until 1994 by the state owned company PTT, a national monopoly providing postal and telecommunications services. Turkey decided to liberalize the telecommunications sector during the 1990's. A new Telecommunications Law was passed by Parliament in 2000, which was amended in 2001. Since then Turkey is trying to liberalize the telecommunications sector by following the EU approach to liberalization. It recognizes that competition and regulation in the sector are vital, and that privatization combined with the establishment of conduct regulation is essential for achieving economic efficiency and guarantee of universal service for keeping the country away from the danger of digital divide.<sup>86</sup>

The paper is structured as follows. While section 1 considers the regulatory regime in the telecommunications sector of the EU, section 2 studies the regulatory regime in Turkey. Section 3 analyzes the economic effects of EU integration in the telecommunications sector on the Turkish economy, and section 4 is on implications for other developing countries. Finally, section 5 concludes.

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<sup>86</sup> The 'digital divide' refers to the socio-economic difference between communities in their access to computers and the internet, and also to gaps between groups in their ability to use information and communication technologies effectively, due to differing literacy and technical skills, and the gap in availability of quality, useful digital content.

## 1. EU REGULATORY FRAMEWORK

Since its inception in the mid-eighties, EU telecommunications policy has focused on two main objectives: economic efficiency and guarantee of universal service. In 1987 the Commission issued a Green Paper which set out a Community-wide program for action in the telecommunications sector in pursuit of these objectives. The achievement of these aims has been pursued through the application of a set of complementary principles: market liberalization and harmonization of conditions for a common regulatory framework.

Following the publication of the Green Paper the Commission adopted the Terminal Equipment Directive 1988,<sup>87</sup> which obliged Member States to remove special or exclusive rights relating to the importation, marketing, connection, bringing into service and maintenance of telecommunication terminal equipment. The Commission Directive 90/388/EEC (Services Directive) initiated the opening to competition of the telecommunications services market by providing for the removal and exclusive rights granted by Member States to Telecommunications Organizations for the supply of value added services by the end of 1990 and data services by January 1, 1993. Remaining monopolies within the telecommunications services, which continued as 'reserved services' after the implementation of Services Directive were lifted through the adoption of Satellite Directive (94/46/EC), Cable Directive (95/51/EC), and Mobile Directive (96/2/EC). Thereafter, the Commission adopted the Full Competition Directive (96/19/EC)<sup>88</sup> in February 1996, taking the final step in the liberalization of the sector. The latter Directive called on Member States to take the necessary steps in order to ensure that markets are fully open by January 1, 1998. Since 1998, EU has fully competitive telecommunications markets in all Member States but five. Portugal, Spain, Greece, Ireland and Luxembourg had derogations.

As recently as 2002 the EU has introduced the Framework, Authorization, Access, and Universal Service Directives and Local Loop Unbundling Regulation, the purpose of which is to provide a common regulatory framework and competition principles and practices for the electronic communications sector in the EU comprising telecommunications, media and information technology services.

The Framework Directive (2002/21/EC) emphasizes the independence of the national regulatory authority (NRA) which has to be guaranteed by member states, the right of appeal against NRA decisions, mechanisms for ex-ante regulation to be imposed on significant market power<sup>89</sup>, market definition and market analysis procedures, and NRA's duties to resolve disputes within four months when negotiations on access and interconnections fail. The Framework Directive also introduces the principle of technological neutrality, i.e. there shall be no separation between different means of transmission for regulatory purposes. It will apply to all telecommunications networks (fixed or wireless) as well as broadcast networks (terrestrial, satellite, and cable), so that equivalent rules will apply to all these networks.

The Authorization Directive (2002/20/EC) abolishes individual licensing and moves to a system of general authorization according to which, older licensing schemes for different telecommunications services, i.e. public voice and data providers, and facilities-based and resale providers have been removed. According to the Authorization Directive the member states may at most require a notification from the undertaking. Other than the notification no permissions or other administrative barriers to entry can be imposed, and time limits are to be observed by the administration to finalize the applications. Although obtaining a general authorization is as simple as it can be, the undertaking, in case it does not comply with the general conditions laid down by the NRAs, may be subject to

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<sup>87</sup> Commission Directive 88/301/EEC of 16 May 1988 on competition in the markets in telecommunications terminal equipment, OJ 1988 L 131/73.

<sup>88</sup> Commission Directive 96/19/EC of 13 March 1996 amending Directive 90/388/EEC with regard to the implementation of full competition in telecommunications markets, OJ L 74.

<sup>89</sup> The undertakings are said to have significant market power (SMP) as long as the market share of the undertaking is equal to or larger than 25 percent.

financial penalties and even be prevented from providing service. One final remark for new authorization framework is that the tariffs requested for any license should reflect only the costs incurred by the NRAs while issuing the concerning license. Previous EU experience showed that sometimes license tariffs can erect an entry barrier itself.

The access to the network elements and associated facilities is regulated by the Access Directive (2002/19/EC) and the Unbundled Access to the Local Loop Regulation (No. 2887/2000). The Access Directive establishes the rights and obligations of operators regarding interconnections and/or access, and defines the objectives of and the procedures for the NRAs on mandatory access scheme. According to the Directive, private negotiations between undertakings for interconnections cannot be restricted by Member States, operators except for those having significant market power (SMP) cannot be obliged to discriminate between different undertakings for equivalent service, operators are obliged to negotiate interconnection when others ask for it, and NRAs can impose, when necessary, obligations on an operator to facilitate interconnections. The obligations may be imposed only on objective, transparent, proportionate and non-discriminatory basis. Finally, NRAs can impose additional measures related to access on operators with SMP by the permission of the EU Commission. Likewise, the local loop unbundling regulation aims at facilitating access to the least competitive segments of the liberalized telecommunications market.<sup>90</sup> It is recognized that the new entry to the fixed line infrastructure is very difficult and that the existing infrastructures have been financed by means of state-controlled monopolies, using public funds. In the framework of Regulation No. 2887/2000, notified operators are obliged to meet reasonable requests for unbundled access to the local loop under transparent, fair and non-discriminatory conditions. According to the regulation, the NRAs have the responsibilities to identify 'notified operators' (NO) as those that have significant market power in fixed public telephone networks, to ask from NOs to publish a reference offer for unbundled access to their local loops and related facilities, and to supervise NOs with regard to a cost based pricing and a transparent, fair and nondiscriminatory unbundled access provision for other operators to the local loop.

Since, according to the EU *acquis*, only firms with SMP can be regulated, the same principle applies in the case of telecommunications services. National regulatory authorities are first supposed to define the relevant markets. In each relevant market, firms with SMP are to be determined. In case of SMP, price regulation needs to be implemented by the NRA. There are mainly two types of price regulation, namely price cap regulation and the rate of return (or cost plus) regulation. In case of price cap regulation, the regulator determines a 'reasonable price' for the base year and then for the following years follows a CPI inflation – x percent adjustment on the base years price. In contrast, the rate of return regulation has been found to have certain drawbacks. First, the NRAs are cautious about the cost figures reported by the firms, and secondly it is emphasized that for the firm there is little incentive to improve productivity and cut costs. The trend in the EU has been towards implementing price regulation based on long run incremental cost (LRIC) approach which reflects current costs of the facility used and creates incentives for incumbents to invest.

Universal Service is defined in the 2002 *acquis* as the provision of a defined minimum set of services to all end-users at affordable prices. The EU sees universal service as an obligation on its member states (Article 3.1 of the Universal Service Directive (USD)). However, care is taken not to distort the market mechanism while safeguarding the public interest (Article 3.2 of USD). Minimum service requirements in the USD can be summarized as provision of access to fixed telephone at every reasonable fixed location, directory enquiry services, public pay phones, special measures for disabled users, affordability of tariffs, adequate quality of services, and number portability. The USD imposes obligations on all undertakings, including the competitive ones, but there also are extra obligations imposed on firms with significant market power (Articles 16-19). Where NRAs consider that the universal service may represent an unfair burden on undertakings designated to provide universal service, the net costs of its provision should be calculated (Article 11), and a mechanism should be introduced in order to compensate that undertaking under transparent conditions from public funds and/or to share the net cost of universal service obligations between providers of communications services (Article 12).

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<sup>90</sup> OJ L 336, 30.12.2000, p.4.

## 2. REGULATORY FRAMEWORK IN TURKEY

In 1995 Türk Telekom (TT) was legally established as a state economic enterprise, which is a national monopoly with exclusive rights to all fixed line voice operations and all telecommunication infrastructure but mobile<sup>91</sup>. In addition, cable services are provided by TT, which is also responsible for the radio and television transmitters.

Recognizing that competition is the best way to ensure efficient operation and sufficient technological innovation to keep up with the pace of global change, and that regulation is vital, Turkey decided, as emphasized by Akdemir et al. (2005), to liberalize the telecommunications sector during the 1990's. Budget deficit and availability of limited funds for public investments in telecommunications was another fundamental reason for introducing liberalization. In 1998, the government sold two GSM<sup>92</sup> licenses to Telsim and Turkcell, by means of concession agreements, to operate their GSM 900 networks for 25 years in return for \$500 million from each. In April 2000 the Ministry of Transportation tendered two new GSM 1800 licenses by way of concession agreements. A third license was reserved for TT. But due to poor auction design only one of these licenses were sold. Revenue generated was above expectations. İşbank-Telecom Italia consortium (Aria) won the first auction by bidding US\$2.5 billion. This amount formed a minimum price for the second auction and hence attracted no bidders. Nevertheless, after the failure of the tender to privatize TT, TT decided to launch its own GSM 1800 operator, Aycell. As of the end of 2002 there were altogether four GSM operators Turkcell, Telsim, Aria and Aycell. Recently, the two small operators Aria and Aycell have merged due to poor regulation in national roaming, and Competition Authority approved the merger. The merger was completed under the name Avea by early 2004. The market shares of Turkcell, Telsim and Avea as of 2005 are 67 percent, 19 percent and 14 percent respectively.

### *2.1 Regulatory Reform*

During 2000 the Turkish Parliament approved the legislation to reform the telecommunications sector.<sup>93</sup> The new legislation initiated the process of deregulating the sector over the medium term. Competition for fixed line services was to be introduced over time. According to the bill fixed line liberalization was supposed to occur by the end of 2003, and at the time of liberalization mobile and value added services were to be made truly competitive. A regulatory authority called Telecommunications Authority (TA) was established in 2000. Concessions and licenses were to be issued by the Ministry of Transport while preparation of the documents was to be delegated to the regulator. Pricing would be a function of the regulatory body. After the enactment of the legislation the new regulatory board has been appointed and the decree setting up the authority was published in August 2000. The legislation further transformed TT into an independent joint-stock company subject to all provisions of Turkish Commercial Code in order to open its capital to private participation. On May 12, 2001 the Turkish Parliament passed the new Telecommunications Law, which aims to end state monopoly on land-line telecom services by privatizing most of TT before December 31, 2003.<sup>94</sup> The expiry date

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<sup>91</sup> Indeed, mobile services were provided between 1994-1998 by Turkcell and Telsim under the provisions of Revenue Sharing Contract signed individually between those undertakings and TT.

<sup>92</sup> GSM stands for 'Global System of Mobile Communication'.

<sup>93</sup> Law numbered 4502.

<sup>94</sup> Law numbered 4673.



for TT's monopoly is set as the date when the publicly owned shares of TT falls under 50 percent. The government is to keep a golden share. According to the law 99 percent of all outstanding shares can be sold to both Turkish and foreign investors, but the share of foreigners cannot exceed 45 percent of the outstanding shares<sup>95</sup>. Furthermore, according to the new Act concessions and licenses are to be issued by the regulatory authority.

With the latest amendments to the Telecommunications Law the main tasks and responsibilities of the TA consist of licensing operators in the telecommunications sector, setting administrative, financial and technical regulations, performing follow-up function of these regulations, issuing technical standards and testing the equipment in accordance with these standards, and implementing administrative and financial measures to those who break the rules and regulations.

During the last few years, TA has issued new service licenses in addition to the already granted concessions and licenses. 23 licenses for Satellite Telecommunication Services, 3 for Satellite Platform Services, 5 for GMPCS Mobile Telephony Services, 14 for Data Transmission Services over Fixed Lines, 91 for Internet Service Providers and 43 licenses for Long Distance and International Telephony Services have been granted so far. In addition Turk Telekom was authorized under its Authorization Agreement with the Authority to supply many different services such as public switched telephone network (PSTN), payphones, Cable TV, ISDN, ADSL, leased circuits, Internet service provision, etc., and to operate the telecommunications infrastructure. On the other hand, the three GSM operators provide data services such as SMS, WAP, GPRS, and MMS over intelligent networks, and services with added value such as geographical information, special invoicing, establishing virtual user platform, introduction of different structures for schedules of charge and options, voice-mail and GSM-mail.<sup>96</sup> These are considerable achievements. But liberalization of the telecommunications sector requires that licenses are issued not only to service providers, but also to network providers. In fixed line services Turk Telekom as of 2005 is still a monopoly. After the privatization of Turk Telekom the new company will still be a monopoly unless additional licenses will be issued to other network providers. Finally, it should be noted that the Turkish licensing regime is still not parallel to EU authorization regulation, since all telecommunication services and infrastructures are subject to a license, including services which do not need scarce resources like frequency and numbering.

The TA published the tariff regulation in August 2001, according to which tariffs will be cost based and 'price cap' formula will be applied for the services supplied by TT. TA determined the efficiency factor as 7.55 for the 2002-2003 period and as 3.98 for the 2004-2005 period.

In addition to tariff regulation, TA issued two crucial regulations regarding access regime, namely the Regulation on Access and Interconnection in May 2003 and the Regulation regarding Local Loop Unbundling in July 2004. The Communiqué entered into force by July 2005. To implement the Ordinance on Access and Interconnection, TA approved 'Principles and Procedures on Accounting Separation and Cost Accounting' in February 2004 with a transition period of two years so that operators having SMP can establish applicable accounting separation system in the meantime. The Communiqué regulating administrative, technical and legal issues on collocation and facility sharing was published in Official Gazette on December 31, 2003.

Apart from the above mentioned regulations, TA issued implementing regulations on designation of SMP, numbering, personal data protection and privacy as well as on Radio and Telecommunications Terminal Equipment, and drafted its framework regulation on rights of way and consumer rights. Implementing regulations and granting licensing towards achieving full compliance with the *acquis* reveal an appreciable level of harmonization on the part of Turkey. Despite progress, further efforts by the TA are essential to

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<sup>95</sup> Foreign ownership limitation is promulgated by the law numbered 5189 in 2004.

<sup>96</sup> GMPCS stands for 'Global Mobile Personal Communication by Satellite', ISDN for 'integrated services digital network', ADSL for 'asymmetric digital subscriber line', SMS for 'short message service', WAP for 'wireless application control', GPRS for 'general packet radio service', and MMS 'multimedia message service'.

bring the telecommunications regulatory framework fully in line with the *acquis*, which has also been confirmed by the 2004 Regular Report on Turkey's progress towards accession.<sup>97</sup>

On the other hand, a new legislation (No. 5369) was enacted in June, 2005 framing the universal services obligations. Though, Turkey has not adopted an application on universal service in line with EU framework described above. According to the current legislative framework, TT is obliged to provide pay phone, emergency call and directory services as universal service. But there isn't any obligatory requirement for other operators than TT and there is no funding mechanism for net costs of services provided by TT. A new draft law has been prepared by the Ministry of Transport, regulating the new scope of universal service and establishing a universal service fund to compensate the net costs of obligatory universal service providers.

## 2.2. Implementation

The purpose of this subsection is to discuss the problems encountered when trying to implement the new regulatory framework.

Interconnection: During the last five years a turf war was fought between TT and GSM operators Telsim and Turkcell. TA didn't intervene in this dispute until May 2003 when the Ordinance on Access and Interconnection came into effect. The Ordinance required that existing interconnection agreements be renewed. As a result, without any intervention by the TA the related operators found a solution and they agreed among themselves towards the end of 2003.

In the last quarter of 2004, TA has published the standard reference interconnection tariff for TT and GSM operators having SMP. While interconnection tariffs during the latter half of 2004 have been reduced for TT and GSM operators by 24 and 22 percent respectively, the interconnection tariffs were further reduced by 17 and 14 percent during the first nine months of 2005, and from October 2005 onwards by an additional 41 and 57 percent respectively. These are major developments in an economy where the dominant GSM operator is not a subsidiary of the incumbent operator. The new rates of interconnection and those of leased lines could facilitate the entry of new operators into the telecommunications sector, competition could increase and the newcomers could benefit from liberalization, if interconnection rates would be reduced further.<sup>98</sup> Competition in fixed networks will become more intense after the privatization of TT when TA will issue licenses to additional network providers. The increase in the number of alternative network operators as well as of service providers will decrease the market power of TT, and these in turn will lead to increases in productive efficiencies and hence to welfare gains in the economy. But the achievement of these objectives will certainly take time. Until such a competitive environment will be achieved, the Internet Service Provider (ISP) and GSM services and to a certain extent long distance telephone services will be the forerunners of the liberalization of the Turkish telecommunications sector.<sup>99</sup>

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<sup>97</sup> The conclusion of the 2004 Regular Report on Turkey's Progress towards Accession reads as follows: "*There is a certain level of alignment with the acquis. Full market liberalisation, including the removal of the de jure monopoly of Turk Telekom on voice telephony and infrastructure, was achieved at the end of 2003 in legal terms. Further efforts, however, are essential to complete the regulatory framework and to effectively implement and enforce the rules in relation to the large powerful companies that dominate the market at present. ... The progress achieved in some markets, such as mobile telephony or internet service provision could not be achieved in all telecommunications services...*"

<sup>98</sup> In 2004, national leased line tariffs of the incumbent operator, Turk Telekom, have been evaluated in detail and approved on the basis of cost orientation. In addition to the cost based tariffs, the national leased line market was separated as 'wholesale' and 'retail' which was a single market, before. After the approval of leased lines on the basis of cost-orientation, especially in field of long distance and for the requests of high-speed circuits, discounts reaching 50 percent have been achieved.

<sup>99</sup> This situation has also been raised in the 2004 Regular Report on Turkey's Progress Towards Accession by the Commission as follows: "*... The progress achieved in some markets, such as mobile telephony or internet service provision, could not be achieved in all telecommunication services. Therefore, Turkey*

Tariffs: Turkey has recently managed successfully the application of tariff rebalancing. TT's new tariff structure called SabitHATT offered up to 16 percent discounts at local, 45 percent discounts at national long distance and 80 percent discounts at international call prices. The new tariff structures took into account the past behavior of consumers, that had been formed within the monopolistically structured market conditions. TT was able to implement a fix price between € 6.4 and € 22 except for social tariff packages, and introduced also for the first time the monthly charge.

Privatization: The year 2004 was the turning point for telecommunications sector in Turkey. Following the Council of Minister Decree dated October 15, 2004 and no. 7931 55 percent of Turk Telekom shares was sold to the highest bidder Oger Telecoms Joint Venture Group on July 1, 2005.<sup>100</sup> During 2005 the controlling shares of Telsim, the second largest GSM operator of Turkey, will also be sold. These shares were taken over from the Uzan family by the government as a result of the take over of the Uzan owned Imar Bank by the Savings Deposit Insurance Fund (SDIF), following the discovery of an estimated US\$2.4 billion black hole in Imar Bank's finances. So, in 2005 GSM operator Telsim's shares will be sold by SDIF.

Licensing: Even though there is a delay in licensing, so far 43 long distance telephony service licenses have been granted to new entrants. TT has concluded interconnection agreement with 23 of them and a number of them started to provide services recently. It is expected that licensing will take further steps in 2006 and with the new draft law prepared by government the licensing regime will be harmonized to that of the *acquis*.

### 3. WELFARE EFFECTS

In the following when considering the welfare effects of integration, we abstract from explicit consideration of problems of implementation, and assume that once the *acquis* is adopted liberalization of the sector will be achieved. This is a simplification. But through this simplification the problem can be analyzed in two steps. First we study the linkages between regulatory regimes and performance indicators. Then we turn to the analysis of the effects of integration in the telecommunications sector on the Turkish economy. The rest of the section is organized as follows. While the first subsection is on the relation between regulatory regimes and performance indicators, the second subsection considers the restrictions prevailing in the telecommunications sector during 2005. Finally, the third subsection analyses the welfare effects of integration in the Turkish economy.

#### *3.1 Regulatory Regimes and Performance Indicators: Review of the Literature*

Table 1 provides an overview of the market and regulatory environment in selected EU countries and Turkey as they have prevailed in the telecommunications sector during the latter half of 1990's. The table reveals that entry conditions in trunk (domestic long distance), international and mobile services in Finland, Netherlands and United Kingdom had been substantially relaxed, while Turkey maintained legal monopoly conditions in

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*needs to take further steps in order to achieve genuine competition in all telecommunication markets*". See 2004 Regular Report on Turkey's Progress Towards Accession, p.128.

<sup>100</sup> The draft concession agreement was initialed by Turk Telekom and the Turkish Telecommunications Authority as per the tender process and the draft concession agreement will be reviewed by the Council of State before the completion and the transfer of shares.

trunk and international services. While full entry liberalization in UK occurred during the mid 1980's it was attained in Netherlands and Finland during the 1990's, and it was attained in Turkey only by 2004. While the EU countries did not impose any restrictions on the FDI flows, restrictions were widespread in Turkey. Moreover, experience shows that in the transition from monopoly to competition the incumbent public telecommunications operator (PTO) often maintained a competitive advantage which could be exploited to preserve a dominant position. While by 1998 the shares of the largest operators were relatively low in the case of Britain, a first mover country, the respective shares were higher in the case of late movers such as Netherlands. A similar pattern is observed in the case of public ownership. While the sector was transferred completely to the private sector by 1998 in UK, government ownership in the sector amounted to 78.8 percent in the case of Finland, 43.8 percent in the case of Netherlands and 100 percent in the case of Turkey. Furthermore, the table shows that price regulation is still widespread in the EU countries. While Finland does not regulate the retail prices, Netherlands and Britain use objective benchmarking in the case of voice telephony. On the other hand, Finland regulates interconnection charges by cost-based mechanisms. While Netherlands regulates interconnection charges in the case of trunk services, it does not regulate the international calls, and Britain uses objective benchmarking in the case of basic voice services and cost-based mechanisms in the case of mobile services. Finally, we note that in the three EU countries the regulators are independent from the legislative and executive bodies, acquiring a semi-judiciary role. Another interesting feature is that basic competencies are shared among a ministry department, the sectoral regulator and the competition authority. While the first two are in general jointly responsible for entry, prices, dispute resolution and consumer policy, the competition authority has exclusive competencies for merger activity and applying competition rules. On the other hand, Turkey by 1998 did not have an independent telecommunications regulator and all authority was vested in the ministry department. The regulatory authority in Turkey was established, as emphasized above, by the beginning of 2000's.

**TABLE 1: Country Data on European and Turkish Telecommunications, 1998**

	Finland	Netherland	United Kingdom	Turkey
<b>Regulation of entry and foreign investment</b>				
Legal conditions of Entry				
Trunk	Open	Open	Open	Licence, 1 firm
International	Open	Open	Open	Licence, 1 firm
Mobile	Limited by specturum	Limited by specturum	Limited by specturum	Limited by specturum
Year of liberalisation				
Trunk	1993	1997	1985	2004
International	1993	1997	1986	2004
Mobile	<1992	1995	1984	1997/98
Foreign investment				
Number of competitors	-	-	7	4
FDI restrictions	No	No	No	Yes
Restrictions concerning PTO	Yes	Yes	Yes	State control
<b>Market Structure</b>				
Basic voice telephony: trunk	20	3	>20	1
Number of license holders	55	80	76	100
Share of largest operator	40		10	0
Share of second largest operator				
Basic voice telephony: international				
Number of license holders	16	3	7	1
Share of largest operator	66	80	49	100
Share of second largest operator	24		16	0
Mobile cellular telephony: analogue				
Number of license holders	1	1	2	1
Share of largest operator	100	100		100
Share of second largest operator	0	0		0
Mobile cellular telephony: digital				
Number of license holders	2	6	4	2
Share of largest operator	69	64	34	75
Share of second largest operator	31	30		25
<b>Ownership and privatisation</b>				
Government ownership	78.8	43.8	0	100
Year of privatisation	1998	1994	1984	-
<b>Price Regulation</b>				
Basic Voice				
Retail prices	No regulation	Objective benchmark	Objective benchmark	Discretionary
Interconnection or access charges	Cost of the operator	Trunk: Cost of the operator Int.: no regulation	Objective benchmark	Cost of the operator
Mobile				
Retail prices	No regulation	No regulation		Objective benchmark
Interconnection or access charges	No regulation		Cost of the operator	
Mandatory requirement to publish the charges	Yes	Yes	Yes	No
<b>Independence of Regulatory Institutions</b>				
Regulatory Institutions	Independent Telecom. Regulator Competition Authority Ministry	Independent Telecom. Regulator Competition Authority Ministry	Independent Telecom. Regulator Competition Authority Ministry	Competition Authority Ministry Other
Division of Regulatory Responsibilities for Licensing				
Issuing License	Ministry	Independent Telecom. Regulator Ministry in the case of mobile	Ministry	Ministry
Oversight of License Requirements	Ministry	Independent Telecom. Regulator	Independent Telecom. Regulator + Ministry	Ministry
Approval of Merger	Competition Authority	Competition Authority	Independent Telecom. Regulator + Competition Authority	
Regulations on Interconnection				
Authorization of Interconnection Charges	Independent Telecom. Regulator	Independent Telecom. Regulator	Independent Telecom. Regulator	No authorization
Dispute Resolution	Independent Telecom. Regulator	Independent Telecom. Regulator	Independent Telecom. Regulator	Ministry
Regulations on Pricing	Competition Authority	Independent Telecom. Regulator	Independent Telecom. Regulator	Ministry
Regulations on Service Quality	Independent Telecom. Regulator	Independent Telecom. Regulator	Independent Telecom. Regulator	No monitoring

Note: In Turkey government ownership refers to ownership in telecommunications sector except mobile.  
Source: Boylaud and Nicoletti (2000) for Finland, Netherlands and United Kingdom, and own estimations for Turkey.

Boylaud and Nicoletti (2000), using data similar to those reported in table 1 for the 23 OECD economies over the period 1991-97, assess the effect of individual regulations and selected non-regulatory variables on measures of performance, for which they consider price, labor productivity and service quality. The authors note that the telecommunications sector is a heterogeneous service industry, and that its services include fixed voice services (e.g. local, domestic and international long distance telephony, and enhanced voice services), mobile services (mobile access, calls, and messaging services), internet services (e.g. dial-up and web hosting), data services (e.g. leased-lines, asynchronous transfer mode (ATM) services, public data network services), and content services (e.g. pay-TV, online information and entertainment). They aggregate these services into five sectors: local, trunk (domestic long distance), international, mobile (cellular) telephony, and all other services including leased-line, pay-TV, internet and data services. In their study they focus only on trunk, international, mobile and leased-line services and abstract from consideration in particular of local fixed voice telephony services, as the latter they emphasize is largely monopolistic in a vast majority of OECD countries. Using econometric techniques they then estimate the effect of different regulations and selected non-regulatory variables on telecommunications prices.<sup>101</sup> They obtain an average 'price' for each sector by dividing the total revenue collected in that sector by some measure of output by the sector (e.g. international call minutes). But for the trunk and leasing sectors revenue estimates were not publicly available. Instead they used tariff baskets published by the OECD to measure prices in those sectors, where the tariff baskets represent a weighted average of listed prices faced by consumers in each economy for different products and services in each sector used at different times of the day and week.

In their econometric models, Boylaud and Nicoletti (2000) include five variables characterizing the 'regulatory' environments that existed in the telecommunications industry in OECD economies: the market share of new entrants, an index of government control of the PTO, the degree of internationalization of domestic markets, the time to liberalization, and the time to privatization. They include the 'market share of new entrants' variable as an indicator of market structure and the extent of actual competition, and as a crude proxy for the ease of entry, which is an outcome of liberalization in telecommunication services. The 'index of government control' variable indicates the extent of public ownership of the PTO. The authors use the 'degree of internationalization of domestic markets' variable — the number of foreign telecommunications operators participating in joint ventures or other cooperation agreements with domestic operators in the domestic market — to approximate the entry restrictions faced by foreign firms and the extent of foreign investment. Noting that the announcement of new entry, or a change in the ownership structure of the PTO, may influence the level and mix of inputs, outputs and prices well in advance of the actual changes coming into effect, the authors included a 'time to liberalization' variable and a 'time to privatization' variable, which respectively measured the number of years to liberalization and privatization. In addition to regulatory variables the authors include three non-regulatory environmental variables in their models — a measure of capital

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<sup>101</sup> Boylaud and Nicoletti (2000) note that telecommunications prices are often two-part, consisting of a fixed charge that does not vary with use and a variable component that does. The variable component will often vary with, among other things, the type of service used, the length of use, the distance, and the time of day and week. Given these considerations, the authors note that some form of average price across the range of services provided in each sector is needed in order to undertake empirical work.

intensity, a measure of input costs and a price rebalancing indicator. The 'technology' variable used by the authors — total fixed telecommunications investment per mainline — is a proxy for capital intensity in the industry. Similarly, the 'economic structure' variable — total operating expenditure per mainline — was included as a measure of input costs on the grounds that prices will generally reflect the cost of inputs, such as labor, maintenance and other (non-capital) operating costs in the industry. Finally, the 'price rebalancing indicator', measured by the distance of price structure from that in the UK in 1998, was included to account for deviations between underlying costs and prices for individual telecommunications services.

Boylaud and Nicoletti (2000), investigating the linkages between regulatory regimes, market environments and performance in domestic long distance, international long distance, mobile telecommunications and leased-line services, conclude that liberalization of entry and the development of effective competition in telecommunications services lead to lower prices, higher productivity and better quality. An alternative, but in principle a similar approach was adopted by Warren (2000a), who considers four types of impediments to trade in telecommunications services: Restrictions on cross border trade, restrictions on establishment, restrictions on direct investment in fixed and mobile network services, and restrictions on ongoing operations. In each case Warren derives index values, where higher values indicate greater restrictions. While the index of restrictions to cross border trade captures policies that discriminate against all potential entrants (domestic and foreign) seeking to supply cross border telecommunications services, the index of restrictions on establishment captures policies that discriminate against all potential entrants (domestic and foreign) seeking to supply the telecommunications services via investment in the country.<sup>102</sup> The index of restrictions on direct investment is designed to capture policies that discriminate against potential foreign entrants seeking to supply telecommunications services via investment in the country. Finally, the index of restrictions on ongoing operations captures policies that discriminate against potential foreign entrants seeking to supply cross-border telecommunications services. Given the index values derived from an international survey undertaken by the International Telecommunications Union (1999) for 136 countries Warren (2000b) estimates first the impact of impediments to trade and investment in telecommunications services on the penetration of fixed and mobile telecommunications network and thereafter the price impact. The results are shown in table 2.

The table reveals that Finland and the United Kingdom follow liberal trade and investment policies in telecommunications sector. Assuming that Turkey with liberalization of telecommunications services will implement similar rules and regulations as those followed by Finland and United Kingdom, we note from Table 2 that with liberalization Turkish telecommunications prices will be reduced by 33.53 percent relative to the base case prices.

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<sup>102</sup> The index of restrictions on establishment is derived from scores to the questions: (i) Does competition operate in the market?, (ii) Does policy allow for competition in the market?, (iii) Is the incumbent privatised?

**TABLE 2 Restrictiveness Index Scores for Telecommunications Services**

	Restrictiveness Index						Price effect (percent)		
	Restrictions on establishment			Restrictions on ongoing operations			Restrictions on ongoing operations		
	Restrictions on direct investment in fixed and mobile network services	Restrictions on cross-border trade	Restrictions on ongoing operations total	Restrictions on cross-border trade	Restrictions on ongoing operations total	Restrictions on cross-border trade	Restrictions on ongoing operations total	Price Effect	
Austria	0.1333	0.1333	0.0000	0.0000	0.1333	0.8480	0.8480	0.0000	0.8480
Belgium	0.1334	0.1334	0.0667	0.0667	0.2001	0.8710	0.8710	0.4353	1.3063
Denmark	0.0333	0.0333	0.0000	0.0000	0.0333	0.1985	0.1985	0.0000	0.1985
Finland	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
France	0.2100	0.2100	0.0000	0.0000	0.2100	1.4298	1.4298	0.0000	1.4298
Germany	0.0493	0.0493	0.0000	0.0000	0.0493	0.3195	0.3195	0.0000	0.3195
Greece	0.1609	0.1609	0.3000	0.3000	0.4609	1.5778	1.5778	2.9424	4.5202
Ireland	0.3533	0.3533	0.0000	0.0000	0.3533	2.6655	2.6655	0.0000	2.6655
Italy	0.1369	0.1369	0.0000	0.0000	0.1369	1.0019	1.0019	0.0000	1.0019
Luxembourg	0.1667	0.1667	0.0000	0.0000	0.1667	1.0458	1.0458	0.0000	1.0458
Netherlands	0.0300	0.0300	0.0000	0.0000	0.0300	0.2025	0.2025	0.0000	0.2025
Portugal	0.1100	0.1100	0.4000	0.4000	0.5100	1.3473	1.3473	4.8992	6.2465
Spain	0.1793	0.1793	0.2333	0.2333	0.4127	1.7099	1.7099	2.2247	3.9346
Sweden	0.1000	0.1000	0.0000	0.0000	0.1000	0.6530	0.6530	0.0000	0.6530
United Kingdom	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Turkey	0.3987	0.3987	0.4000	0.4000	0.7987	16.7384	16.7384	16.7944	33.5328

Note: The restrictiveness index scores range from 0 to 1. The higher the score, the greater are the restrictions for an economy.

Source: Warren, T. (2000)



### *3.2. Restrictions on the Telecommunications Services during 2005*

To estimate the ad valorem equivalent of barriers to the telecommunications services sector in Turkey prevailing during 2005 we calculate the restrictiveness index following an approach similar to that of McGuire and Schuele (2000) and Kimura et al. (2003). Tables 3-5 show for fixed line, mobile services and internet services respectively the restriction categories, weights for them, and scoring for each category. The weights show the importance of the category in terms of how significantly the restriction of the category would limit service suppliers from entering or operating in the market. The sum of weights for all categories is 1. A score with a range from 0 (least restrictive) to 1 (most restrictive) is assigned for each category, according to the degree of restrictiveness, so that the score reflects the type of restriction imposed by the economy.

In Table 3-5 the restriction categories are classified into 'restrictions on commercial presence' and 'other restrictions'. In the case of fixed line, mobile and internet services the 'restrictions on commercial presence' include 'licensing of fixed line services', 'form of commercial presence', 'direct investment: Equity participation permitted', 'direct investment: restrictions on certain types of services', 'joint venture arrangements', and 'permanent movement of people'. On the other hand 'other restrictions' in the case of fixed line services include 'third party resale of lease line', 'end user tariff', 'regulation of network interconnection', 'market structure' 'composition of board of directors', and 'temporary movement of people'. In the case of mobile services 'other restrictions' include 'allocation of radio spectrum' instead of 'third party resale of lease line' in the case of fixed line services, and in the case of internet services 'other restrictions' include 'infrastructure' instead of 'third party resale' and 'end user tariff' of fixed line services. Among restrictions 'licensing of fixed line services' and 'direct investment: equity participation permitted' have a weight of 20 percent each. These weights indicate that those barriers are the most important ones.

**TABLE 3 The foreign restrictiveness index: restrictions on the fixed line sector in Turkey, 2005**

Weight	Scoring	Score Chosen	Category
<b>Restrictions on Commercial Presence</b>			
0.20			Licensing of fixed line services
	1.00	1.00	(a) Regional Line Service
	0.75		No new license allowed
	0.20		Licenses are issued through complicated (discriminately) and costly procedures
	0.10		Licenses are generally issued with application fee and several requirements
	0.00		Licenses are generally issued with application fee
	0.00		Licenses are automatically issued upon application without any cost
	1.00		(b) Domestic Long Distance Line Service
	0.75		No new license allowed
	0.20	0.20	Licenses are issued through complicated (discriminately) and costly procedures
	0.10		Licenses are generally issued with application fee and several requirements
	0.00		Licenses are generally issued with application fee
	0.00		Licenses are automatically issued upon application without any cost
	1.00		© International Line Service
	0.75		No new license allowed
	0.20	0.20	Licenses are issued through complicated (discriminately) and costly procedures
	0.10		Licenses are generally issued with application fee and several requirements
	0.00		Licenses are generally issued with application fee
	0.00		Licenses are automatically issued upon application without any cost
0.10			Form of Commercial Presence
	1.00	1.00	(a) Regional Line Service
	0.00		Measures which restrict or require a specific type of establishment
	0.00		No restriction on establishment
	1.00		(b) Domestic Long Distance Line Service
	0.00	0.00	Measures which restrict or require a specific type of establishment
	0.00		No restriction on establishment
	1.00		© International Line Service
	0.00	0.00	Measures which restrict or require a specific type of establishment
	0.00		No restriction on establishment
0.20		0.00	Direct Investment: equity participation permitted
			The score is inversely proportional to the maximum equity participation permitted in an existing domestic company
0.10			Direct Investment: restrictions on certain types of services
	1.00		Restrictions on providing some types of telephone services
	0.00	0.00	No restrictions on providing any type of telephone services
0.10			Joint venture arrangements
	1.00		Issues no new licence and no entry is allowed through a joint venture with a domestic company
	0.50		Foreign company can enter only through a joint venture with a domestic company
	0.00	0.00	No requirement for foreign companies to enter through a joint venture with a domestic company
0.02			Permanent movement of people
	1.00		No entry of executives, senior managers and/or specialists
	0.80		Executives, specialists and/or senior managers can stay up to 1 year
	0.60		Executives, specialists and/or senior managers can stay up to 2 years
	0.40		Executives, specialists and/or senior managers can stay up to 3 years
	0.20		Executives, specialists and/or senior managers can stay up to 4 years
	0.00	0.00	Executives, specialists and/or senior managers can stay a period of 5 years or more
<b>Other Restrictions</b>			
0.10			Third party resale of lease line
	1.00		Resale is not permitted
	0.00	0.00	Resale is permitted in any market
0.05			End user tariff
	1.00		End user tariff is determined by rate of return regulation
	0.50	0.50	End user tariff is determined by price cap established by the authority
	0.00		End user tariff is determined by market force (no regulation)
0.05			Regulation of network interconnection
	1.00		Interconnection is completely regulated by the authority
	0.50	0.50	Interconnection is determined by private negotiations in general, but general terms are determined by the authority
	0.00		Interconnection is completely determined by private negotiations (no regulation)

Weight	Scoring	Score	
		Chosen	Category
0.05			Market structure
			(a) Regional Line Service
	1.00	1.00	Monopoly
	0.00		Competition among plural providers
			(b) Domestic Long Distance Line Service
	1.00		Monopoly
	0.00	0.00	Competition among plural providers
			(c) International Line Service
	1.00		Monopoly
	0.00	0.00	Competition among plural providers
0.02			Composition of board of directors
		0.00	The score is inversely proportional to the percentage of the board that can comprise foreigners
0.01			Temporary Movement of People
	1.00		No temporary entry of executives, senior managers and/or specialists
	0.75		Temporary entry of executives, specialists and/or senior managers up to 30 days
	0.50		Temporary entry of executives, specialists and/or senior managers up to 60 days
	0.25		Temporary entry of executives, specialists and/or senior managers up to 90 days
0.00	0.00		Temporary entry of executives, specialists and/or senior managers over 90 days

Source: Kimura et al. (2003)

**TABLE 4 The foreign restrictiveness index: restrictions on the mobile services in Turkey, 2005**

Weight	Scoring	Score Chosen	Category
<b>Restrictions on Commercial Presence</b>			
0.20	1.00		Licensing of mobile phone services
	0.75		No new license allowed
	0.20	0.20	Licenses are issued through complicated (discriminately) and costly procedures
	0.10		Licenses are generally issued with application fee and several requirements
	0.00		Licenses are generally issued with application fee
			Licenses are automatically issued upon application without any cost
0.10	1.00		Form of Commercial Presence
	0.00	0.00	Measures which restrict or require a specific type of establishment
			No restriction on establishment
0.20			Direct Investment: equity participation permitted
		0.00	The score is inversely proportional to the maximum equity participation permitted in an existing domestic company
0.10			Direct Investment: restrictions on certain types of services
	1.00		Restrictions on providing some types of telephone services
	0.00	0.00	No restrictions on providing any type of telephone services
0.10			Joint venture arrangements
	1.00		Issues no new licence and no entry is allowed through a joint venture with a domestic company
	0.50		Foreign company can enter only through a joint venture with a domestic company
	0.00	0.00	No requirement for foreign companies to enter through a joint venture with a domestic company
0.02			Permanent movement of people
	1.00		No entry of executives, senior managers and/or specialists
	0.80		Executives, specialists and/or senior managers can stay up to 1 year
	0.60		Executives, specialists and/or senior managers can stay up to 2 years
	0.40		Executives, specialists and/or senior managers can stay up to 3 years
	0.20		Executives, specialists and/or senior managers can stay up to 4 years
	0.00	0.00	Executives, specialists and/or senior managers can stay a period of 5 years or more
<b>Other Restrictions</b>			
0.05			Regulation of interconnection between fixed line and mobile or between mobiles
	1.00		Interconnection is completely regulated by the authority
	0.50	0.50	Interconnection is determined by private negotiations in general, but general terms are determined by the authority
	0.00		Interconnection is completely determined by private negotiations (no regulation)
0.10			End user tariff
	1.00		End user tariff is determined by rate of return regulation
	0.50		End user tariff is determined by price cap established by the authority
	0.00	0.00	End user tariff is determined by market force (no regulation)
0.05			Allocation of radio spectrum
	1.00		Allocation is discriminately decided by the authority
	0.20		Allocated by auction with application fee
	0.10		Allocated by auction without application fee
	0.00	0.00	Radio frequencies are obtained with mobile services
0.05			Market structure
	1.00		Monopoly
	0.00	0.00	Competition among plural providers
0.02			Composition of board of directors
		0.00	The score is inversely proportional to the percentage of the board that can comprise foreigners
0.01			Temporary Movement of People
	1.00		No temporary entry of executives, senior managers and/or specialists
	0.75		Temporary entry of executives, specialists and/or senior managers up to 30 days
	0.50		Temporary entry of executives, specialists and/or senior managers up to 60 days
	0.25		Temporary entry of executives, specialists and/or senior managers up to 90 days
	0.00	0.00	Temporary entry of executives, specialists and/or senior managers over 90 days

Source: Kimura et al. (2003)

**TABLE 5 The foreign restrictiveness index: restrictions on internet services in Turkey, 2005**

Weight	Scoring	Score Chosen	Category
<b>Restrictions on Commercial Presence</b>			
0.20	1.00		Licensing of internet services
	0.75		No new license allowed
	0.20		Licenses are issued through complicated (discriminately) and costly procedures
	0.10	0.10	Licenses are generally issued with application fee and several requirements
	0.00		Licenses are generally issued with application fee
			Licenses are automatically issued upon application without any cost
0.10	1.00		Form of Commercial Presence
	0.00	0.00	Measures which restrict or require a specific type of establishment
			No restriction on establishment
0.20			Direct Investment: equity participation permitted
		0.00	The score is inversely proportional to the maximum equity participation permitted in an existing domestic company
0.10	1.00		Direct Investment: restrictions on certain types of services
	0.00	0.00	Restrictions on providing some types of internet services
			No restrictions on providing any type of internet services
0.10	1.00		Joint venture arrangements
	0.50		Issues no new licence and no entry is allowed through a joint venture with a domestic company
	0.00	0.00	Foreign company can enter only through a joint venture with a domestic company
			No requirement for foreign companies to enter through a joint venture with a domestic company
0.02	1.00		Permanent movement of people
	0.80		No entry of executives, senior managers and/or specialists
	0.60		Executives, specialists and/or senior managers can stay up to 1 year
	0.40		Executives, specialists and/or senior managers can stay up to 2 years
	0.20		Executives, specialists and/or senior managers can stay up to 3 years
	0.00	0.00	Executives, specialists and/or senior managers can stay up to 4 years
			Executives, specialists and/or senior managers can stay a period of 5 years or more
<b>Other Restrictions</b>			
0.10	1.00		Regulation of interconnection agreements among internet service providers
	0.50		Interconnection is completely regulated by the authority
			Interconnection is determined by private negotiations in general, but general terms are determined by the authority
	0.00	0.00	Interconnection is completely determined by private negotiations (no regulation)
0.10	1.00	1.00	Infrastructure
	0.50		Providers are not allowed to either built their own network or own/lease their international data gateways
	0.00		Providers are allowed to built their own network or own/lease their international data gateways
			Providers are allowed to built their own network as well as own/lease their international data gateways
0.05	1.00		Market structure
	0.00	0.00	Monopoly
			Competition among plural providers
0.02			Composition of board of directors
		0.00	The score is inversely proportional to the percentage of the board that can comprise foreigners
0.01	1.00		Temporary Movement of People
	0.75		No temporary entry of executives, senior managers and/or specialists
	0.50		Temporary entry of executives, specialists and/or senior managers up to 30 days
	0.25		Temporary entry of executives, specialists and/or senior managers up to 60 days
	0.00	0.00	Temporary entry of executives, specialists and/or senior managers up to 90 days
			Temporary entry of executives, specialists and/or senior managers over 90 days

Source: Kimura et al. (2003)

The tables reveal that in Turkey as of 2005 there are no restrictions on direct investments and on permanent movement of people. Comparing the restrictions in fixed line, mobile and internet services we note that there are fewer restrictions in mobile and internet services than in fixed line services.

Table 6 shows the foreign restrictiveness index (FR) values for Turkish fixed line, mobile and internet services. The FR value equals 0.193 in the case of fixed line, 0.165 in the case of mobile, and 0.12 in the case of internet services. To convert these index values into tariff equivalents we use coefficients presented by Warren (2000b) that estimate quantity impact and tariff equivalents of restrictions on fixed line and mobile service sectors. The regression results obtained by Warren (2000b) for fixed line services and mobile services are presented in Table 7. In the table the penetration rate of fixed network (mainlines per 100 inhabitants denoted by  $q_f$ ) is regressed on GDP per capita ( $y$ ), household density (number of households per square km denoted by  $hd$ ), percent of mainlines connected to digital exchange ( $dshare$ ), waiting list as percent of total demand

for mainlines (wait), population density (number of persons per square km denoted by pd) and measure of trade policy ( $p_f$ ). On the other hand the penetration rate of the mobile network (cellular phones per 100 inhabitants denoted by  $q_m$ ) is regressed on  $y$ , pd, and measure of trade policy ( $p_m$ ).

**TABLE 6 The estimated restrictiveness indexes**

Weight	Estimated score (FR index)	Category
<b>Fixed Line</b>		
<b>Restrictions on Commercial Presence</b>		
0.20	0.093	Licensing of fixed line services
0.10	0.033	Form of Commercial Presence
0.20	0.000	Direct Investment: equity participation permitted
0.10	0.000	Direct Investment: restrictions on certain types of services
0.10	0.000	Joint venture arrangements
0.02	0.000	Permanent movement of people
<b>Other Restrictions</b>		
0.10	0.000	Third party resale of lease line
0.05	0.025	End user tariff
0.05	0.025	Regulation of network interconnection
0.05	0.017	Market structure
0.02	0.000	Composition of board of directors
0.01	0.000	Temporary Movement of People
<i>Index Value</i>	0.193	
<b>Mobile Services</b>		
<b>Restrictions on Commercial Presence</b>		
0.20	0.040	Licensing of mobile phone services
0.10	0.000	Form of Commercial Presence
0.20	0.000	Direct Investment: equity participation permitted
0.10	0.000	Direct Investment: restrictions on certain types of services
0.10	0.000	Joint venture arrangements
0.02	0.000	Permanent movement of people
<b>Other Restrictions</b>		
0.05	0.025	Regulation of interconnection between fixed line and mobile or between mobiles
0.10	0.000	End user tariff
0.05	0.000	Allocation of radio spectrum
0.05	0.000	Market structure
0.02	0.000	Composition of board of directors
0.01	0.000	Temporary Movement of People
<i>Index Value</i>	0.065	
<b>Internet Services</b>		
<b>Restrictions on Commercial Presence</b>		
0.20	0.020	Licensing of internet services
0.10	0.000	Form of Commercial Presence
0.20	0.000	Direct Investment: equity participation permitted
0.10	0.000	Direct Investment: restrictions on certain types of services
0.10	0.000	Joint venture arrangements
0.02	0.000	Permanent movement of people
<b>Other Restrictions</b>		
0.10	0.000	Regulation of interconnection agreements among internet service providers
0.10	0.100	Infrastructure
0.05	0.000	Market structure
0.02	0.000	Composition of board of directors
0.01	0.000	Temporary Movement of People
<i>Index Value</i>	0.120	

**TABLE 7 The estimate results for the fixed line and mobile penetration models**

Dependent variable for the fixed penetration model: mainlines per 100 inhabitants

Dependent variable for the mobile penetration model: cellular mobile subscribers per 100 inhabitants

	The fixed penetration model		The mobile penetration model	
	Coefficient	Standard error	Coefficient	Standard error
Constant	12.26	2.66	-1.3	0.7
GDP per capita (y)	0.004	0.0003	0.0008	0.00005
y <sup>2</sup>	-6.30E-08	0.0	-1.90E-09	0.0
y <sup>3</sup>	1.30E-13	0.0		
Household density (hd)	0.003	0.003		
Waiting list (wait)	-0.08	0.05		
Digitized network share (dshare)	-0.13	0.03		
Population density (pd)			0.001	0.0006
Policy variable (1-FR index)	5.26	3.11		
Adjusted R-squared	0.89		0.78	

Source: Warren 2000b, Model 5 in Table 6.5 and Model 7 in Table 6.6)

Denoting the value of the trade policy variable under full liberalized policy approach by  $p_i^*$ , the associated value of the dependent variable by  $q_i^*$  and the price elasticity of demand by  $\eta_i$  ( $i = f, m$ ) we note that

$$\frac{q_f^* - q_f}{q_f} = \eta_f \left[ \frac{p_f^* - p_f}{p_f} \right] \quad \text{and} \quad \frac{q_m^* - q_m}{q_m} = \eta_m \left[ \frac{p_m^* - p_m}{p_m} \right].$$

Hence, the tariff equivalents ( $TE_i$ ) are obtained as

$$\left[ \frac{p_f^* - p_f}{p_f} \right] 100 = TE_f \quad \text{and} \quad \left[ \frac{p_m^* - p_m}{p_m} \right] 100 = TE_m. \quad ^{103}$$

Based on these equations we calculate ad valorem tariff equivalents of restrictions prevailing during 2005 in the fixed line services as 2.7 percent, in mobile services as 3.43 percent and in internet services as 1.64 percent.<sup>104</sup> The tariff equivalent of restrictions in the telecommunications sector obtained as weighted average of the tariff equivalents of restrictions in fixed line, mobile, and internet services weighted by sectoral employment levels is then 2.74 percent. The calculations reveal that Turkish telecommunications sector as of 2005 is quite liberal, but that further efforts are needed for complete liberalization of the sector.

<sup>103</sup> When calculating the values of  $q_i$ ,  $q_i^*$  and  $TE_i$  ( $i = f, m$ ) we use the following values for the variables:  $y = \text{US\$ } 4210$ ,  $hd = 19.2$ ,  $wait = 2.62$  percent,  $dshare = 0.9$ ,  $\eta = -1.2$  and policy variable  $p = (1 - FR)$ . The values of the parameters are obtained from the World Bank (2005), OECD (2005) and International Telecommunications Union. On the other hand we get the FR values from Table 6, the FR values under full liberalization from Table 2 for UK and Finland, and the value of the price elasticity of demand  $\eta$  from Albon et al. (1997).

<sup>104</sup> On the calculation of tariff equivalents see Kimura (2003) and Dee (2003).

### *b. Implications of EU Accession*

To study the economic effects of EU integration in the telecommunications sector we compare the situation of the Turkish economy in the base case with the case when Turkey adopts and implements in the telecommunications sector all of the rules and regulations of the EU. As the 'base case' we consider the Turkish economy with rules and regulations as they have prevailed during the latter half of 1990's, when Turkey did not introduce the EU rules and regulations in the telecommunications sector. Here we base our analysis of the linkages between regulatory regimes and performance indicators of Table 2. From the table we learn that Finland and the United Kingdom follow liberal trade and investment policies in telecommunications sector. We then assume that Turkey with liberalization implements similar rules and regulations as those followed by Finland and United Kingdom. Table 2 then reveals that with liberalization Turkish telecommunications prices will be reduced by 33.53 percent relative to the base case prices.

Given the change in the price of telecommunications resulting from the change in Turkish regulatory regime one can compute the change in Turkish consumer surplus as a measure of the welfare effect of EU integration from information on the consumer demand schedule for telecommunications. But telecommunications is an intermediate good for business users that is used in the production of other commodities. Hence, prices of other commodities in the economy will change as a result of the change in the price of telecommunications. To study the welfare effects of EU integration one has to consider not only the change in consumer surplus due to the change in price of telecommunications but also the changes in consumer surpluses due to the changes in the prices of other commodities.

To analyse the effect of the change in the price of telecommunications on the prices of other commodities we consider the 1996 Input-Output Table of the Turkish economy which has 97 sectors. Telecommunications is sector 83. Let  $A$  be the  $97 \times 97$  matrix of input coefficients. Given  $A$ , form the  $96 \times 96$  input matrix  $B$  by deleting the  $83^{\text{rd}}$  column and  $83^{\text{rd}}$  row referring to the telecommunications sector. Denote the  $83^{\text{rd}}$  row where the  $83^{\text{rd}}$  column element has been deleted by  $e$ . Let  $p$  be the  $1 \times 96$  price vector of the 96 commodities excluding the telecommunications sector and  $va$  the corresponding  $1 \times 96$  unit gross value added vector. The price equation can be written as

$$p = p B + p_t e + va.$$

where  $p_t$  denotes the price of the telecommunications services. Hence we have

$$p = p_t e (I-B)^{-1} + va (I-B)^{-1}$$

Thus, given the price of telecommunications that will prevail in Turkey after it adopts and implements the EU rules and regulations,  $p_t$ , we determine the equilibrium prices of the other 96 commodities from the above equation assuming that there is no change in the unit gross value added vector  $va$ . Given the equilibrium price vector  $p$  form the  $1 \times 97$  price vector as  $\pi = (p \ p_t)$ . Let  $CON$  be the  $96 \times 1$  consumption expenditure vector obtained from the 1996 input-output table by deleting the value of consumption of telecommunications sector and  $con_t$  the value of consumption of telecommunications services. Form the  $97 \times 1$  consumption vector as



$$CONS = \begin{bmatrix} CON \\ con_t \end{bmatrix}.$$

Noting that initially all base year prices equal unity we can express the value of total consumption expenditure evaluated at base prices as

$$C = u \text{ CONS}$$

where  $u$  denotes the  $1 \times 97$  unit vector. The value of total consumption expenditure evaluated at the prices that will prevail after Turkey adopts and implements the EU rules and regulations in the telecommunications sector is then given by

$$C^* = \pi \text{ CONS}$$

The effect on consumer welfare can now be calculated as

$$(C - C^*) \times 100 / C^*.<sup>105</sup>$$

Note that this measure of the change in consumer welfare gives a downward biased estimate of the welfare effect as we do not consider the increases in consumer demands for the different commodities with the decreases in the prices of these commodities. But such an estimate would require the use of price elasticities of demand for the 97 commodities of the input-output table, which we did not have at our disposal. Thus, the welfare gain will have to be higher than the figure given by the estimate we present in this paper.

By construction, prices in 1996, the year the input-output table has been constructed for, are all unity in the input-output table. We assume that with the adoption of the EU rules and regulations in the telecommunications sector, telecommunications price will decrease by 33.53 percent. Hence, with the new price of telecommunications we observe that the welfare of the society will increase by 0.587 percent. Thus, the effect of the adoption of EU rules and regulations in the telecommunications sector similar to those of Finland and United Kingdom amounts to US\$ 1.12 billion annual increase in the real income of the Turkish consumers. Since during 1996 consumption formed 72.95 percent of GDP, the percentage change in welfare of the society is equivalent to 0.428 percent increase in real GDP. Finally, we note that as of 2005 Turkey has adopted most of the EU rules and regulations in the telecommunications sector. With further alignment of these rules and regulations to those of the EU and strict implementation of these rules and regulations by TA Turkey could derive the welfare gains calculated above.

Since the estimates of the price wedges due to service barriers are the key parameters determining the welfare effects of services liberalization in the above calculations we compare our estimates of tariff equivalents with estimates from other sources. Figures 1 and 2 show respectively the telecommunications prices for business and residential customers in selected countries. Table 3 on the other hand shows the OECD basket of international telephone charges during November 2001. The figures and the table reveal that the price wedge implicit in these figures are much larger than the figure of 33.5 percent we have used in our calculations.<sup>106</sup>

<sup>105</sup> Note that this approach determines the equivalent variation in consumer' income.

<sup>106</sup> The implicit price wedge is derived from the relation  $p = p^* (1 + t)$  where  $p$  refers to the Turkish price,  $p^*$  the best practice price in the EU, and  $t$  is the price wedge parameter.

Thus our estimates of price wedge in the telecommunications sector is rather conservative and our estimate of the effects of liberalization in telecommunications services gives the lower bound of the welfare gains derived in the sector.

**TABLE 3 The foreign restrictiveness index: restrictions on the fixed line sector in Turkey, 2005**

Weight	Scoring	Score Chosen	Category
<b>Restrictions on Commercial Presence</b>			
0.20			Licensing of fixed line services
		1.00	(a) Regional Line Service
	1.00		No new license allowed
	0.75		Licenses are issued through complicated (discriminately) and costly procedures
	0.20		Licenses are generally issued with application fee and several requirements
	0.10		Licenses are generally issued with application fee
	0.00		Licenses are automatically issued upon application without any cost
		0.20	(b) Domestic Long Distance Line Service
	1.00		No new license allowed
	0.75		Licenses are issued through complicated (discriminately) and costly procedures
	0.20		Licenses are generally issued with application fee and several requirements
	0.10		Licenses are generally issued with application fee
	0.00		Licenses are automatically issued upon application without any cost
		0.20	(c) International Line Service
	1.00		No new license allowed
	0.75		Licenses are issued through complicated (discriminately) and costly procedures
	0.20		Licenses are generally issued with application fee and several requirements
	0.10		Licenses are generally issued with application fee
	0.00		Licenses are automatically issued upon application without any cost
0.10			Form of Commercial Presence
		1.00	(a) Regional Line Service
	1.00		Measures which restrict or require a specific type of establishment
	0.00		No restriction on establishment
		0.00	(b) Domestic Long Distance Line Service
	1.00		Measures which restrict or require a specific type of establishment
	0.00		No restriction on establishment
		0.00	(c) International Line Service
	1.00		Measures which restrict or require a specific type of establishment
	0.00		No restriction on establishment
0.20		0.00	Direct Investment: equity participation permitted
			The score is inversely proportional to the maximum equity participation permitted in an existing domestic company
0.10		0.00	Direct Investment: restrictions on certain types of services
	1.00		Restrictions on providing some types of telephone services
	0.00		No restrictions on providing any type of telephone services
0.10		0.00	Joint venture arrangements
	1.00		Issues no new licence and no entry is allowed through a joint venture with a domestic company
	0.50		Foreign company can enter only through a joint venture with a domestic company
	0.00		No requirement for foreign companies to enter through a joint venture with a domestic company
0.02		0.00	Permanent movement of people
	1.00		No entry of executives, senior managers and/or specialists
	0.80		Executives, specialists and/or senior managers can stay up to 1 year
	0.60		Executives, specialists and/or senior managers can stay up to 2 years
	0.40		Executives, specialists and/or senior managers can stay up to 3 years
	0.20		Executives, specialists and/or senior managers can stay up to 4 years
	0.00		Executives, specialists and/or senior managers can stay a period of 5 years or more
<b>Other Restrictions</b>			
0.10			Third party resale of lease line
	1.00		Resale is not permitted
	0.00	0.00	Resale is permitted in any market
0.05			End user tariff
	1.00		End user tariff is determined by rate of return regulation
	0.50	0.50	End user tariff is determined by price cap established by the authority
	0.00		End user tariff is determined by market force (no regulation)
0.05			Regulation of network interconnection
	1.00		Interconnection is completely regulated by the authority
	0.50	0.50	Interconnection is determined by private negotiations in general, but general terms are determined by the authority
	0.00		Interconnection is completely determined by private negotiations (no regulation)

On the other hand considering the studies on the measurement of services trade barriers we note that there are very few studies on Turkey. One such study has been conducted by Hoekman (1996) who uses information contained in the country schedules of the General Agreement on Trade in Services (GATS). Hoekman's estimates for Turkey are 92.9 percent in the basic telecommunications sector and 42.9 percent in the value added telecommunications sector.<sup>107</sup> But these estimates have, as emphasized by Stern (2002), certain drawbacks. First, the method assumes that the absence of positive country commitments in the GATS schedules can be interpreted as indicating the presence of restrictions. Second, the different types of restrictions are given equal weight and are not distinguished according to their economic impact. Finally, the method assumes that market access restrictions are the only type of barriers to trade in services.

#### 4. IMPLICATIONS FOR OTHER DEVELOPING COUNTRIES

Although the primary interest in this paper is to assess what liberalization of the telecommunications sector may mean for Turkey by following the EU approach, the Turkish case is also relevant for other countries that may seek to use a strategy of “deep integration” with the EU as a focal point and mechanism for undertaking both trade-related and regulatory reforms.<sup>108</sup>

A first lesson is that the prospect of accession is not a panacea. In Turkey, accession was already being discussed in the 1960s—what matters are the autonomous decisions on economic policy that are made by governments. Very little progress was made to converge towards EU norms until the early 1990s. A second lesson derived from the Turkish experiment is that much of what is associated with accession can be pursued by countries that will not be able, and may not desire, to accede. The EU *Acquis* is a public good in the sense that any country can avail itself of the body of legislation and regulation. What matters is implementation, which in turn requires commitment and the relevant institutions to apply the standards. The regular monitoring and interaction between the Commission and the partner government, facilitated by the provision of

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<sup>107</sup> Hoekman (1996) constructs frequency ratios on the basis of commitments scheduled in the GATS. He considers the four modes of supply of the GATS: (i) cross-border supply where a service is supplied from a supplier's country of residence to a consumer's country of residence, (ii) consumption abroad where a service is supplied through the movement of a consumer to a supplier's country of residence, (iii) commercial presence where a service is supplied through the movement of a commercial organization to a consumer's country of residence, and (iv) presence of natural person where a service is supplied through the movement of a natural person to a consumer's country of residence. He classifies the GATS commitments into three categories, and assigns a numerical score to each category: (i) if no restrictions are applied for a given mode of supply in a given sector, a value of 1 is assigned, (ii) if no policies are bound for a given mode of supply in a given sector, a value of 0 is assigned, and (iii) if restrictions are listed for a given mode of supply in a given sector, a value of 0.5 is assigned. Since there are 155 non-overlapping service sectors in the GATS classification list, and for each sector there are four possible modes of supply, a total of 620 such openness/binding factors exist for each member country. Using these factors, Hoekman calculates frequency ratios to approximate the relative degree of restrictiveness of market access barriers to services trade across countries. He then establishes a judgemental set of benchmark tariff equivalents for individual sectors to reflect the degree to which market access to these sectors are restricted. He assigns a value to each country and sector using the benchmarks multiplied by the calculated frequency ratio. Thus, if the most restrictive country worldwide had restrictions equivalent to a 50 percent tariff, then a country with a 0.9 frequency ratio, would have a tariff equivalent of 45 percent (i.e. 0.9 times 50).

<sup>108</sup> This section is based largely on Hoekman and Togan (2005).

technical and financial assistance, can help maintain progress. However, accession does not have to be part of the equation for countries to obtain such assistance—a very similar structure is available in the form of Association and Economic Partnership Agreements that numerous countries have signed with the EU.<sup>109</sup> But it is an open question to what extent trade agreements that do *not* involve the prospect of accession could assist countries that desire to pursue an investment and services liberalization agenda.<sup>110</sup>

## 5. CONCLUSION

The message of the paper is that there is tremendous scope for Turkey to benefit from adopting and implementing the legislative, regulatory and institutional framework of the EU telecommunications sector. Turkey by adopting and implementing the legislative, regulatory and institutional framework of the EU telecommunications sector will lead to an increase in competition in Turkish telecommunications sector. This will lower the telecommunications prices by about 33.5 percent, which in turn will lead to an increase in the GDP of the society by 0.428 percent. Thus the adoption and implementation of the legislative, regulatory and institutional framework of the EU telecommunications sector is expected to generate considerable benefits for the economy.

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<sup>109</sup> Note that the European Commission in June 2005 has adopted a proposal to open negotiations on the liberalization of services and investment with the EU's Mediterranean partners.

<sup>110</sup> Although it is too early to say that Turkey's prospects of joining the EU are over, they have been damaged by the French and Dutch referendums, by the expected return to power in Germany of the Christian Democratic Union, which is opposed to Turkish membership, and the lack of enthusiasm in other EU quarters (M. Abromowitz (2005)). Hence, the considerations developed for developing countries that may seek to use a strategy of "deep integration" with the EU will apply in a non-membership scenario for Turkey, such as privileged partnership. But in such a case the political support in Turkey to pursue investment and services liberalization agenda in Turkey may diminish.

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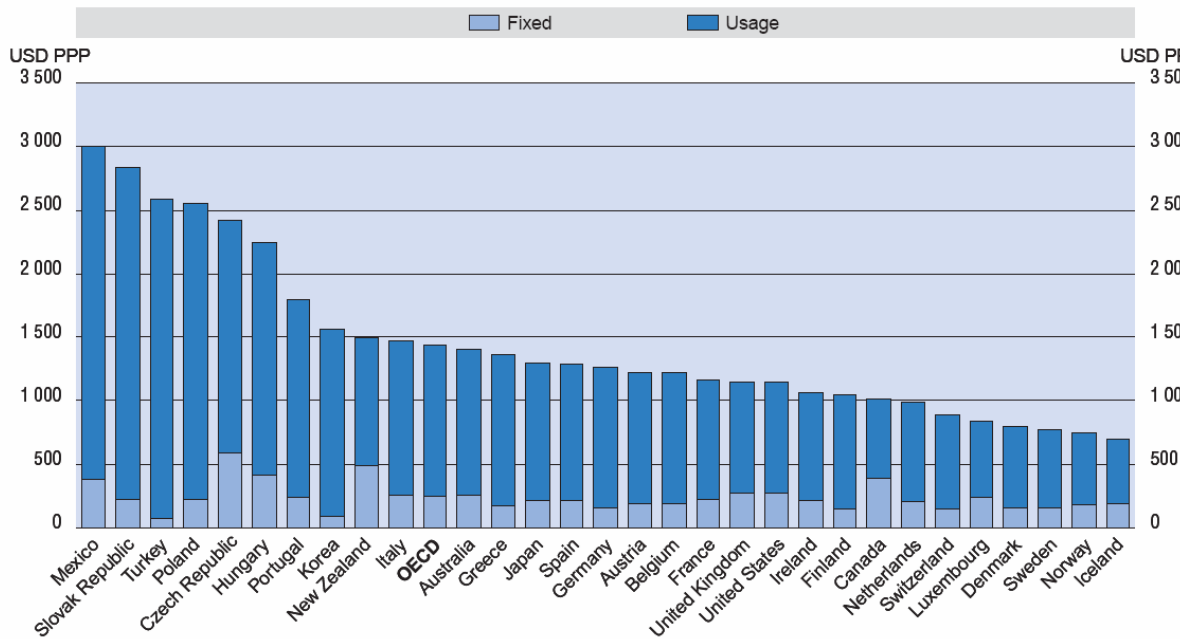
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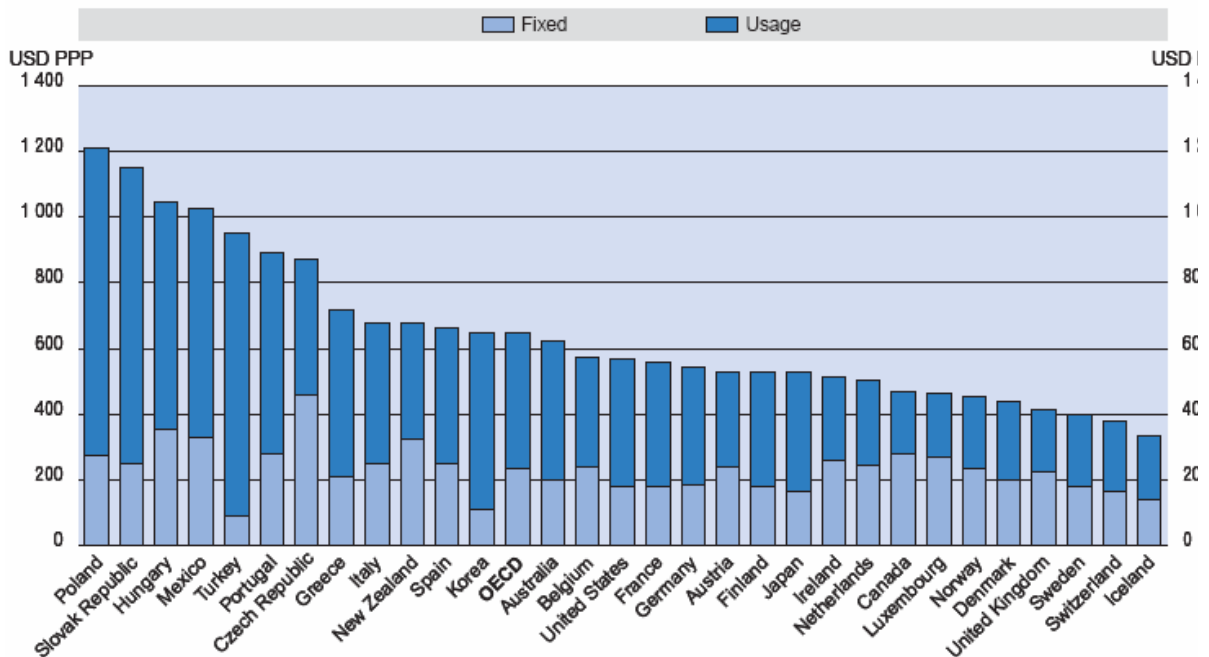
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**Figure 1: OECD composite basket of business telephone charges, August 2002  
(Excluding VAT)**



Source: OECD Communication Outlook 2003.

**Figure 2: OECD composite basket of residential telephone charges, August 2002**



Source: OECD Communication Outlook 2003.





# Telecommunications Sector in Egypt

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Worldwide the telecommunications sector has been playing an important role in the development of the economies as a result of globalization. Moreover, the liberalization of this sector has been shown empirically to have positive effects on the growth of the economy. Empirical evidence has shown that an open telecommunications sector is often correlated with higher rates of growth (Mattoo, et al, 2001). In Egypt, this sector has gained increased importance since 1999 with the establishment of the Ministry of Communications and Information Technology (MCIT). A number of major changes have happened in this sector reflecting the increasing role it plays in the development process and in catching up with the advanced technology. The telecommunications sector contributes largely to the Gross Domestic Product (GDP) where the official statistics show that it represents 3%<sup>114</sup>. Moreover, it is considered one of the fastest growing sectors in the economy. The number of employees in the whole sector was estimated to be around 0.27% of total labor force, which is relatively low revealing the capital intensive nature of this industry. The sector had seen a total expenditure of 2.3 billion US dollars in 2001 which represented 2.5% of GDP (International Telecommunications Union (ITU), 2001).

The study provides an overview of the telecommunications sector in Egypt including its regulatory framework while trying to estimate the tariff equivalent of the restrictive regulator measures adopted and benchmarking it with the European Union (EU) status of liberalization. The telecommunications sector studied includes fixed telephony, mobile and internet services.

The first section, following the introduction focuses on the major developments in the sector. Section 2 provides a descriptive analysis of the regulatory framework of the sector where it displays the laws, regulations and policies affecting the sector over the period 1991-2004 and currently governing the sector and section 3 aims at quantifying the barriers to trade in the sector. The welfare effects of the liberalization of the sector if it adopts the EU laws and regulations is considered in Part Three of the study concerning the maritime sector as both are included in one sector in the Input Output Table of Egypt for the year 2003/2004 and hence the welfare effect of liberalization of telecommunications cannot be separated from that of transports.

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<sup>114</sup> Calculated as the total telecom services revenue divided by GDP in the year 2001. Initial figures are taken from the International Telecommunication Union (ITU) (2003), *Arab States Telecommunication Indicators, 1992-2001*, ITU

## 1. MAJOR DEVELOPMENTS IN THE TELECOMMUNICATIONS SECTOR

Up to 1998, Public Law 153 granted the Arab Republic of Egypt National Telecommunications Organization (ARENTO) exclusive responsibility for establishment and operation of the national telecommunications network and for international interconnections. In 1998 ARENTO was transformed to a company (Telecom Egypt). Despite the relatively high revenue of the telecommunications sector as a percentage of GDP (around 2 % of GDP in mid-1990s), the performance of ARENTO was judged to be suffering from a number of deficiencies. For example, ARENTO was able to fulfil only 65% of the applications for new basic telephone lines and was not able to address the large unexpressed demand. In 2003, a new law for Telecommunications was approved (Law No. 10 for 2003). The reforms undertaken which have been reflected in the law and Egypt's GATS commitments aimed mainly at allowing market forces to play a larger role in the telecommunications sector and to end the governmental monopoly of ARENTO. The weak performance of ARENTO resulted in a lagging position for Egypt among other developing countries and when compared to the world as a whole regarding its ability to satisfy the domestic demand. Previous studies on the cost of service/rate emphasized that almost all services provided by ARENTO required price reform. The absence of a clear pricing policy and the continued transfer of revenues to other government entities (the underground network in Greater Cairo) jeopardized the required expansion and maintenance of the telecommunications sector in an appropriate manner.

Following the global revolution in telecommunications, Egypt identified the telecommunication sector as a potential growth industry among non-traditional industries. Since the creation of the new Ministry of Communications and Information Technology, the Government of Egypt started to follow global steps in enhancing this important sector. Modernization, expansion and liberalization of the telecommunications services became a national priority for the government and a 3-year plan was formulated in 2000 allocating 1.1 billion US dollars to make Egypt a regional information technology hub (Economist Intelligence Unit, 2001). The plan intends to increase teledensity from the current level of 12% to 14% and tele-accessibility from 40% to 90% by 2010 (see Ghoneim and Kamel, 2006 forthcoming).

The market structure experienced a lot of changes in the last few years especially since 1996 (the year when mobile services started in Egypt) onwards and since then the momentum of changes in all fields of the telecommunications sector has accelerated (ranging from fixed telephony to public phones to internet services) with the only exception of the delay of privatization of the incumbent firm (Telecom Egypt).

The structure of the telecommunications sector is summarized in Table 1. The table reveals the status of the market structure in a number of telecommunications subsectors. However, it should be emphasized that the table does not show the development of the quality of services provided which in many cases improved significantly despite the fact that the market structure remained unchanged. For example, the fixed phone service remains a monopoly, however this subsector experienced huge reforms as a result of changing the legal structure of ARENTO into Telecom Egypt (TE). The mobile service market is a duopoly, nevertheless the intensive competition between the incumbent firms resulted in the provision of better quality and lower costs services.

**Table 1 – Annex I : EGYPT – SCHEDULE OF SPECIFIC COMMITMENTS**

Modes of supply: 1) Cross-border supply		2) Consumption abroad	3) Commercial Presence	4) Presence of natural persons
Sector or Sub-sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments	
<p><b>2.C. Telecommunications Services</b></p> <p>This schedule does not include telecommunication services supplied for distribution of radio or television programming for direct reception by service consumer.</p>	<p>(3) a) Licenses for the provision of all telecommunication services in Egypt are to be granted by the Telecommunications Regulatory Authority. A transparent and non-discriminatory Economic Needs Test shall be the main basis for granting licenses until 31/12/2005.<sup>115</sup></p> <p>b) Licenses are to be provided only to companies registered in Egypt.</p> <p>c) Telecom Egypt has exclusive rights to provide cross-border transmission into or out of Egypt using any means of technology for an exclusivity period that terminates no later than 31/12/2005. Licensees providing international data communication services have to lease international private lines from Telecom Egypt throughout the period of exclusivity.</p> <p>d) Companies working in the telecommunication sector must train local human resources.</p>		<p>The government of Egypt undertakes additional commitments as set out in the attached reference paper hereto. Egypt is currently in the process of presenting a new Telecommunications Act to the People's Assembly (Egyptian Parliament).</p>	

<sup>115</sup> Continuation of ENT beyond 31/12/2005 shall be subject to consultations between Egypt and WTO Members, taking into consideration progress of the CTS discussions on ENT.

Modes of supply: 1) Cross-border supply	2) Consumption abroad	3) Commercial Presence	4) Presence of natural persons
<b>Sector or Sub-sector</b>	<b>Limitations on Market Access</b>	<b>Limitations on National Treatment</b>	<b>Additional Commitments</b>
International and domestic services using any means of technology: 2.C.a Voice telephone services 2.C.d Telex services 2.C.e Telegraph services 2.C.f Facsimile services 2.C.g Private leased lines (International Only)	(1) Unbound until 31/12/2005. After that date, none. <sup>16</sup> (2) None. (3) a) Telecom Egypt has an exclusivity for the provision of the services that terminates no later than 31/12/2005. After that date, none. b) Resale of services is allowed based on agreements with Telecom Egypt. c) Telecom Egypt is currently privatizing part of its shares through an initial public offering or sale to a strategic investor. Telecom Egypt may continue the privatization up to 49% of its shares in subsequent stages. d) Public payphones, none.	(1) None (2) None (3) None	
International services using any means of technology: 2.C.b&c Data services 2.C.o Internet Services	(1) Unbound until 31/12/2005. After that date, none. <sup>2</sup> (2) None (3) None (4) Unbound, except as indicated in the horizontal section.	(4) Unbound, except as indicated in the horizontal section. (1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section.	

<sup>16</sup> A license is required.

Modes of supply: 1) Cross-border supply	2) Consumption abroad	3) Commercial Presence	4) Presence of natural persons
<b>Sector or Sub-sector</b>	<b>Limitations on Market Access</b>	<b>Limitations on National Treatment</b>	<b>Additional Commitments</b>
Domestic services using any means of technology: 2.C.b&c Data services 2.C.g Private leased lines 2.C.o Internet Services	(1) Unbound until 31/12/2005. After that date, none. <sup>2</sup> (2) None (3) None (4) Unbound, except as indicated in the horizontal section.	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section.	
Other services: 2.C.o Mobile services (Digital Only)	(1) Unbound until 31/12/2005. After that date, none. <sup>2</sup> (2) None (3) Two private GSM900 operators have licenses to provide the services in Egypt with exclusive right until 30/11/2002. After that date, none. (4) Unbound, except as indicated in the horizontal section.	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section.	
Other services using any means of technology: 2.c.o Paging services 2.c.o VSAT 2.c.h.-n. Value Added Services	(1) Unbound until 31/12/2005. After that date, none. <sup>18</sup> (2) None (3) None (4) Unbound, except as indicated in the horizontal section	(1) None (2) None (3) None (4) Unbound, except as indicated in the horizontal section	

<sup>18</sup>A license is required

**Table 1a – Annex II : The estimated restrictiveness index: restrictions on the fixed line sector in Egypt**

weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Category
					Restrictions on Commercial Presence
0.20	1.00	0.5			Licensing of fixed line services
	0.75				(a) Regional Line Service
	0.20				No new license is allowed.
	0.10				Licenses are issued through complicated (discriminately) and costly procedure.
	0.00				Licenses are generally issued with application fee and several requirements.
					Licenses are generally issued with application fee.
					Licenses are automatically issued upon application without any cost.
	1.00	0.5			(b) Domestic Long Distance Line Service
	0.75				No new license is allowed.
	0.20				Licenses are issued through complicated (discriminately) and costly procedure.
	0.10				Licenses are generally issued with application fee and several requirements.
	0.00				Licenses are generally issued with application fee.
					Licenses are automatically issued upon application without any cost.
	1.00	0.5			(c) International Line Service
	0.75				No new license is allowed.
	0.20				Licenses are issued through complicated (discriminately) and costly procedure.
	0.10				Licenses are generally issued with application fee and several requirements.
	0.00				Licenses are generally issued with application fee.
					Licenses are automatically issued upon application without any cost.
0.10		0.5 as an average	0.1	0.05	Licenses are allocated upon discretionary decision by the licensing authority till 31/12/2005 *
					Form of commercial presence**
	1.0	0.5			(a) Regional Line Service
	0.0				Measures which restrict or require a specific type of establishments.
					No restriction on establishment.
	1.0	0.5			(b) Domestic Long Distance Line Service
	0.0				Measures which restrict or require a specific type of establishments.
					No restriction on establishment.
		0.5			(c) International Line Service
	1.0				Measures which restrict or require a specific type of establishments.

weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Category
	0.0				No restriction on establishment.
			0.05	0.025	
0.20					Direct Investment: equity participation permitted The score is inversely proportional to the maximum equity participation permitted in an existing domestic company*****
		0.0	0.004	0.004	1/49%
0.10					Direct investment: restrictions on certain types of services
	1.0				Restrictions on providing some types of telephone services.
	0.0				No restriction on providing any type of telephone services.
		1	0.10	0.10	There are restrictions on companies offering services in more than one market segment, where cross subsidies between services under the ownership of same provider are not allowed ****
0.10					Joint venture arrangements*****
	1.0				Issues no new license and no entry is allowed through a joint venture with a domestic company.
	0.50				Foreign company can enter only through a joint venture with a domestic company.
	0.00				No requirement for foreign companies to enter through a joint venture with a domestic company.
		1	0.1	0.1	Foreign ownership in the provision of services is allowed, but the company has to be registered in Egypt as per Egypt's commitments in the Basic Telecom Agreement (q.7) in reality no
0.02					Permanent movement of people
	1.0				No entry of executives, senior managers and/or specialists.
	0.8				Executives, specialists and/or senior managers can stay up to 1 year.
	0.6				Executives, specialists and/or senior managers can stay up to 2 years.
	0.4				Executives, specialists and/or senior managers can stay up to 3 years.
	0.2				Executives, specialists and/or senior managers can stay up to 4 years.
	0.0				Executives, specialists and/or senior managers can stay a period of 5 years or more.
		0	0.0		Executives, specialists and/or senior managers can stay a period of 5 years or more.*****
					Other Restrictions
0.1		0.5			Third party resale of lease line
	1.0				Resale is not permitted.
	0.0				Resale is permitted in any market.
		0.5	0.05	0.05	Resale is permitted only in the domestic market
					Resale under the permission of TRA (Article 31)
0.05					End user tariff
	1.0				End user tariff is determined by rate of return regulation.
	0.5				End user tariff is determined by price cap rule established by the authority
	0.0				End user tariff is determined by market force (no regulation).
		0.75	0.0375	0.0188	End user tariff is determined by price cap rule established by the authority

weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Category
0.05					Regulation of network interconnection
	1.0				Interconnection is completely regulated by the authority.
	0.5				Interconnection is determined by private negotiations in general, but general terms are determined by the authority
	0.0				Interconnection is completely determined by private negotiations (no regulation).
		0.5	0.025	0.0125	Interconnection agreements among carriers is determined by private negotiations between parties (TRA is consulted in case no agreement can be reached between parties. NB: this is not fully applicable as there is only one service provider existing till now).
					Setting of interconnection rates, licensing, regulation of retail tariffs and dispute settlement and arbitration are all determined by the sector regulator *****
0.05					Market structure *****
					(a) Regional Line Service
	1.00	1			Monopoly.
	0.00				Competition among plural providers.
					Monopoly for local services
					(b) Domestic Long Distance Line Service
	1.00	1			Monopoly.
	0.00				Competition among plural providers.
		1.0			Monopoly
		0.5			(c) International Line Service
	1.00				Monopoly.
	0.00				Competition among plural providers.
			0.05 (as an average)	0.025	Monopoly
0.02					Composition of the board of directors
					The score is inversely proportional to the percentage of the board that can comprise foreigners
			0.002	0.002	The score is inversely proportional to the percentage of the maximum number of foreigners employed in the economic unit (10%)
0.01					Temporary movement of people
					No temporary entry of executives, senior managers and/or specialists
	1.00				Temporary entry of executives, senior managers and/or specialists up to 30 days.
	0.75				Temporary entry of executives, senior managers and/or specialists up to 60 days
	0.5				Temporary entry of executives, senior managers and/or specialists up to 90 days.
	0.25				Temporary entry of executives, senior managers and/or specialists over 90 days.
	0.0				Temporary entry of executives, senior managers and/or specialists over 90 days.



weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Category
		0	0.0	0	Temporary entry of executives, senior managers and/or specialists over 90 days.

FR Index=0.519

FDR Index= 0.3873 which equals 75% of FR Index

\*As for licensing of fixed line services, the score chosen is 0.5, as licenses are allocated upon discretionary decision by the licensing authority till 31/12/2005  
Licenses are to be allocated only to companies registered in Egypt  
After 2005, the score chosen has been 0.1 as Licenses would generally be issued with only an application fee.

\*\*concerning the form of commercial presence, although there are no explicit restrictions, there are some limitation concerning the existence of firms in certain areas due to sensitivity of the sector

\*\*\*as for direct investment: equity participation permitted  
the score is inversely proportional to the maximum equity participation permitted in an existing domestic company 1/49 (as Telecom Egypt may continue the privatization up to 49% of its shares in subsequent stages, according to GATS schedule).

\*\*\*\*regarding direct investment: restrictions on certain types of services, there exist restrictions on companies offering services in more than one market segment, where cross subsidies between services under the ownership of same provider are not allowed, and hence a score of 1 was assigned, implying a high degree of restrictiveness in this issue.  
Later, no restrictions would be applied, hence a zero score is assigned

\*\*\*\*\*as for joint venture arrangements, foreign ownership in the provision of services is allowed, but the company has to be registered in Egypt as per Egypt's commitments in the Basic Telecom Agreement in reality this implies too much restrictiveness, i.e., no real opportunities (the score is 1)

\*\*\*\*\*as for temporary or permanent movement of people, Egypt has no restrictions on the time (number of years of foreigners working), the constraint or restriction is on the number of those foreigners which is limited to 10% as a maximum of the total labour in the economic unit. This is according to its horizontal commitments in the GATS schedule and is consistent with Egypt's Labour Law.

\*\*\*\*\*as for regulation of network interconnection, the score is chosen 0.5, since interconnection agreements among carriers is determined by private negotiations between parties, TRA is consulted in case no agreement can be reached between parties.  
(NB: this is not fully applicable as there is only one service provider existing till now)

In addition, setting of interconnection rates, licensing, regulation of retail tariffs and dispute settlement and arbitration are all determined by the sector regulator.

\*\*\*\*\*the scores assigned for market structure are changed from 0.5 to 0 due to the future liberalization

**Table 1b – Annex II : The liberal scenario of the fixed line**

Weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Second estimated score (liberal)	Estimated score FDR Index (liberal)	Category
							Restrictions on Commercial Presence
0.20	1.00	0.5			0.1		Licensing of fixed line services (a) Regional Line Service No new license is allowed.
	0.75						Licenses are issued through complicated (discriminately) and costly procedure.
	0.20						Licenses are generally issued with application fee and several requirements.
	0.10						Licenses are generally issued with application fee.
	0.00						Licenses are automatically issued upon application without any cost.
		0.5			0.1		(b) Domestic Long Distance Line Service No new license is allowed.
	1.00						Licenses are issued through complicated (discriminately) and costly procedure.
	0.75						Licenses are generally issued with application fee and several requirements.
	0.20						Licenses are generally issued with application fee.
	0.10						Licenses are generally issued with application fee.
	0.00						Licenses are automatically issued upon application without any cost.
		0.5			0.1		(c) International Line Service No new license is allowed.
	1.00						Licenses are issued through complicated (discriminately) and costly procedure.
	0.75						Licenses are generally issued with application fee and several requirements.
	0.20						Licenses are generally issued with application fee.
	0.10						Licenses are automatically issued upon application without any cost.
	0.00						Licenses are issued through complicated (discriminately) and costly procedure.
		0.5 as an average	0.1	0.05	0.2(0.1)=0.02	0.01	Licenses are generally issued with application fee. Licenses are automatically issued upon application without any cost. Licenses are allocated upon discretionary decision by the licensing authority till 31/12/2005
0.10							Licenses are to be allocated only to companies registered in Egypt Form of commercial presence (a) Regional Line Service
	1.0	0.5			0		Measures which restrict or require a specific type of establishments.

Weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Second estimated score (liberal)	Estimated score FDR Index (liberal)	Category
	0.0	0.5			0		No restriction on establishment.
	1.0						(b) Domestic Long Distance Line Service
	0.0						Measures which restrict or require a specific type of establishments.
							No restriction on establishment.
		0.5			0		(c) International Line Service
	1.0						Measures which restrict or require a specific type of establishments.
	0.0						No restriction on establishment.
			0.05	0.025	0	0	
0.20							Direct Investment: equity participation permitted
							The score is inversely proportional to the maximum equity participation permitted in an existing domestic company
		0.0	0.004	0.004	0.004	0.004	1749
0.10							Direct investment: restrictions on certain types of services
	1.0						Restrictions on providing some types of telephone services.
	0.0						No restriction on providing any type of telephone services.
		1	0.10	0.10	0	0	There are restrictions on companies offering services in more than one market segment, where cross subsidies between services under the ownership of same provider are not allowed
0.10							Joint venture arrangements
	1.0						Issues no new license and no entry is allowed through a joint venture with a domestic company.
	0.50						Foreign company can enter only through a joint venture with a domestic company.
	0.00						No requirement for foreign companies to enter through a joint venture with a domestic company.
		1	0.1	0.1	0	0	Foreign ownership in the provision of services is allowed, but the company has to be registered in Egypt as per Egypt's commitments in the Basic Telecom Agreement. In reality no
0.02							Permanent movement of people
	1.0						No entry of executives, senior managers and/or specialists.
	0.8						Executives, specialists and/or senior managers can stay up to 1 year.
	0.6						Executives, specialists and/or senior managers can stay up to 2 years.
	0.4						Executives, specialists and/or senior managers can stay up to 3 years.

Weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Second estimated score (liberal)	Estimated score FDR Index (liberal)	Category
	0.2						Executives, specialists and/or senior managers can stay up to 4 years.
	0.0						Executives, specialists and/or senior managers can stay a period of 5 years or more.
		0	0.0		0	0	Executives, specialists and/or senior managers can stay a period of 5 years or more.
							Other Restrictions
0.1	1.0	0.5					Third party resale of lease line
	0.0						Resale is not permitted.
							Resale is permitted in any market.
		0.5	0.05	0.05	0.05	0.05	Resale is permitted only in the domestic market
0.05							Resale under the permission of TRA (Article 31)
							End user tariff
	1.0						End user tariff is determined by rate of return regulation.
	0.5						End user tariff is determined by price cap rule established by the authority
	0.0						End user tariff is determined by market force (no regulation).
		0.75	0.0375	0.0188	0.0375	0.0188	End user tariff is determined by price cap rule established by the authority
0.05							Regulation of network interconnection
	1.0						Interconnection is completely regulated by the authority.
	0.5						Interconnection is determined by private negotiations in general, but general terms are determined by the authority
	0.0						Interconnection is completely determined by private negotiations (no regulation).
		0.5	0.025	0.0125	0.025	0.0125	Interconnection agreements among carriers is determined by private negotiations between parties (TRA is consulted in case no agreement can be reached between parties. NB: this is not fully applicable as there is only one service provider existing till now) .
							Setting of interconnection rates, licensing, regulation of retail tariffs and dispute settlement and arbitration are all determined by the sector regulator (q,10)
0.05							Market structure
							(a) Regional Line Service
	1.00	1					Monopoly.
	0.00						Competition among plural providers.
							Monopoly for local services .
							(b) Domestic Long Distance Line Service

Weight	Scoring	Score chosen in this paper for Egypt	Estimated score index	Estimated score FDR Index	Second estimated score (liberal)	Estimated score FDR Index (liberal)	Category
	1.00	1					Monopoly.
	0.00						Competition among plural providers.
		1.0					Monopoly
		0.5					(c) International Line Service
	1.00						Monopoly.
	0.00						Competition among plural providers.
			0.05 (as an average)	0.025	0	0	Monopoly
0.02							Composition of the board of directors
							The score is inversely proportional to the percentage of the board that can comprise foreigners
			0.002	0.002	0.002	0.002	The score is inversely proportional to the percentage of the maximum number of foreigners employed in the economic unit (10%)
0.01							Temporary movement of people
							No temporary entry of executives, senior managers and/or specialists
	1.00						Temporary entry of executives, senior managers and/or specialists up to 30 days.
	0.75						Temporary entry of executives, senior managers and/or specialists up to 60 days
	0.5						Temporary entry of executives, senior managers and/or specialists up to 90 days.
	0.25						Temporary entry of executives, senior managers and/or specialists up to 90 days.
	0.0						Temporary entry of executives, senior managers and/or specialists over 90 days.
		0	0.0	0	0	0	Temporary entry of executives, senior managers and/or specialists over 90 days.

FR Index=0.1385  
FDR Index=0.0973 which equals (70%) of FR Index

**Table 1: Structure of the Telecommunications Subsectors in Egypt (1993-2002)**

<b>Sub-Sector</b>	<b>1993-1998</b>	<b>1998-2000</b>	<b>2000-2002</b>
Fixed Phone	Monopoly (ARENTO)	Monopoly (TE)	Monopoly (TE)
Mobile Phone	Monopoly (ARENTO)	Duopoly (private)	Duopoly (private)
Internet Service Providers	Competition (private)	Competition (private/TE)	Competition (private/TE)

Source: Fitch Ratings (2004), Egyptian Telecommunications: Special Report, London: Fitch

The price of obtaining a fixed telephone line in Egypt has been considered relatively high. For example, the official price for the connection of a new line is 90US \$<sup>117</sup> for residential and governmental entities and 180 US\$ for corporations which is considered relatively high by international standards (Fitch, 2004). The waiting time for obtaining the line was between one to two years in 1997, however and as a result of reforms, the waiting time has been heavily reduced to less than one month by 2004. The monopoly of ARENTO resulted in low efficiency of the basic telecommunications sector. The negative effect of monopoly was exacerbated by the lack of mobile phone services till 1996, the latter is currently acting in several remote areas as a close substitute. Low quality and high price were the main characteristics of such service industry, a trend which tended to change dramatically lately starting 1999 onwards. Moreover, reform policies regarding pricing have been undertaken where the official price for obtaining a fixed line decreased significantly though it still remains high by international standards and the tariff rates have been revisited with an increase in the price of domestic phone calls and a decrease in the price of international calls<sup>118</sup>. It is with no doubts that such reforms have been undertaken; however, they remain incomplete where TE replacing ARENTO still dominates the scene and the role of the regulator is still not clear. This does not mean that no positive developments have taken place because many steps have already been effectively implemented since 1998 where prior to that date the situation was different because the prevailing tariff structure involved cross-subsidization in favour of local users at the expense of national and international ones (ECES, 1998). This has been corrected by the new tariff that the Minister of Communications and Information Technology has announced in 2000.

Among the important policies undertaken were the privatization of the incumbent Global System for Mobiles (GSM) operator in 1997 and the issuance of a second GSM license in 1998. Telecom Egypt (TE) won the bid for a third GSM operator license which was expected to start operations in 2003. However, implementation was deferred for an undefined date and the government, through TE, instead bought substantial amount of shares in the second GSM operator. Currently, the status of this third network is unclear. It has been announced by the political leadership that TE should proceed with the establishment of its network to enhance competition and benefit consumers. As announced by the government, having a new operator was not feasible due to the weak economic conditions prevailing and the failure to find a strategic partner. The solution was to buy shares in one of the existing mobile operators, a deal which created a lot of debate about its objective, means, and way of implementation (see Ghoneim and Kamel, 2006, forthcoming). Additional argument for this decision was that a GSM operator license would add a significant value to TE especially when the time comes for the long-planned Initial Public Offering (IPO). The entry to the mobile market has been restrained by a number of constraints that allowed the incumbent firms to recover their sunk costs and make unprecedented profits. However, most of the restrictions are to be released by 2005, especially the most important ones concerning commercial presence. The number of mobile subscribers has been increasing at an accelerating rate where the total mobile phone subscriptions increased from 4.5 million, at the end of 2002, to 6.5 millions, as of July 2004 and around 8.4 million, in March 2005. Following a growth rate of 26.5% in 2002 and 34% in 2003, Egypt's mobile subscribers base has reached 10% market penetration at the end of 2004. Table 2 demonstrates the development of the mobile telephony in Egypt during the period 1998-2005.

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<sup>117</sup> 90 US \$ is equivalent to around 500 Egyptian pounds.

<sup>118</sup> Tariffs on international calls dropped by around 37% in December 1999 and 25% in January 2000.

**Table 2: The estimated restrictiveness index: restrictions on the mobile services sector in Egypt**

Weight	Scoring	Egypt's score	Estimated score index	Estimated score FDR Index	Restrictions on Commercial Presence
0.20					Licensing of mobile phone services
	1.0				No new license is allowed.
	0.75				Licenses are issued through complicated (discriminately) and costly procedure.
	0.20				Licenses are generally issued with application fee and several requirements.
	0.10				Licenses are generally issued with application fee.
	0.0				Licenses are automatically issued upon application without any cost.
		0.75	0.150	0.075	Licenses are allocated according to competitive tender as well as discretionary decision by the licensing authority (according to the draft of the law, TRA shall encourage national and international investment in this field on a free competition basis *
0.10					Form of commercial presence
	1.0				Measures which restrict or require a specific type of establishments.
	0.0	0	0.0	0.0	No restriction on establishment.
0.20		1/100	0.002	0.002	Direct investment: equity participation permitted The score is inversely proportional to the maximum equity participation permitted in an existing domestic company
0.10					Direct investment: restrictions on certain types of services
	1.0				Restrictions on providing some types of telephone services.
	0.0	0	0.0	0.0	No restriction on providing any type of telephone services.
					Joint venture arrangements
	1.0				Issues no new license and no entry is allowed through a joint venture with a domestic company
	0.50				Foreign company can enter only through a joint venture with a domestic company
	0.00	0	0.0	0.0	No requirement for foreign companies to enter through a joint venture with a domestic company**
0.02					Permanent movement of people
	1.00				No entry of executives, senior managers and/or specialists.
	0.80				Executives, specialists and/or senior managers can stay up to 1 year.
	0.60				Executives, specialists and/or senior managers can stay up to 2 years.
	0.40				Executives, specialists and/or senior managers can stay up to 3 years.
	0.20				Executives, specialists and/or senior managers can stay up to 4 years.
	0.0	0	0.0	0.0	Executives, specialists and/or senior managers can stay a period of 5 years or more.
					Other Restrictions
0.05		0.75			Regulation of interconnection between fixed line and mobile or between mobiles
	1.0				Interconnection is completely regulated by the authority.
	0.50	0.75	0.0375	0.0188	Interconnection is determined by private negotiations in general, but general terms are determined by the authority
					Interconnection is completely determined by private negotiations (no regulation)***.
0.10					End user tariff



Weight	Scoring	Egypt's score	Estimated score index	Estimated score FDR Index	Restrictions on Commercial Presence
	1.0				End user tariff is determined by rate of return regulation.
	0.50				End user tariff is determined by price cap rule established by the authority.
	0.0				End user tariff is determined by market force (no regulation).
		0.75	0.075	0.075	End user tariff is determined by price cap rule established by the authority (The TRA official stated prices are freely determined by operators but must be approved by the authority TRA discriminatory****)
0.05					Allocation of radio spectrum
	1.0				Allocation is discriminately decided by the authority.
	0.20				Allocated by auction with application fee.
	0.10				Allocated by auction without application fee.
	0.0				Radio frequencies are obtained with mobile services.
		1	0.05	0.025	Allocation is discriminately decided by the authority, and an approx.\$2000 per annum is paid as a separate fee for radio frequency licensing *****
0.05		0.75			Market structure
	1.0				Monopoly.
	0.0		0.0375	0.0375	Competition among plural providers.
0.02					Composition of the board of directors
					The score is inversely proportionately to the percentage of the board that can comprise foreigners.
		0.1	0.002	0.002	The score is inversely proportional to the percentage of the maximum number of foreigners employed in the economic unit (10%)
0.01					Temporary movement of people
	1.0				No temporary entry of executives, senior managers and/or specialists.
	0.75				Temporary entry of executives, senior managers and/or specialists up to 30 days.
	0.50				Temporary entry of executives, senior managers and/or specialists up to 60 days.
	0.25				Temporary entry of executives, senior managers and/or specialists up to 90 days.
	0.0	0	0.0	0.0	Temporary entry of executives, senior managers and/or specialists over 90 days. *****

FR Index = 0.354

FDR Index = 0.235 which equals (67% of FR Index)

\*concerning licensing of mobile phone services, the score 0.75 was chosen as licenses are allocated according to competitive tender as well as discretionary decision by the licensing authority in Egypt (according to the draft of the law, TRA shall encourage national and international investment in this field on a free competition basis), which means in a way or another that these licenses are issued through complicated (discriminately) and costly procedure.

\*\*as for joint venture arrangements, the chosen score is zero, as there is no requirement for foreign companies to enter through a joint venture with a domestic company, in fact foreign investment is encouraged under competitive conditions, as stated by the Law.

\*\*\*interconnection is determined by private negotiations in general, but general terms are determined by the authority, and hence the assigned scores 0.75, implying a relatively high degree of restrictiveness

\*\*\* end user tariff is determined by price cap rule established by the authority (The TRA official stated prices are freely determined by operators but must be approved by the authority TRA). In this regard, determination of prices, in fact is discriminatory, therefore the assigned score was 0.75

\*\*\*\* regarding allocation of radio spectrum, allocation is discriminately decided by the authority, and an approx.\$2000 per annum is paid as a separate fee for radio frequency licensing, therefore, a score of 1 was chosen.

\*\*\*\* as for temporary or permanent movement of people, Egypt has no restrictions on the time (number of years of foreigners working in Egypt), the constraint or restriction is on the number of those foreigners which is limited to 10% as a maximum of the total labour in the economic unit. This is according to its horizontal commitments in the GATS schedule and is consistent with Egypt's Labour Law. Accordingly, scores assigned are zero concerning those items.

**Table 2: Growth Level of Mobile Subscribers (1998-2005)**

Year	Number of Mobile Subscribers
1998	800000
1999	930000
2000	2350000
2001	3440000
2002	4500000
2003	5800000
2004	6750000
March 2005	8400000

Source: [www.mcit.gov.eg](http://www.mcit.gov.eg)

Other steps in the reform process that have been undertaken include: complete digitization of the fixed line network which was completed by mid-2000, and an ambitious expansion plan to cover all areas in Egypt has been adopted. TE has been planning to add some 1 million lines per year until the end of year 2005. Moreover, TE's 2000 investments geared to enhancing the infrastructure of fixed line network amounted to 620 million US \$ in a company with overall assets estimated at around 7.6 billion US \$. Egypt increased the number of fixed phone lines to 13.6 million lines with a penetration rate of 13% as shown in table 3 which demonstrates the growth in the number of fixed lines and the changes in the teledensity penetration (see Ghoneim and Kamel, 2006, forthcoming)

**Table 3: The estimated restrictiveness index: restrictions on the internet services in Egypt**

Weight	Score	Egypt's score	Estimated score index	Estimated score FDR Index	Restrictions on Commercial Presence
0.20					Licensing of internet services
	1.0				No new license is allowed.
	0.75				Licenses are issued through complicated (discriminately) and costly procedure.
	0.20				Licenses are generally issued with application fee and several requirements.
	0.10				Licenses are generally issued with application fee.
	0.0				Licenses are automatically issued upon application without any cost.
		0.1	0.02	0.01	Licenses are allocated by the TRA, with specific requirements for foreign firms to meet before starting to operate*
0.10					Form of commercial presence
	1.0				Measures which restrict or require a specific type of establishments.
	0.0	0	0.0	0	No restriction on establishment.
		0.0	0.002	0.002	Direct investment: equity participation permitted
0.20					The score is inversely proportional to the maximum equity participation permitted in an existing domestic company.
0.10					Direct investment: restrictions on certain types of services
	1.0				Restrictions on providing some types of internet services.
	0.0	0	0.0	0.0	No restrictions on providing any type of internet services.
0.10					Joint venture arrangements
	1.0				Issues no new license and no entry is allowed through a joint venture with a domestic company.
	0.50				Foreign company can enter only through a joint venture with a domestic company.
	0.0	0	0.0	0.0	No requirement for foreign companies to enter through a joint venture with a domestic company.
0.02					Permanent movement of people
	1.0				No entry of executives, senior managers and/or specialists.
	0.80				Executives, specialists and/or senior managers can stay up to 1 year.
	0.60				Executives, specialists and/or senior managers can stay up to 2 years.
	0.40				Executives, specialists and/or senior managers can stay up to 3 years.
	0.20				Executives, specialists and/or senior managers can stay up to 4 years
	0.0	0	0.0	0.0	Executives, specialists and/or senior managers can stay a period of 5 years or more
					Other Restrictions
					Regulation of interconnection agreements among internet services providers
0.10					Interconnection is completely regulated by the authority.
	1.0				Interconnection is determined by private negotiations in general, but general terms are
	0.50	0.5	0.05	0.025	

Weight	Score	Egypt's score	Estimated score index	Estimated score FDR Index	Restrictions on Commercial Presence
	0.0				determined by the authority.
					Interconnection is completely determined by private negotiations (no regulation).
0.10	1.0				Infrastructure
	0.50	0.5	0.05	0.05	Providers are not allowed to either built their own network or own/lease their international data gateways.
	0.0	0			Providers are allowed to built their own network or own/lease their international data gateways.
0.05	1.0				Market structure
	0.00	0	0.0	0	Monopoly.
					Competition among plural providers.
0.02					Composition of the board of directors
					The score is inversely proportionately to the percentage of the board that can comprise foreigners.
			0.002	0.002	The score is inversely proportional to the percentage of the maximum number of foreigners employed in the economic unit (10%)
0.01					Temporary movement of people
	1.0				No temporary entry of executives, senior managers and/or specialists.
	0.75				Temporary entry of executives, senior managers and/or specialists up to 30 days
	0.50				temporary entry of executives, senior managers and/or specialists up to 60 days
	0.25				temporary entry of executives, senior managers and/or specialists up to 90 days
	0.00	0	0.0	0.0	temporary entry of executives, senior managers and/or specialists over 90 days

FR Index=0.124

FDR Index= 0.089 which is (72% of the FR Index)

\*concerning licensing of internet services , the score chosen was 0.1, as licenses are allocated by the TRA, with specific requirements for foreign firms to meet before starting to operate, a procedure that could be considered as the option "Licenses are generally issued with application fee." assigned the same score in the table .

**Table 3: Growth in Fixed Lines and Teledensity**

Year	Fixed Lines	Teledensity
1995	2,716,200	4.6%
1997	3,452,700	5.7%
1999	4,900,400	7.6%
2001	6,650,000	10.2%
2003	8,700,000	12.9%
2005		

Source: [www.budde.com.au](http://www.budde.com.au)

Moreover, the internet service has witnessed a dramatic improvement in recent years, where TE struck deals with service providers to offer their service to the public on a “revenue-sharing” basis with TE. Users are no longer required to pay subscriptions (which required an average of \$20 per month earlier), but rather to pay the regular cost of outgoing calls. TE would then split the revenue with the service provider on a 30%/70% basis. Integrated Services Digital Network (ISDN) and leased lines services have been introduced by TE.

At the same time, TE recently launched the initiative of “a computer for each home”, where it provided personal computer systems to the public at low cost and on favourable credit terms. The outcome of this initiative cannot be judged yet, but internet traffic started witnessing increases.

Programs aimed at training recent graduates (with technical and non-technical degrees in communications) have been launched. They provide training to graduates in TE for periods up to two years. Training programs include technical and managerial aspects related to communication and information technology.

Most changes in policies and regulations of this sector have been recently undertaken and hence their impact is difficult to assess. However, there are several important results that have been identified. Modernization, expansion and liberalization of the telecommunications services and that of the sector at large became a national priority for the government, as previously stated. It is important to note that Egypt telecommunication network is diverse and spreading throughout the nation’s 26 governorates. As for the period that has elapsed, the number of fixed telephone lines per 1,000 inhabitants increased from 57 in 1997 to 104 in 2002. The number of internet users increased from 60,000 in 1997 to 600,000 by 2001 whereas the number of internet service providers increased from 8 firms in 1996 to 90 firms by end of 2001 (Ghoneim et. al, 2004)<sup>119</sup> and 121 firms by 2003 ([www.mcit.gov.eg](http://www.mcit.gov.eg)). Other indicators are identified in Table 4.

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<sup>119</sup> Ghoneim, Ahmed F., Sherine Ghoneim, and Sherif Kamel (2004), “The Impact of the Role of the Government of Egypt on Electronic Commerce Development and Growth” in *The Social and Cognitive Impacts of e-Commerce on Modern Organizations* by Mehdi Khosrow-Pour (ed), Idea Group Publishing.

**Table 4: Some Indicators of Performance of the Telecommunications Sector in Egypt (1997-2001)**

<b>Service</b>	<b>1997</b>	<b>2001</b>
Mobile phone subscribers per 100 inhabitants	0.01%	4.3%
Main telephone lines per 100 inhabitants	5.72%	10.36%
Public payphones	4946	35170
Waiting list for main lines (10000)	1,278	583
Faults per 100 main lines per year	8.2%	0.5%

Source: International Telecommunication Union (2003), Arab States Telecommunication Indicators, 1992-2001, ITU

As can be seen from the paragraph above, great strides were achieved in the available indicators. They were associated with the liberalization and reform process. The series of continued changes in policies and regulations have helped to enhance competition in the telecommunications sector with its different subsectors which resulted in improved efficiency and lower costs. Despite the fact that monopoly and duopoly continue to exist, the cross substitution effect between different modes of providing the same service in the telecommunications sector (e.g. mobile substituting fixed lines) accompanied by the huge developments in the field of Information Technology resulted in a more efficient sector.

However, if we compare Egypt's indicators with low middle income indicators, as shown in Table 5, we find that Egypt is still lagging behind in all indicators, with the exception of revenue per telephone mainline.

**Table 5: Egypt's Comparison with Low Middle Income Countries Using Some Selected Indicators**

<b>Telephone</b>				
<b>Average Cost of Call to US (US \$ per three minutes)</b>				
<b>Year</b>	<b>1998</b>	<b>2000</b>	<b>2001</b>	
Egypt, Arab Rep.	6	3	3	
Lower middle income countries	5	..	..	..
<b>Telephone Lines (per 1,000 people)</b>				
<b>Year</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2001</b>
Egypt, Arab Rep.	30	47	86	104
Lower middle income countries	32	59	120	139
<b>Telephone Mainlines, Waiting List (in units)</b>				
<b>Year</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2001</b>
Egypt, Arab Rep.	1,173,640	1,300,000	1,300,000	583,254
Lower middle income countries	23,080,896	24,472,106	..	..
<b>Telephone mainlines, Waiting Time (years)</b>				
<b>Year</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Egypt, Arab Rep.	4	..	2	2
Lower middle income	3	2	2	2
<b>Telephone revenue per mainline (in current US \$)</b>				
<b>Year</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2001</b>
Egypt, Arab Rep.	482	236	497	383
Lower middle income	..	360	301	288
<b>Mobile phones (per 1,000 people)</b>				
<b>Year</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2001</b>
Egypt, Arab Rep.	0	0	21	43
Lower middle income	0	4	66	107

Source: World Bank, World Development Indicators CD ROM, 2003



## 2. DESCRIPTIVE ANALYSIS OF THE REGULATORY FRAMEWORK

Several major steps have been undertaken in recent years to liberalize and upgrade the performance of the telecommunications sector.

The first step was separating the incumbent fixed line operator from the related ministry into an independent company, Telecom Egypt (TE). In 1998, Law 19 transformed ARENTO into a joint-stock company wholly owned by the Egyptian government. Privatization was planned to be partially achieved when TE announced in 1999 that 20% will be privatized which still did not take place, however it is highly expected that it will take place by selling those 20% in the Egyptian Stock Market before the end of 2005. There were several initiatives to sell the shares (not exceeding 49%) of TE to the private sector, however due to the economic recession, political problems in the region, privatization has been successively delayed<sup>120</sup>.

In addition, the government signed in 1998 contracts and awarded licenses to two private sector consortia to provide mobile telephone services in the domestic market.

The regulation of the whole industry, whether fixed telephony, mobile or internet is undertaken by the Telecom Regulatory Authority (TRA) which was established in 1998 by Presidential decree no. 101, which has discretionary power in a number of issues that are of crucial importance. Though the independence of the TRA as a regulatory body is questioned as its board of directors is headed by the Minister of Communications and Information Technology, its establishment in itself is a step forward towards reforms initiated in the telecommunications sector.

The second major step was the issuance of a new telecommunications law in 2003. In February 2003, Egypt's parliament approved a new telecommunications law (Law 10). The main features of the law are identified in Box 1. It stipulates that TE will relinquish its monopoly status as Egypt's domestic operator and sole international operator by January 2006 and will provide for greater price flexibility for TE shares in a future public offering. This comprehensive law provides all the necessary regulations for the market including among others identifying the role of the regulatory body<sup>121</sup>, its objectives<sup>122</sup>, and other issues including the allocation of radio spectrum and regulation of network interconnection. The law transformed TRA into the National Telecom Regulatory Authority (NTRA) enhancing its independence, which remained incomplete as revealed in Box 2.

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<sup>120</sup> Interview with Mr. Akil Bashir, Chairman of TE in November 2004.

<sup>121</sup> According to Articles No. 21, 22, 28, 29, 49 of the Telecommunications Law, the TRA is responsible for (i) licensing, (ii) setting of interconnection rates, (iii) regulating tariff rates, (iv) dispute settlement and arbitration as well as (v) the responsibility of spectrum allocation.

<sup>122</sup> According to Article No. 4 of the Telecommunications Law, "TRA shall encourage national and international investment in this field on a free competition basis", if the number of operators is limited by policy, services are allocated by competitive tender and discretionary decision by the licensing authority."

**Box 1: Main Objectives of the Telecommunications Act (TA)**

- Encouraging fair competition in the provision of telecommunication services and ensuring transparency between operators,
- Addressing the provision of telecommunications services at affordable rates and establishing a universal service fund (USF) to finance it,
- Protecting consumer rights and offering quality service at affordable rates,
- Organizing the licensing of fixed-wire and wireless communications services in a transparent and non-discriminatory environment,
- Handling the management of the frequency spectrum,
- Empowering the role of the telecommunications regulatory authority and ensuring its independence.

Source: [www.mcit.gov.eg](http://www.mcit.gov.eg)

**Box 2: Checklist of the Independence of the Regulatory Body**

- *Lack of adequate autonomy and a clear mandate to make and enforce key decisions, free of political interference:* partially in the case of Egypt where the minister heads the board of TRA and the incumbent fixed line provider,
- *Scarcity of professional and financial resources and limited tenure security for commissioners:* not the case of Egypt,
- *Limited capacity to actively regulate (rather than administer) the sector and to enforce decisions:* the case of Egypt,
- *Limited adoption of transparent regulatory processes and consultation that can help increase public support and enhance investor confidence:* Partially the case of Egypt where the right to appeal is not mentioned in the law explicitly and there is no publishing of draft decisions for circulation for comments,
- *Security of commissioner:* partially in the case of Egypt where he is appointed by the Prime Minister for tenure of two years, however he can be dismissed without identifying the reasons.

Source: Based on Mohamed M (2002) Benchmarking Regulators: Making Telecom Regulators more Effective in the Middle East, Public Policy for the Private Sector, Note No. 247 as cited in Ghoneim, Ahmed and Sherif Kamel (2006, forthcoming), "The Reform and Liberalization of the Telecommunications Sector in Egypt: Future Promises for Development and Growth", Center for Development Studies, Cairo University.

The third step was issuing several licenses for public phones operators. Three licenses for public phone access have been issued in the past three years and currently there are over 25000 public phones spread all over the country covering most of the urban areas and some rural areas. The TE signed a revenue sharing basis formula in the contracts with the contracted operators of the public phone service as mentioned in Section 1. Table 6 shows the number of licenses given by the NTRA in different fields of the sector.

**Table 6: Licensed Telecommunication Services**

Telecommunication Services	Number of Licensees
Mobile services	2
Internet (Class A)	4
Data Networks (Class B)	7
Internet Service Providers (ISPs) (Class C)	121
Global Mobile Personal Communications System (GMPCS)	2
Very Small Aperture Terminal (VSAT)	2
Public Payphone	2
Prepaid Calling Cards	2

Source: www.tra.gov.eg (2004)

The fourth step was anchoring a number of reforms by joining the Basic Telecommunications Agreement in 2002 and the Information Technology Agreement in 2003 (for more details see American Chamber, 2002). The signing of those two agreements signalled the seriousness of reforms undertaken by the Government of Egypt in the Telecommunications Sector.

Regarding eCommerce, a new law (Law of Electronic Signature) to govern e-commerce has been approved in 2004.

Despite such reforms, we believe that the regulatory framework still suffers from several loopholes. It is observed that the regulator might lack full independency for several reasons. The issue is that it is affiliated to the Minister of Communications and Information Technology which is an awkward situation due to conflict of interest. It has been announced by the former Minister that it is a transitional and temporary step as you can not wear two hats all the time<sup>123</sup>. However, the Minister has been appointed as Egypt's Prime Minister in July 2004 and nothing has changed (in contrast to the Competition Authority which is affiliated to the Prime minister and hence it is rather more independent than the case of the NTRA). There are other features of the regulatory body that deprives it from its independency. For example, neither the law nor the executive regulation states the method of pricing that the regulator uses to deal with the incumbent. In general there are three ways, price cap regulation, benchmark regulation, and rate of return regulation. The regulator in Egypt agrees on the pricing regardless of the method adopted. This is likely to lessen its independency given the other conditions due to high political leverage enjoyed by Telecom Egypt. A clear transparent method for pricing is needed to be stated. Moreover, there might be other ways to overcome the awkward situation of the Minister heading the regulatory body. For example, there might be public hearings for the Minister on issues related to regulation. There have been several incidents where the regulatory body showed lack of independence, including the deal of mobiles where the regulatory body was absent from the scene with the exception of cashing in money to approve such deal.

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<sup>123</sup> Regarding his role as head of the Telecommunications Regulatory Authority (TRA), Nazif (the Minister of Telecommunications and now the Prime Minister) admitted that "wearing two hats is a problem." He said that the current arrangement is considered transitional and that the authority would eventually be headed by someone other than the communications minister.

Another major drawback of the regulation in Egypt is that it provides no clear rules on interconnectivity pricing. In fact, rules of interconnection are the core of the problem of anti-competitive behaviour in the telecommunications market (Stephenson, 2002). The lack of appropriate or adequate remedies by governments to these practices to ensure fair network interconnection can result in a major barrier and act as an impediment to competition. There are different ways of regulating prices adopted internationally<sup>124</sup> where none of them seem to be adopted in Egypt (see Ghoneim and Kamel, 2006, forthcoming).

### 3. QUANTIFICATION OF BARRIERS TO TRADE IN THE SECTOR

As for Egypt's GATS commitments, we observe the following: regarding market access in fixed telephony, there are a number of restrictions on commercial presence, however they are planned to be relaxed gradually by 2005 and follow a transparent process of economic needs test. The restrictions are more stringent on international related services. Other modes of supply are not subject to any restrictions (see Annex 1).

The ownership in basic telephony does not suffer from any restrictions and there is no differentiation between private domestic and private foreign ownerships.

There are no restrictions on private and/or foreign ownership in the field of mobile phone services. The NTRA has discretionary power in deciding on prevailing prices (tariffs), however consultation with the operators ensures that they are de facto engaged in the process of tariff determination. Again there are no regional trade agreements that involve mobile services as one of the fields of service liberalization.

The entry to the internet market is not difficult. There is no discrimination against foreign and/or private ownership. The market is a competitive one with the number of the Internet Service Providers (ISPs) increasing at an increasing rate as identified in Section 2. The NTRA is the authority responsible for providing the necessary licensing to operate in this field. It has discretionary power in granting licenses which are subject to consultation with the government and the existing service providers. The Egyptian government did not enter into any regional trade agreements entailing internet services as an element of the agreement.

The joining of the Basic Telecom Agreement in 2002 and the Information Technology Agreement in 2003 helped to enhance the ability of the sector for undertaking further liberalization and reforms.

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<sup>124</sup> The Philippines and Jamaica followed rate of return regulation, although in different forms. On the other hand, Mexico, Argentina and Venezuela adopted cost saving pricing schemes; RPI-X (Galal and Nugent, 1995). The trend in Europe as well as in Australia, USA, Turkey and South America has been towards implementing price cap regulation over the last 15 years (Akdemir et al, 2003)

In a nutshell, the GATS commitments of Egypt can be described to be fairly substantial, with the deeper commitments undertaken in the domestic traditional services, and less sharp commitments in the internationally related (versus domestic) and non-conventional services. The end of the year 2005 represents a benchmark for a number of changes expected to happen either by undertaking further liberalization or by setting the criteria for unclear issues as stated in Egypt's GATS commitments (see Annex 1).

In this section we aim at measuring the tariff equivalent of real practice in the Telecommunications sector in Egypt based on law and practices taking place as revealed by interview results undertaken for this study. Hence, the tariff equivalent estimated is likely to be more restrictive than the one based on GATS commitments as most of the liberalization will take place by end of 2005 and it differs from what law postulates due to the restrictive practices that take place in some sub-sectors as the case of mobile and fixed lines and that are not revealed by law. However, since most of the changes are expected to take place only in the fixed line subsector we developed two tariff equivalents for this subsector where the first reveals the status of the sector before liberalization by the end of 2005 and the second shows the status of the sector if full liberalization following GATS commitments take place. We calculate first the restrictiveness index following the methodology adopted in Warren (2000)<sup>125</sup>, Dee (2003)<sup>126</sup>, and Kimura et. al (2004)<sup>127</sup>. We utilize collected information from the questionnaire on the regulatory environment for the three sub-sectors: fixed line, mobile services, and internet. Restrictions against foreign services suppliers are listed in sector-specific restriction tables, and weights are assigned for listed restrictions. In order to keep comparability with previous studies, we apply the restriction table for telecommunications services developed by Warren (2000) and used by Kimura et. al. (2004). Based on the questionnaire survey and interviews, scoring sheets are filled out to obtain the overall restrictiveness of telecommunications services in Egypt. We obtain the foreign restrictiveness index (FR index) and the foreign discriminatory restrictiveness index (FDR index), the latter being a subset of the former, it covers discriminatory restrictions imposed only on foreign services providers. Then, based on the estimated restrictiveness indexes, ad valorem equivalents of barriers are estimated following Warren (2000), and Kimura et. al (2004).

The method to construct the index is as follows: first, possible restrictions are classified into restriction categories with weights. The weights are determined, based on the importance of the category in terms of how significantly the restriction of the category would limit service suppliers from entering or operating in the market; the sum of weights for all categories is 1. Second, a score with a range from 0 (least restrictive) to 1 (most restrictive) is assigned for each category, according to the degree of restrictiveness, so that the score reflects the type of restriction imposed by an economy.

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<sup>125</sup> Warren, Tony (2000), The Impact on Output of Impediments to Trade and Investment in Telecommunications Services, in Findlay, Christopher and Tony Warren eds., *Impediments to Trade in Services: Measurement and Policy Implications*, London; Routledge.

<sup>126</sup> Dee, Philippa (2003), "Measuring and Modelling Barriers to Services Trade: Australia's Experience", *mimeo*.

<sup>127</sup> Kimura, Fukunari, Mitsuyo Ando and Takamune Fujii (2004), "Estimating the Ad Valorem Equivalent of Barriers to Foreign Direct Investment in Telecommunications Services Sectors in Russia" available at the World Bank website.

Third, the estimated score for each category is obtained by multiplying the selected score by a weight that is assigned to each restriction category. Finally, a restrictiveness index is calculated by summing up the estimated scores.

Our study estimates the (FR index), based on the information obtained from the questionnaire, and after undertaking a review of the Telecommunications Law, other relevant regulations, and the recent available literature. This has been further complemented by undertaking interviews with experts in the field (both academic and policy makers). We estimate also the (FDR index), which captures restrictions imposed specifically on foreign services suppliers and not on domestic services suppliers. In order to estimate this index, lower weights (than those in the calculation of the FR index) are assigned for some restriction categories that apply to both domestic and foreign services suppliers, that is, possible non-discriminatory restriction categories. Since such restrictions could still affect foreign suppliers more seriously, one half of the weight is assigned for these restriction categories to reflect the degree of possible and partial discriminatory restrictions.

To convert FR estimated indexes into tariff equivalents, our study follows the methodology adopted in Kimura et. al (2004) which is based on Warren (2000) to quantify the impact of restrictions on trade in telecommunications sector.

Based on our calculations the FR index for the fixed line was 0.519 and the FDR was 0.387 which represents around 75% of the FR (see Table 1a in Annex 2). We repeated the same exercise assuming the more liberal scenario likely to prevail after the end of 2005. We obtained an FR index of 0.138 and an FDR index of 0.0973 which represents around 70% of the FR index (Table 1b in Annex 2). For the mobile subsector we obtained a FR index of 0.354 and FDR index of 0.235 which represents 67% of the FR (Table 2 in Annex 2). In the internet sub sector we obtained a FR index of 0.124 and FDR of 0.089 which represents 72% of the FR (Table 3 in Annex 2). To calculate the tariff equivalent we follow Warren (2000) and Kimura et. al. (2004). We use the estimated coefficients of the regression results obtained by Warren (2000) for fixed line services and mobile services are presented in Table 7 which is cited in Kimura et. al. (2004). In Warren (2000) the penetration rate of fixed network (mainlines per 100 inhabitants denoted by  $q_f$ ) was regressed on GDP per capita ( $y$ ), household density (number of households per square km denoted by  $hd$ ), percent of mainlines connected to digital exchange ( $dshare$ ), waiting list as a percentage of total demand for mainlines ( $wait$ ), population density (number of persons per square km denoted by  $pd$ ) and measure of trade policy ( $p_f$ ). In the case of mobile services the penetration rate of the mobile network (cellular phones per 100 inhabitants denoted by  $q_m$ ) was regressed on  $y$ ,  $pd$ , and measure of trade policy ( $p_m$ ). In the case of internet Warren (2000) used the same coefficients for the fixed line.

**Table 7: The Estimated Results for the Fixed Line and Mobile Penetration Models**

Dependent variable for the fixed penetration model: mainlines per 100 inhabitants

Dependent variable for the mobile penetration model: cellular mobile subscribers per 100 inhabitants

	The fixed penetration model		The mobile penetration model	
	Coefficient	Standard error	Coefficient	Standard error
Constant	12.26	2.66	-1.3	0.7
GDP per capita (y)	0.004	0.0003	0.0008	0.00005
y <sup>2</sup>	-6.30E-08	0.0	-1.90E-09	0.0
y <sup>3</sup>	1.30E-13	0.0		
Household density (hd)	0.003	0.003		
Waiting list (wait)	-0.08	0.05		
Digitized network share (dshare)	-0.13	0.03		
Population density (pd)			0.001	0.0006
Policy variable (1-FR index)	5.26	3.11		
Adjusted R-squared	0.89		0.78	

**Source:** Warren 2000, Model 5 in Table 6.5 and Model 7 in Table 6.6)

Denoting the value of the trade policy variable under full liberalization approach by  $p_i^*$ , the associated value of the dependent variable by  $q_i^*$  and the price elasticity of demand by  $\eta_i$  ( $i = f, m$ ), where f refers to fixed lines and m indicates the mobiles subsector, we note that

$$\frac{q_f^* - q_f}{q_f} = \eta_f \left[ \frac{p_f^* - p_f}{p_f} \right] \quad \text{and} \quad \frac{q_m^* - q_m}{q_m} = \eta_m \left[ \frac{p_m^* - p_m}{p_m} \right].$$

$$\left[ \frac{p_f^* - p_f}{p_f} \right] 100 = TE_f \quad \text{and} \quad \left[ \frac{p_m^* - p_m}{p_m} \right] 100 = TE_m$$

Hence, the tariff equivalents ( $TE_i$ ) are obtained as follows:

In the case of fixed lines in Egypt we use GDP per capita following World Bank (2005), which was equal to 1490 US \$, the waiting time per 100 inhabitants obtained from International Telecommunication Union (2003) for the year 2001 was equal to 5.83%, the elasticity,  $\eta = -1.2$  was obtained from Albon (1997) as cited in Warren (2000) and Kimura et. al. (2004), the population and household density was replaced by the teledensity obtained from Table 3 above, it equalled 12% and policy variable  $p = (1 - FR)$ . We obtained a tariff rate equivalent of 11.2% in the case of fixed line. When we replaced the FR with an expected FR that is relatively liberal after the full implementation of the GATS commitments by the end of 2005 we obtained a tariff equivalent of 4%. As for the mobile subsector, we applied the same methodology but we eliminated the waiting time variable and changed the constant following Warren

(2000). The tariff equivalent we obtained is 13% in the case of mobile which decreases to 4% if we apply the constant of the fixed line sector instead of the mobile. In the case of internet, where we applied the fixed line coefficients with the exception of policy variable, we obtained a tariff equivalent of 2%.

## 5. CONCLUSION

Studying Egypt's telecommunications sector performance over time, it appears that there is a remarkable success in all indicators where the penetration ratio increased tremendously for fixed phone lines and mobile phones among other services. Hence, it is clear that this sector is doing better than a decade ago, but the question that remains is how good this sector is doing when compared to other countries, and whether the sector could have done better if there was a better reform and liberalization plan. This is a difficult question to tackle because no counterfactual analysis could be adopted where it may be assumed that if reforms and liberalization were undertaken in another way, the impact on the sector's performance could be assessed. In the case of Egypt there are several threats to the reform process where privatization is undertaken without proper regulation, then it will not yield much in terms of economic efficiency as it is just a matter of shifting monopoly rents from the government to a private monopolist (which is the case of the fixed phone line service). Moreover, if enhancement of competition is undertaken without proper regulation, then the situation might end up with a price war that helps neither producers nor consumers who might get bad quality service because of cheap prices. What is needed is adoption of a proper approach to the reform process which should take the elements of sequencing in consideration and should aim at tackling the three main pillars of reform (privatization, competition, and regulation) in the right way.

The study showed that the telecommunications sector in Egypt has experienced several changes on the policy and regulatory level driving the sector with all its subsectors towards liberalization. The estimated tariff equivalents showed that the mobile sector is relatively more highly protected when compared with fixed line and internet. Though this might come as a surprise as the fixed line is likely to be more protective, we believe that this is rather a result of the specification of the model used (which changes tremendously when we apply the fixed line model specification). The estimations showed that there is a high expected decrease in the level of protection in the case of fixed line subsector when the GATS commitments are fully implemented by end of 2005.

The study identified that despite the rapid adoption of new technologies and introduction of IT in different sectors of the economy, as observed by different indicators, Egypt is still relatively lagging when compared to the lower middle income set of countries to which it belongs.

Finally, the study identified that there are a number of regulatory loopholes that still need to be addressed in a prudent manner to ensure better performance of the sector. Such issues are mainly related to the pricing mechanisms, full independency of the regulatory body, and interconnection pricing.



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# COMPETITION IN TELECOMMUNICATION IN TUNISIA

*Mongi BOUGHZALA*<sup>128</sup>

## INTRODUCTION

After pursuing an inward oriented development strategy for many decades, Tunisia switched over to an outward oriented strategy starting in 1986. After a number of reforms in the area of liberalization of trade of goods, and as a result of its accession to the WTO, it is committed to gradually liberalize its trade of services, and it is currently (in 2005) considering and negotiating a new deal with the EU aiming at the formation of a free trade area for services. However, reality remains in contrast with this vision: services are in general hardly open to foreign competition.

More particularly, in the case of telecommunications, the Tunisian government was for a long time reluctant before undertaking any strategic liberalization move, and little was done until 2001. But in 2001, the liberalization process in this sector was accelerated, and the issue is no longer whether or not to open it to competition and to foreign investment but how and how fast to liberalize.

The answer should depend on the expected impact of this liberalization on the telecommunication sector itself and on the whole economy, and also on the way liberalization is designed.

The objective of this study is to provide an estimate of this impact, under the assumption that liberalization means adopting the EU regulations, and that the prevailing free trade agreement between Tunisia and the EU is extended to telecommunication services (and to other services) and fully implemented.

Telecommunications are undoubtedly crucial for any economy, not so much because they represent a high share of GDP or employment but because they are essential for progress and growth in almost all other sectors. It is a network industry subject to rapid technological progress. It provides the main infrastructure for the flow and accumulation of the information and knowledge required for the functioning of the economy, and facilitates technological progress, innovations and human capital formation.

Because it is an industry with increasing returns to scale, given its high fixed costs and low marginal costs, and because it generates important externalities, it is widely agreed that an appropriate mix of competition and government regulation policies is required. Neither free private market nor a state monopoly would be appropriate. Given the high fixed costs involved, privatizing and attracting private investments have become essential to the needed rapid growth of telecommunications. The role of the state is no longer to build and operate the entire telecom infrastructure; but its regulatory and licensing role will remain crucial and challenging even after liberalization. The quality of the regulatory rules and institutions determines the level of private capital participation in this sector, in the sense that poor or unfair regulatory institutions are likely to deter investors and to lead to inefficiencies.

Since liberalization means in this case adopting the EU regulations, we need to recall in a first preliminary section (section 1) the main features of these regulations and the current structure of the telecom sector in Tunisia in a second section before examining the impacts of their adoption in the last section (section 3).

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<sup>128</sup> The author thanks Mohamed BOUHARI and Chokri HAJLAOUI for precious assistance and comments.

## 1. THE MAIN FEATURES OF THE EU REGULATIONS

The liberalization of Europe's telecommunications market, that is the introduction of competition in all the EU countries, has actually been gradual and is still ongoing. It was only in 2002 that a comprehensive framework for telecommunication services in the EU, called the new framework, was adopted. This framework is based on general principles and on specific directives.

### **The general principles are:**

- Regulation should aim clearly defined policy objectives and make sure that they are just necessary for reaching these objectives.
- Regulations should not discriminate against any particular technology.
- Regulations should be enforceable and rely more and more on the EU general competition rules instead of specific rules. The new regulation increased delegation of decision-making to national regulatory agencies (NRAs) *with a view to ensuring the implementation of the framework according to, or as close as possible to, market principles.*

**As to the four specific directives they deal with** licensing, access and interconnection, universal service, privacy and data protection.

1. **Licenses and authorizations:** while admitting the need for licensing and for prior authorization for any provider wishing to supply telecommunication services, the new EU regulation stresses the need to **reduce administrative barriers and to promote competition.**
2. **Access and interconnection:** the possibility for new entrants to interconnect with the incumbent network, and the other existing operators networks, at reasonable cost and conditions is essential to establish competition and for freedom of choice of operators and freedom of establishment. Free access and interconnection are only relative, since it is required that the national regulatory agency (NRAs) plays a central role. In particular, the NRA should negotiate on commercial terms with **owners** with significant market power when requests for access to their network are expressed. The idea is to control this power. The NRAs are given the authority to ensure cost-orientated interconnection. The cost requirement is a basic tariff principle. "The principle of cost orientation in regard to fixed networks has been implemented by all EU Member States, although there are still problems in obtaining proof of costs based on suitable cost accounting systems".
3. **Universal service:** "The current regulatory framework requires NRAs to place obligations on network operators to ensure that a defined minimum set of services of a specified quality are available to all, independent of their geographical location, at an affordable price". Universal service, as currently defined in EU legislation, includes the provision of voice telephony, fax and voice band data transmission via modems (i.e. access to the Internet). The provision of universal service seems to be in practice ensured without major problems.
4. **The interests of users and consumers:** The EU regulations aim to protect the interests of all users and consumers transparent procedures, including user privacy and data protection.

Overall, important gains in quality and reductions in prices for consumers and users have resulted from competition in the EU countries. For instance, as of 2004, the price of incumbents' long-distance calls has fallen by 45% since 1998, and the price of national and international calls has also decreased significantly. Furthermore, the tariffs of new entrants in the market are, in the majority of cases, significantly lower than those of incumbents. "New entrants in Belgium, France, Spain and the United Kingdom thus charge between 36% and 56% less for long-distance calls".

## 2. STRUCTURE AND EVOLUTION OF THE TELECOMMUNICATION SECTOR IN TUNISIA

Many of these EU principles are adopted by the Tunisian fundamental telecommunication law passed in 2001, but not all of them; and, in practice, Tunisia has only recently started the dismantling of its state telecommunications monopoly.

Until 2001, telecommunications were under state monopoly, and until 1996, they were directly operated by the ministry in charge of postal and telecommunication services and the same ministry operated and regulated the sector activities. In 1995/1996, a first round of reforms was undertaken; it consisted in separating postal from telecommunication services and in transferring the management of telecommunications to the newly created state enterprise named TUNISIE TELECOM (TT), operational since 1996. Thus, the legal status of the incumbent national company was changed into a joint-stock company; which potentially opens its capital to private participation. The same year, the government accepted to open a first door to internet users and created the Internet agency (ATI). TT put in the market the first mobile phones in 1998, but until 2002, the number of mobile phones and of internet users remained very low; and Tunisia was clearly lagging behind compared to other neighboring and medium income countries. In 2001, a major action was taken when the fundamental telecom law was passed and authorized the licensing of private operators, and in 2002, a strategic plan aiming at filling the gap and developing the telecommunication sector was published. As a first outcome of this process, a new license was issued and granted to a private mobile operator, Orascome who created Tunisiana, and later another license was granted to an operator specializing in the VSAT segment (leased lines), Divona owned by Monaco Telecom and Planet Tunisia. This new law also adopted the principle of universal service and ascertained the citizen's right to choose his operator. This law also defined a set of licensing requirements and opened the way to the creation of the Tunisian NRA, called INT<sup>129</sup>, which has been gradually and not yet completely, acquiring the means and competencies of an autonomous NRA.

Although the creation of INT is a step forward its autonomy is incomplete and the sector's regulatory function remains fragmented. Nevertheless, the new legal and institutional environment defined by the 2001 law had a tremendous impact on the telecommunication sector, especially on mobile penetration. In few years, the number of mobile phones went from less than 400 thousand to more than four million, corresponding to 44 mobiles for 100 inhabitants. More competition and freedom of access in the internet had also led to a significant increase in the number of users, but by far not as fast as for mobile phones. This rapid evolution does not reflect only the new entrant's performance; the incumbent, TT, has been also rapidly adapting to the new situation and adjusting its strategy to the competition challenge.

However, in the more strategic s fixed phone segment TT remains a monopoly.

In 2005, the structure of the telecommunication sector is as indicated in the following table:

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<sup>129</sup> Instance Nationale de Télécommunications

**Table 1: Structure of the Telecommunication sector in Tunisia**

<b>Fixed Phone</b>	Monopoly
<b>Mobile Phone</b>	Duopoly;
<b>Internet Service Providers</b>	Competition

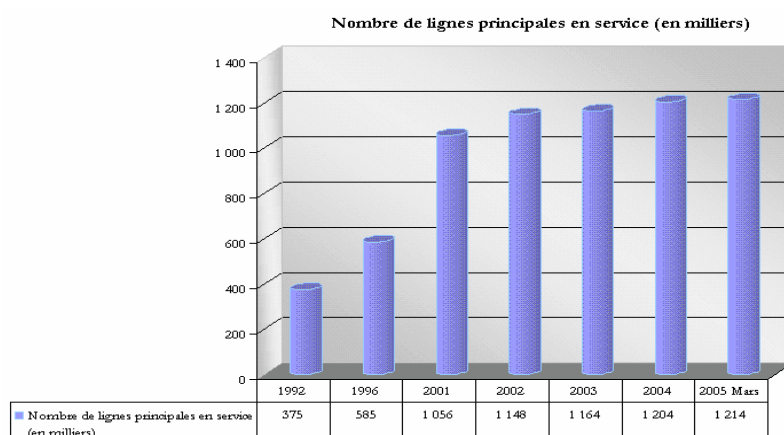
	Main fixed telephone lines	Per 100 inhabitants	Mobile subscribers	Mobiles Per 100 inhabitants
1991	331947	4.02	1239	0.01
1992	374848	4.43	1974	0.02
1993	421362	4.87	2269	0.03
1994	474253	5.4	2709	0.03
1995	521742	5.82	3185	0.04
1996	584938	6.4	5439	0.06
1997	654242	7.08	7656	0.08
1998	752180	8.06	38973	0.42
1999	850381	8.99	55258	0.58
2000		9.98		
2001	1056000	15	389208	4.02
2002	1148000	17.6	561434	5.87
2003	1164000	30.9	1911648	19.69
2004	1204000	49.44	3735695	38.11
2005*	1214000	54.52	4249045	43.35

**Fixed phone is a monopoly;** the incumbent firm, TT, is the only provider of local, long distance and international calls. Moreover, privatization of the incumbent has been delayed. Government remains reluctant regarding the liberalization of the basic fixed services (Actually, the same is observed in many other countries all over the world). Even in the long run, the government intends to keep control of TT by keeping more than 50% of its capital.

Nevertheless, the quality of fixed phone services improved significantly, and digitization of the fixed and mobile line networks has been completed, and prices were lowered,

The following tables and graphs summarize the progress made in terms of higher supply and lower prices.

**Graph No 1: fixed mainlines (1992 – 2005)**



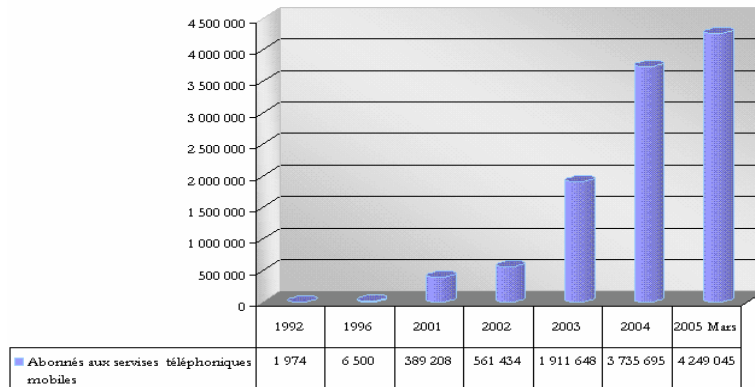
Source: [www.tunisiatelecom.com.tn](http://www.tunisiatelecom.com.tn)

Source: TT [www.tunisiatelecom.com.tn](http://www.tunisiatelecom.com.tn)



### Graph No 2: mobile subscribers (1992 – 2005)

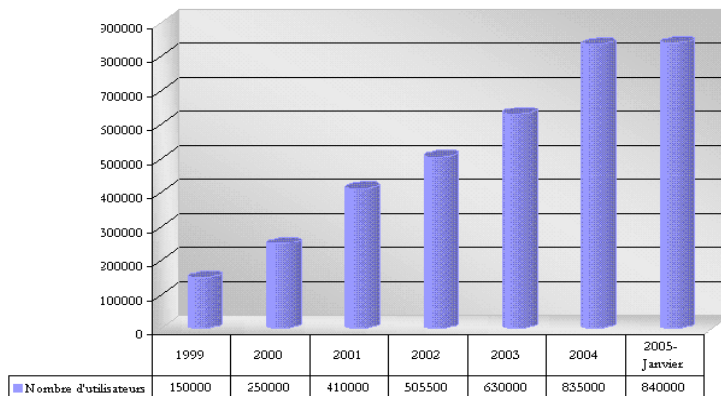
Abonnés aux services téléphoniques mobiles



Source: TT [www.tunisiatelecom.com.tn](http://www.tunisiatelecom.com.tn)

### Graph No 3: internet users

Nombre d'utilisateurs d'Internet



Source: TT [www.tunisiatelecom.com.tn](http://www.tunisiatelecom.com.tn)

**Table 2: Fixed and mobile telephony main indicators**

	3-minute local call (peak rate)	Residential telephone connection charge	Cellular 3min local call (peak rate)	Cellular connection charge
1991	0.07	120		
1992	0.07	120		
1993	0.07	120	1.26	120
1994	0.07	120	1.26	120
1995	0.07	120	1.26	120
1996	0.07	80	1.26	120
1997	0.04	80	1.26	120
1998	0.03	80	0.75	120
1999	0.03	80	0.75	120
2000	0.03	80	0.75	120
2001	0.03	80	0.75	120
2002	0.03	80	0.75	120
2003	0.03	80	0.625	120
2005	0.03	20	0.540	10

Source: TT [www.tunisiatelecom.com.tn](http://www.tunisiatelecom.com.tn)

\* As off March 2005,

**Table 3: internet users**

	Hosts(k)	Hosts per 100 inhabitants	Users (k)	Users per 10.0 inhabitants
2001	218	0.23	410	4.23
2002	341	0.35	505.5	5.16
2003	271	0.27	630.0	6.37
2004			835.0	8.45
2005			840.0	8.50

Source: TT [www.tunisiatelecom.com.tn](http://www.tunisiatelecom.com.tn)

Hence, although rapid progress has recently been made and there is a certain level of alignment with the “acquis communautaire”, including the removal of the legal monopoly of TT in the area of mobile telephony and internet service provision, further efforts remain essential. The remarkable progress achieved in mobile telephony confirms the need for pursuing the liberalization process.

### 3. RESTRICTIVENESS AND LIBERALIZATION OF THE TELECOMMUNICATION SECTOR: MEASUREMENT AND METHODOLOGY

How to measure the expected gain from further liberalization? Two complementary methodological approaches will be adopted. The first is analogous to the methodology used for exploring the benefits of liberalizing banking services; the second is more specific to telecommunications.

In the first methodology is based on calculating a restrictiveness index, which will be converted into a tariff protection equivalent. The second approach proposed here builds on the literature addressing issues specific to network and telecommunication services, initiated by Armstrong (1998), Laffont, Rey & Tirole (1998), and Carter & Wright (1999), and then developed in a large number of articles mainly in Laffont & Tirole (2000), De Bijl & Peitz (2000, 2001), Poletti & Wright (2000), and more recently for the Tunisian case in Bouhari (2005). Using this literature, a specific model is presented here and used for alternative simulation analysis.

#### 3.1. The Restrictiveness index and the tariff equivalent

##### 3.1.1. Methodology:

According to our basic assumption, liberalizing does not imply removing all the restrictions but means adopting the much less restrictive EU regulations and integrating the EU market.

Our methodology for the study of the level of protection of the telecommunication sector and of the impact of its liberalization is again based on the work of McGuire and Schuele (2000) allowing for the calculation of restrictiveness indices. The information needed for this calculation is based on the available data which is partly summarized in the questionnaire on the Tunisian telecom we filled for the purpose of this study and annexed below. Once the restrictiveness index is calculated it is possible to convert it into a tariff equivalent.

To obtain the restrictiveness index we first classify all possible restrictions into various categories with weight corresponding to each category and reflecting its importance. The weights indicate how significantly each category of restriction would limit service suppliers from competing in the market. Evidently, the sum of weights has to equal one.

Once these categories and weights are defined, a score is assigned to each category, according to its actual degree of restrictiveness. The conventional scores are between 0 and 1: zero is assigned if there is no restriction at all, and one if the regulation is so restrictive that no access or competition is possible. The scores reflect our perception of the regulation and the functioning of the system. The restrictiveness index is calculated as the sum of weighted scores.

To convert the restrictiveness index obtained into a tariff equivalent, we use a procedure based on the following specification:

$$p_t = p_T e^{bRI} \quad (1)$$

Where, for a given telecom service,  $p_T$  is the price level when all restrictions are removed and RI indicates the restrictiveness index.  $b$  is a coefficient to be estimated, it indicates the elasticity of the price level ( $p_t$ ) with respect to the restriction index. For our calculation, we take  $b=1$ . This is really an assumption; the only valid evidence to justify it is provided by Warren (2000b) who calculated RI for a twenty countries and estimated an econometric model linking RIs to quantities supplied and to prices and allowing to approximate  $b$ .

The tariff equivalent rate may then be given by:

$$TER = (p_t - p_T) / p_t \quad \text{or, in percentage, by:} \quad 100 * (p_t - p_T) / p_t \quad (2)$$

$$TER = 100 * (e^{b * RI} - 1). \quad (3)$$

### 3.1.2. Estimation of the restrictiveness index and tariff equivalent for the Tunisian telecommunication sector

The above methodology was applied separately to fixed line telephony, mobiles and internet services. The sector overall RI is taken as the average of the three RIs calculated and shown in the following tables. The result is not surprising and confirms that telecommunications are still strongly protected. The RI is equal to 60 percent for fixed lines, 46 percent for mobiles and 53 percent for the internet. The average overall rate is thus 53 percent.

**Table No 4: FIXED LINES restrictiveness index**

Weight	Scoring	category	SCORE
<b>Restriction on commercial presence</b>			
0,2	1	Licensing of fixed line services	0,2
0,1	0,5	Form of commercial presence	0,05
0,2	0,51	Direct investment: equity permission	0,102
0,1	1	Direct investment: restrictions on certain type of services	0,1
0,1	0	Joint venture arrangements	0
0,02	0	Permanent movement of people	0
<b>Other restrictions</b>			
0,1	1	Third party resale of lease lines	0,1
0,05	0,5	End user tariff	0,025
0,05	0,5	Regulation of network interconnection	0,025
0,05	1	Market structure	0,05
0,02	1	Composition of the board of direction	0,02
0,01	0	Temporary movement of people	0
<b>Fixed lines RI</b>			<b>0,602</b>

**Tale No 5: Mobile restrictiveness index**

Weight	Scoring	category	SCORE
<b>Restriction on commercial presence</b>			
0,2	0,75	Licensing of mobile phone services	0,15
0,1	0,5	Form of commercial presence	0,05
0,2	0,5	Direct investment: equity permission	0,1
0,1	0,5	Direct investment: restrictions on certain type of services	0,05
0,1	0	Joint venture arrangements	0
0,02	0	Permanent movement of people	0
<b>Other restrictions</b>			
0,05	0,5	Regulation of interconnection between fixed line and mobile and between mobiles	0,025
0,1	0,5	End user tariff	0,05
0,05	0,2	Allocation of radio spectrum	0,01
0,05	0,5	Market structure	0,025
0,02	0,2	Composition of the board of direction	0,004
0,01	0	Temporary movement of people	0
<b>Mobile RI</b>			<b>0,464</b>

**Tale No 6: Internet restrictiveness index**

Weight	Scoring	category	SCORE
<b>Restriction on commercial presence</b>			
0,2	0,2	Licensing of internet services	0,04
0,1	0,5	Form of commercial presence	0,05
0,2	0,5	Direct investment: equity participation permitted	0,1
0,1	0,2	Direct investment: restrictions on certain type of services	0,02
0,1	1	Joint venture arrangements	0,1
0,02	0	Permanent movement of people	0
<b>Other restrictions</b>			
0,1	1	Regulation of interconnection agreements among internet service providers	0,1
0,1	1	Infrastructure	0,1
0,05	0	Market structure	0
0,02	1	Composition of the board of direction	0,02
0,01	0	Temporary movement of people	0
<b>Internet RI</b>			<b>0,53</b>

Consequently, the overall tariff equivalent is 70 percent.

Put aside some differences and issues regarding the calculation procedure and the parameters estimation, this result puts Tunisia in the same range as Morocco, Malaysia, Turkey and a large number of other countries. Actually Warren gives a higher index for Tunisia (around 90 percent), but this was based on data available in 2000 and Tunisia has meanwhile opened up significantly. Even with 70 percent, there is a lot of room for large future gains from further competition, technical progress and more foreign investments. In what follows, we give the estimated future potential gains.

**Telecommunications Restrictiveness index (RI) = 0,532**

<b>TARIFF EQUIVALENT*</b>	<b>70,6174409</b>
FIXED	82,57666847
MOBILE	59,04229704
INTERNET	70,23335734

\*The overall tariff equivalent is obtained as the average of the fixed, mobile and internet tariffs.

**3.1.3. The impact on prices and welfare**

Let us now assume that the restrictions are removed, so that the level of protection of the Tunisian banking sector is aligned to the EU requirements, obviously this should lead to lower prices for telecommunications services. This price reduction is directly beneficial for all households and enterprises and also for the government who will have access to cheaper services. There are also indirect benefits, since telecommunications services are inputs for almost all other activities. Hence, further price reductions should be generated indirectly. All of these benefits may be expressed in terms of welfare gains, namely in terms of equivalent variation, which may be approximated using available data. Both the impact on prices and on welfare has been computed with the help of input output coefficients and sector value added components.

The basic cost price equation is of the form:

$$p = A'p + \text{remuneration of production factors} = A'p + va \quad (4)$$

Where  $A'$  is the transpose of the input output matrix  $A$ ,  $p$  is the price vector, and  $va$  is the vector of value added per unit of production. This is really a system of  $n$  equations corresponding to the  $n$  commodity prices. It can be used in many ways, including determining the equilibrium commodity prices for given factor prices. And it can be expressed in variation terms ( $\Delta p_i$  instead of  $p_i$ ). An exogenous change of a given price ( $\Delta p_i$ ), in this case a change in the price of the telecommunications services, leads to changes in all prices subject to (4).

Using the 1997 Tunisian 99 sector input output table, the calculations of the price and welfare variations were performed, and they show that in average prices will fall by a half percentage point, and the same will occur in terms of welfare gain when measured by an equivalent variation in income. Again these numbers do not look very impressive but they do not reflect all the expected gain, the largest part of which being dynamic in nature. Telecommunication development is expected to significantly contribute to investment promotion, especially investments intensive in knowledge and advanced technologies.

## 3.2. Simulating the liberalization process

### 3.2.1. The model:

Fixed and mobile telephony are network activities with high fixed cost and low variable cost (and non increasing marginal cost), which leads to decreasing average cost and inevitably to imperfect competition. Throughout the world, the telecom market has evolved to an oligopoly, if not to a duopoly. It is therefore useful to construct a specific model capturing reflecting this type of market structure and the behavior of the main players and operators in this market, including the behavior of new entrants. The model developed in this paper assumes that the market was initially dominated by a state monopoly (the incumbent) and then opened to new entrants, but even then perfect competition will not prevail and the market may remain asymmetrical and one of the operators, more likely the incumbent, may still enjoy a dominant position. The incumbent has a privileged position since any new entrant cannot succeed if it cannot be connected to all users already in the market. Interconnection is not free; a per-minute access charge is to be paid.

Consequently, regulation is needed in particular to ensure that the incumbent and any future provider do not impose excessively high prices and interconnection rates. The new entrant's behavior depends, among other things, on the connection rate. Interconnection pricing is indeed an important issue to be addressed in the context of liberalization.

An entrant may either build its own network or, alternatively, accept an access (unbundling) agreement with the incumbent. In our case, it is more relevant to consider entrants building their own facilities, given that the country's existing capacities are rather limited and well below the current and potential demand for basic telecommunication services. The necessary investments are very high but the state budget is not the only source of investment financing; FDI is expected to fill the financial gap and constitutes an important justification for liberalizing trade of services.

Surprisingly, the inability of the incumbent to fully satisfy the current and future demand and the need for massive investments are not well incorporated in the existing literature; which reflects more developed countries' concerns, where liberalization was justified mostly by the need for higher efficiency through more competition and better regulations, and not by the need for more investments. The framework proposed below, while drawing on this existing literature, tries to better reflect the specific features of the telecommunication sectors in countries like Tunisia (and also Egypt, Morocco and Turkey) and their liberalization process within the EU-Mediterranean context. In particular, it insists on the heavy needs for investments, and on the increasing returns and the risk associated with investment in new networks while the existing models usually assume that fixed costs are independent of the size of the market. Our model also tries to reflect more accurately the timing of the liberalization process. The idea is that in practice, liberalization is achieved according to a series of steps and not in one single move. Initially, the incumbent, whose supply was below the demand level, is to compete with one entrant, and the strategy adopted by each of these two operators

will be determined according to several iterations. None of them can predict every thing at once. In a second phase, a second entrant may be considered, and the two existing operators will have to gradually react to hid decisions, and so on... Thus, the number of firms which will be competing in the market when liberalization is fully achieved is not fixed in advance, and it may vary from one country to another depending on its size and characteristics, but it is expected to remain rather small, maybe 3 to 5 in each country as in the EU countries now (in 2005).

As usual, we assume that consumers pay a two parts tariff defined by a subscription fee  $r_t$  and a per minute price  $p_t$ . Demand by each consumer, in number of call minutes, will be denoted by  $q_t$ . In other words, for simplification sake, we will think of the average consumer making average distance calls, and we do not distinguish between local calls and long distance calls.

- 1) Initially, at time zero, corresponding to the pre reform period, the state monopoly, now called the incumbent, supplied services in quantity  $q_0$  per consumer, and accepted a number of subscribers  $n^*$  smaller than  $n^0$ , the number of those wishing to subscribe. Its initial prices were  $r_0$  and  $p_0$ . The initial excess demand is arguably not caused by low prices, compared to international prices, but by insufficient investments and by the lack of facilities.
- 2) At the second stage, at time one, competition is opened and the first entrant is accepted. In accordance, with the EU regulation, authorization will be granted to this entrant with no major barrier. This entrant has to address a series of decisions: i) How much to invest, or what is the size of the network he is to build? ii) What subscription fee  $r_1$  and what per minute price  $p_1$  should he charge, given the interconnection per minute cost (a) he will be paying to the incumbent for calls originating from his network and terminating at the incumbent's? We will assume that he should reciprocate; so, when his own network is built, he charges the incumbent the same interconnection rate. At this stage, the only decision the incumbent has to make or to negotiate is the level of the interconnection rate a; he will react to the entrant decisions and adjust his own parameters at a later stage.

**Consumers and entrant behavior:**

Concerning the investment decision, we may use the following assumptions:

The total number of potential subscribers  $n_t$  depends on the subscription fee according to the following subscription demand function:

$$n_t = N_t - r_t/b, \quad \text{which gives} \quad r_t = bN_t - bn_t \quad (1)$$

$N_t$  is the maximum number of potential subscribers, when no fee is required. It can be approximated by total population at time  $t$  for mobile telephone and by the total number of subscribers to the electric power network in the country for the fixed line subscribers.  $N_t$  is actually a function of several variables: population, per capita income, population density, and the price of the competing mode of telephony (mobile for fixed and vice-versa)...

$n^0$  is the demand for subscriptions at time zero, for  $r=r_0$ , including those in the waiting list (only  $n^*$  were accepted in the network).

Hence, at time  $t=1$ , the entrant can expect a number of subscribers equal to

$$n^1 = (n_1 - n^*) = (N_1 - n^*) - r_1/b = M_1 - r_1/b, \quad \text{with } M_1 \text{ indicating the maximum potential subscription demand for entrant 1.}$$

Consequently, we can write:

$$r_1 = bM_1 - b n^1 \quad (2)$$

This assumption about the subscription fee means that the consumers derives some utility from owning a telephone line and having access to a network, and that the representative consumer total indirect utility function  $V(r, p)$  may be written as the sum of two separable terms, one depending on the subscription fee and the other on the call price per time unit (usually three minutes).

$$V(r, p) = v_1(r) + v_2(p)$$

$V(r, p)$  is a welfare measure. This measure may be defined such that  $v_1(r)$  indicates the amount of income that the consumer is willing to forego in order to subscribe to the entrant network, and  $v_2(p)$  indicates the amount of income that the consumer is willing to pay for the quantity of calls he wishes to make at price  $p$ . In addition, we can assume that he would be willing to pay an additional fee for an access to the incumbent network, as long as the entrant has not yet built a reputation of quality. The derivative of  $v_1(r)$  with respect to  $r$  must be equal to  $n(r) = N - r/b$ .

In the same manner we will assume that  $v_2(p)$  is such that its derivative gives the individual demand for calls:

$$q(p) = B - \frac{p}{\alpha}, \quad B > 0 \quad \text{and} \quad \text{the total demand: } Q(p) = nq(p) \quad (3)$$

### **Cost functions:**

The subscription fee ( $r$ ) is intended to cover fixed costs, while the per-minute price ( $p$ ) is to cover variable or traffic dependent (variable) cost. Fixed costs include basically construction and maintenance of the network. Traffic dependent costs include charges paid to secure interconnection and access on a regular basis. Although, in practice these variable costs are hard to assess and even to define, the usual convention is to assume that each call involves a two way communication implying a cost of conveying the messages addressed by the user who initiated the call (originating traffic) and a second cost for conveying the messages of the responding user (terminating traffic). We will also assume that the per-minute cost for originating traffic is equal to the per-minute cost of terminating traffic, and equal to  $c$ .

Let us now clarify the form of functions indicating the fixed or investment cost and then the variable traffic dependent cost.

#### ***Fixed cost***

Investment in this sector shows increasing returns to scale, and for simplicity it may be assumed that it is of the form:

$Cf(n^1) = A_1 \log(n^1 + 1)$ , where  $A_1$  reflects not only the state of technology and of factor prices at  $t=1$  but also the country investment risk as perceived by foreign investors, in particular by this first entrant.

#### ***Traffic dependent cost***

To define variable costs, which are the traffic dependent costs, it is important to distinguish the three usual types of calls:



Type 1: Calls within the same network (in our case the entrant's): they are calls that originate and terminate within the same network and do not require any interconnection. For this type, the variable per-minute cost is  $c_{11} = 2c$ .

Type 2: calls that originate from a given operator's network, and that terminate on the others': from the entrant's perspective, this type corresponds to calls made by users belonging to the entrant's network connecting with users belonging to the incumbent's. In this case, the entrant has to pay an interconnection charge, and the cost per call is:

$$c_{10} = c + a.$$

Type 3: Calls originating from the competitor's network; in our case, the incumbent. For the entrant the cost becomes:  $c_{01} = c - a$ . The reason is that the entrant will be charging the incumbent and receiving the interconnection charge.

Moreover, following the conventional assumption in the literature, we admit that the distribution of calls between the three types is given by the entrant's share in the market, ( $s^1$ ), in the following way.

( $s^1 = n^1/n_1$   $n^* + n^1 = n_1$  is the market total number of subscriptions;  $n^1$  is the number of subscriptions supplied by the entrant)

$s^0 = 1 - s^1$  ( $s^0$  is the incumbent's share;  $n^*$  is the number of subscriptions he supplies)

The entrant is involved in  $Q_{11}$  calls of type 1,  $Q_{10}$  calls of type 2 and  $Q_{01}$  calls of type three.  $Q_{11} = n^1 q^1 s^1$ ;  $Q_{10} = n^1 q^1 s^0$ ;  $Q_{01} = n^* q^0 s^1$ . In other words the number of subscribers in the two networks is supposed to determine proportionally the distribution of the calls in all directions.

Given these assumptions, the variable cost function becomes:

$$Cv(q^1, n^1) = n^1 [2 q^1 s^1 c + q^1 s^0 (c+a) + n^* q^0 s^1 (c-a)]$$

Thus the entrant's profit function can be written in the following form:

$$\Pi^1 = n^1 q^1 \alpha (B - q^1) - 2n^1 q^1 c + n^1 s^0 (q^0 - q^1)(a - c) + n^1 b (M^1 - n^1) - A \log(n^1 + 1) \quad (4)$$

This is really a simplified form of the profit function: only a single time period is considered and fixed and variable costs are added up. Implicitly, this assumes that only the part of fixed cost used up during the time period is included and that an average income is entered. In other word, we should think of the average yearly profit obtained during the firm's life time.

We assume, at this stage, that the market becomes a duopoly, and no regulator is involved. The regulator will be introduced later and his impact on the market will be highlighted.

### The entrant and the incumbent strategies:

Maximizing the entrant's profit with respect to  $q^1$  gives:

$$\frac{\partial \Pi^1}{\partial q^1} = 0 \Rightarrow -2\alpha q^1 + \alpha B_1 - 2c - s^0 (a - c) = 0 \quad (5)$$

$$\Rightarrow q^1 = \frac{B}{2} - \frac{2c + s^0(a-c)}{2\alpha} \quad (6)$$

Combining (5) and (6) leads to:

$$\prod^1 = \alpha n^1 (q^1)^2 + n^1 s^0 (q^0) (a-c) + n^1 b (M^1 - n^1) - A \log(n^1 + 1) \quad (6)$$

And maximizing profit with respect to  $n^1$  gives:

$$(q^1)^2 \alpha + s^1 s^0 q^1 (a-c) + (s^0)^2 q^0 (a-c) + bM^1 - 2n^1 b - \frac{A}{n^1 + 1} = 0 \quad (7)$$

With  $\frac{\partial s^0}{\partial n^1} = \frac{-s^0 s^1}{n^1}$ ,  $\frac{\partial s^1}{\partial n^1} = \frac{s^0 s^1}{n^1}$

And  $\frac{\partial q^1}{\partial n^1} = \frac{s^0 s^1 (a-c)}{n^1 2\alpha}$

This is a system of non linear equations whose solution yields the value of  $n^1$  and  $q^1$ . Their calculation is indeed possible and is facilitated by the use of the soft wear GAMS. However, the parameters have to be estimated beforehand. The result will be discussed below.

When the entrant's decisions are made and his prices known, **the incumbent** (TT) ought to respond. We assume that TT, since it is already transformed into a stock company, also becomes interested in profit maximization. At this stage, we assume that TT has the same technology as the entrant and hence has a similar profit expression. The only difference in terms of production possibilities is due to the age advantage of TT, which has already built the existing network and has better knowledge of the market. Assuming that the two operators initially have the same technology is useful as it allows isolating the effect of competition from the effect of technical progress. It is an important fact that monopolies like TT achieved major progress using new technologies and without competition.

TT will react first in the short run by modifying its prices and the interconnection charge (a). In the long run, TT will consider investing more and changing its production capacity and market share.

When writing the incumbent's profit we assume that its fixed cost is half the entrant's, given what he already accumulated over the years and paid off.

$$\prod^0 = n^0 q^0 \alpha (B - q^0) - 2n^0 q^0 c + n^0 s^1 (q^1 - q^0) (a-c) + n^0 b (M - n^0) - \frac{A}{2} \log(n^0 + 1) \quad (8)$$

$$\frac{\partial \prod^0}{\partial q^0} = 0 \Rightarrow -2\alpha q^0 + \alpha B - 2c - s^1 (a-c) = 0 \quad (9)$$

$$\Rightarrow q^0 = \frac{B}{2} - \frac{2c + s^1 (a-c)}{2\alpha} \quad (10)$$

TT maximizes its profit with respect to a, given  $q^1$

$$\frac{\partial \Pi}{\partial a} = 0 \Rightarrow s^0(a-c) - \left( \frac{B\alpha}{2} - c - \alpha q^0 \right) = 0$$

$$a = c + \frac{1}{s^0} \left( \frac{\alpha B}{2} - c - \alpha q^0 \right) \quad (11)$$

Once the new value of **a** (the interconnection charge) is determined, TT determines its new capacity in terms of number of lines supplied and its new connection fee by solving a system of equation similar to the one solved by the entrant's. No change with respect to the demand and technology coefficients is to be introduced, as assumed.

Of course this is not the end of the process; the entrant is also likely to respond again to the incumbent move and may change its price and connection fee... For this duopoly problem this game will normally converge to Cournot-Nash equilibrium.

At a further stage, assuming profits are high enough, a third operator may be attracted and may enter the market eventually with a more efficient technology. It is possible to use the same framework in order to study the new evolution of the market.

### 3.2.2. Simulation results

We have performed some simulations only for fixed lines which remain as off 2005 a monopoly of TT. We assume that it is liberalized and we focus on the duopoly case, first without technological progress and technological differences and without a regulating agency. These two features are introduced in a subsequent stage. As a prerequisite for these simulations all the parameters of the model were estimated using 1990-2004 Tunisian data (provided by TT, the incumbent operator). Reasonable econometric estimates of the demand and cost functions were obtained. The findings given by the simulations are also quite significant, and are presented here after.

OLS estimation, after checking for stationarity, gave the following values for the estimated coefficients:  $c=0.05$  ;  $b=0.001$  ;  $\alpha =0.00001$  ;  $B=24000$

#### **Impact on the telecom sector: similar technologies and no regulatory agencies (NRA)**

Assuming that the incumbent TT is transformed into a stock company and that a license is attributed to a new entrant, we compute the interconnection charge (**a**), prices (**p**<sup>i</sup>), the subscription fee (**r**<sup>i</sup>) and the number of main fixed lines supplied by the operator **i**, **n**<sup>i</sup>, (**i**=0 for the incumbent TT, and **i**=1 for the new entrant). The price for a call unit (three minute) is an average price or the price of an average distance call since no distinction is made between short, long and international calls. A series of iterations are summarized in the following tables. Given the initial prices, particularly the interconnection charge (**a**) and the non satisfied demand, the new entrant first declares its prices (subscription fee and call prices) and capacity measured by the number of lines it is willing to supply. In 2004, around the potential non satisfied demand is assumed to be equal to one million lines (this number is higher than the official one which does not include demand not expressed explicitly because the existing basic infrastructure does not cover the entire country). The interconnection charge is assumed to be equal to 0.100 Tunisian Dinars for a three minutes call (TND; **one TND is approximately 0.6 euro**), and the subscription fee equal to 0.200 TND.

The entrant first decides to supply a little less than seven hundred and fifty thousand lines; which is a reasonable and important number for Tunisia whose total population is a little less than ten millions and the number of fixed lines demanded and not supplied is around one million. This way, the new entrant has one third of the market. The subscription fee he announces is 250TND, and the three minute price is 0.187 TND. These are also conceivable average prices compared to the initial prices.

Given this move, the incumbent reacts, he lowers the call price one step further to 0.170 TND and above all he decides a sharp decrease in the subscription fee from 250 to just 50TND. He also reduces the interconnection fee by half to 0.05TND, and he significantly but rather slightly increases his capacity in terms of lines.

At the third iteration, it is the entrant's turn to react; this time he decides to slightly reduce his call price from 0.187 to 0.178 TND and to sharply reduce his subscription fee to less than the incumbent's, to 40TND. Hence, he manages to keep his market share.

In the following iterations, the subscription fee keeps falling rapidly, and in the fifth iteration it reaches zero, the absolute minimum; then, all the potential demand for additional lines is satisfied. However, competition over the call price continues, this price keeps decreasing (while of course the number of calls keeps increasing). The limit of this process is reached when the Cournot equilibrium is obtained. Then the duopoly price for a three minute call, a common price for the two operators, becomes 0.082 TND, compared to 0.200 initially, and the new entrant covers 43.6 percent of the market. This result is once again quite reassuring because, in practice, telecommunication companies tend to reduce their subscription fees substantially as a means to attract subscribers to their network.

Table No 7: THE ITERATIVE COMPETITIVE PROCESS (prices in TND)

Iteration (t)	0	1	2	3	4	5	.....
interconnection rate (a)	0.1		0.05	0.05	0.05	0.05	
Subscription fee ( $r^i$ )	250	250	50	40	10	0	
Call price ( $p^i$ )	0.2	0.187	0.170	0.178	0.170	0.177	
New entrant market share( $s^i$ )	0	0.333	0.333	0.336	0.315	0.413	

Table No 8: The Cournot equilibrium

	1 new entrant	2 new entrants
a	0.05	0.039
$r^i$	0	0
$p^i$	0.082	0.06
$s^0$	0.564	0.417
$s^1$	0.436	0.333
$S^3$		0.250

At a further stage, we assume that a second license is conceded to a second entrant who will be competing with the incumbent and the first entrant. **This simulation** shows that further gains in terms of prices are possible, but they are much smaller than those generated by the accession of the first entrant. The outcome is summarized by the new Cournot equilibrium characterized, as in the duopoly case, by the same zero subscription fees and by a call price equal to **0.06** instead of **0.082** in the case of a duopoly. The second entrant captures 25 percent of the market, while those of the first entrant and the incumbent are reduced to 33 and 41.7 percent, respectively.

The lesson from this exercise is that competition by itself, although imperfect does generate high gains in terms of prices, but it does not exclude price fluctuation at least during the initial phase. However, more substantial gains remain possible when a national regulatory agency (NRA) is empowered and more so when technical progress is integrated in the model.

It is also worth noticing that the price reduction for a three minute call is remarkably close to the result obtained through the tariff equivalent method, but this latter method does not provide any information regarding the subscription fees.

#### **Integrating technological progress and a NRA**

The integration of the NRA may lead to many changes; for illustration we give only a simple example, which is to conform to cost oriented pricing when setting the interconnection charge ( $a$ ). The straight forward case is when ( $a$ ) is set equal to the marginal cost term ( $a = c$ ). Then a 10 percent gain in prices is obtained. But much higher gains can be generated by technical progress. Technical progress may reflect either a lower marginal cost or a lower fixed cost. For instance, a 50 percent reduction in the value of ( $c$ ) leads to an equal reduction in price;  $p$  would then equal 0.04 TND instead of 0.08.

Annex 2:

Telecommunication questionnaire

## **Fixed Line Services**

**Note: Unless specified, please give information for the latest year available and indicate which year. If insufficient space is provided, please attach additional information on separate sheets.**

I. Policy Section

A. Market Access

1. Are there policy restrictions on new entry?

Yes

*Commercial Presence(International and domestic services using any means of technology: Voice telephone services, Telex services, Telegraph services, Facsimile services, Private leased lines (International Only))* YES

*Commercial Presence(Data Services, Private Leased Lines and Internet Services)*

YES

*Cross Border Supply (Telecommunications Services, International and domestic services using any means of technology: Voice telephone services, Telex services, Telegraph services, Facsimile services, Private leased lines (International Only), Data Services, Private Leased Lines and Internet Services*

YES

*For all kinds of services, access should be approved by the minister in charge of telecommunications (Telecommunication Law2001, chapter 2 article 10), concessions are subjected to article 27).*

Policy restrictions exist for:

	Entry by any firm*	If yes, total number of firms allowed	Entry by foreign firms*	If yes, number of foreign firms allowed (as off August 2005)
Local services <sup>130</sup>	<input checked="" type="checkbox"/> Yes	Monopoly	<input checked="" type="checkbox"/> No	
Long distance	<input checked="" type="checkbox"/> Yes	Monopoly	<input checked="" type="checkbox"/> No	
International	<input checked="" type="checkbox"/> Yes	Monopoly	<input checked="" type="checkbox"/> No	
Leased line <sup>131</sup>	<input checked="" type="checkbox"/> Yes	Duopoly	<input checked="" type="checkbox"/> Yes	One

2. If entry is restricted, what are the reasons, if any, provided by the government?

- To give incumbents time to prepare for competition.
  - To increase government revenue from privatization or license fees
  - Exclusive rights believed necessary to attract (strategic) investment
  - Exclusive rights to allow the provision of universal service
- Other:

3. Are there any restrictions on the provision of basic telecommunication services through networks other than the public switc network?

Cable television network  No  Yes (there is no cable television network)

<sup>130</sup> If policy restrictions on new entry in local services differ across regions within the country, please explain on a separate sheet.

<sup>131</sup> Leased line services are defined as the ability of telecom service suppliers to sell or lease circuits for any type of bulk network capacity (cable, satellite, wireless) to third parties.

Internet	No	<input checked="" type="checkbox"/> Yes
Satellite	No	<input checked="" type="checkbox"/> Yes
Other: _____	<input type="checkbox"/> No	<input type="checkbox"/> Yes

If yes, please explain the nature of the restrictions: *A license is required*

---

4. Do market entrants have to use the incumbent carrier's gateway(s) for international connections?

No  Yes

---

5.

Domestic  No  Yes

International  No  Yes

If yes, please specify the designated countries:

B. Ownership

Is private ownership in the provision of services allowed?						
	Existing operators		Maximum private equity permitted (%)	New entrants		Maximum private equity permitted (%)
Local services	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	35%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
Long distance	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	35%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
International	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	35%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
Leased line	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	35%	<input type="checkbox"/> No	<input type="checkbox"/> Yes	100%

7. Is foreign ownership in the provision of services allowed?						
	Existing operators		Maximum foreign equity permitted (%)	New entrants		Maximum foreign equity permitted (%)
Local services	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	49%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
Long distance	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	49%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
International	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	49%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
Leased line	<input type="checkbox"/> No	<input type="checkbox"/> Yes	49%	<input type="checkbox"/> No	<input type="checkbox"/> Yes	100%

8. Are there any restrictions on companies offering services in more than one market segment (local, long



distance, international, leased line)?

No  Yes

If yes, please explain the nature of these restrictions:

### C. Regulation

#### 9. Institutional status of sector regulator

a) When was the regulator established? (2001, law 1-2001)

b) Is the sector regulator independent from the incumbent PTO?  No  Yes\*

c) If yes to b), is the regulator independent from the sector ministry?  No  Yes

*\*The regulator is not fully independent in practice given the structure of its board and management, however it is financially independent since 2002 (its financial resources in 2003 are estimated to 1.5 million Dollars especially from licenses fees). It also has a consultative role to the minister for some questions.*

*Llaw 2002-46 of May 7<sup>th</sup> 2002 is giving the INT more independence and autonomy. (Article 41(bis); 63(bis) .*

SOURCE ARTICLE 71, 67 and law 2002-46

#### 10. Please indicate regulatory responsibilities for the following functions:

	Licensing	Setting of interconnection rates	Regulation of retail tariffs	Dispute settlement and arbitrat
Operator	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ministry	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input type="checkbox"/>
Regulator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other (specify)				

Source: Article No. 18, 36, 17 and 67

*\*A consultative role only; ministry is the main decision maker*

#### 11. How are licenses for fixed line services allocated?

a) If the number of providers is limited by policy, through what mechanism are licenses allocated?

Competitive tender ( *after a pre-selection phase*)

Discretionary decision by the licensing authority

Other: \_\_\_\_\_

Source: Article No.19 and 20

b) Do licenses foresee specific network roll-out plans?

No  Yes\*

*\*to cover the entire national territory*

Source: Article No25

c) Are foreign firms subject to different licensing requirements from domestic firms?

No  Yes

If yes, please specify what additional requirements have to be met by foreign operators:

Source:

d) Do licenses grant exclusivity periods?

No  Yes

If yes, please indicate for the relevant market segments (digital, analogue) when the

Source:	exclusivity period will expire? Not implemented yet
12. Regulation of network interconnection	
How are interconnection agreements among carriers determined?	
<input type="checkbox"/> Private negotiations between parties <input checked="" type="checkbox"/> Private negotiations, but general terms determined by regulatory agency <input type="checkbox"/> Detailed terms of interconnection determined by the regulatory agency <input type="checkbox"/> Other: _____	
Source: Article N° 37	
13. End-user tariffs	
a)	How are end-user tariffs determined in your country?
<input type="checkbox"/> By market forces (i.e., not regulated) <input checked="" type="checkbox"/> Price caps established by the regulator <input type="checkbox"/> Rate of return regulation <input checked="" type="checkbox"/> Other: Price caps are allowed by the authority of telecommunications	
Source: Article N° 17	
b)	Is there a plan to rebalance tariffs in your country? <sup>132</sup>
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please indicate when this plan is scheduled to be completed: It is a rather implicit and no deal set. According to the current legislation, prices should be aligned to costs structure and the INT could intervene if the condition is not respected.	
Source: See Annex I	
14. Public consultation and transparency	
Which of the following are consulted in advance of regulatory decisions?	
<input checked="" type="checkbox"/> Service providers <input checked="" type="checkbox"/> Consumer groups <input type="checkbox"/> User industries <input checked="" type="checkbox"/> Other: the ministerial department and technical commissions composed by technicians and experts	
Source: ARTICLE N° 76: "Any new legal arrangement has to be set after consultation with all involved parties (ministerial departments, specialized agencies, operators and providers of telecom services, consumers group,.. ). "	

#### D. Regional Integration Agreements in Fixed Line Services

Please indicate if there are any preferential arrangements and/or cooperative arrangements affecting fixed line services, and list the measures.<sup>133</sup>

<sup>132</sup> Tariff rebalancing may take place when a dominant carrier provides both domestic and long distance/international services. It usually takes the form of the elimination of cross-subsidies from long distance/international services to the local segment of the domestic market.

<sup>133</sup> Please, specify how the treatment of fixed line service suppliers of member countries of the agreement differs from the treatment of fixed line service suppliers of non-member countries.

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures
EU-Tunisia association agreement	European Union	Nov 1995	Cooperation The main agreement with res services is yet to be negotiate

#### E. Past and Future Changes in Policy

16. Please indicate major changes in market access policies, ownership rules, and regulation as well as changes that are anticipated (e.g., privatization of incumbent operator, introduction of competition, creation of an independent regulatory agency).

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
« Centre d'Etudes et de Recherche des Télécommunications, CERT » created.	1990.	<i>Restructuring of telecoms sector : separation of technical and operati functions from administrative and regulatory functions</i>
Creation of the competition counsel	1991	<i>Has a competency in case of conflict, and of anticompetitive behavior.</i>
<i>Restructuring of the incumbent operator</i>	1995	<i>Law N° 95-36 17/04/1995 creates "l'office National des Télécommunications" (commercially named « Tunisie Télécom »)</i>
<i>Creation of a regulatory authority</i>	2001	<i>Law 2001-1</i>
<i>Tariffs Reductions</i>	05/2005	<i>The reduction of prices of different services ( local, long distance ar international)</i>
<i>international communication</i>		
<i>Telecommunications Law</i>	2001	<i>Law N°2001-1 15/01/2001</i>

#### F. Universal Service

17. How does the government define universal service (or universal access)?

*Universal access is defined as the right for every person to have access to basic telecommunications services over a territories of the republic, to get benefits from others telecommunications services and that depends on the coverage of that services. The list of services is set by the minister after consulting with the regulator (INT). The list includes , least the minima phone services, the free termination of emergency call, the provision of information services and telephone directory (printed form or electronic)*

Source: ARTICLE N°3 and 11

18. What are the policy instruments used to pursue the universal service objective?

- Roll-out obligations in services licenses
- Subsidies to operator(s), e.g., from universal service funds or state budgets
- Vouchers for target consumers

Other:

Source: article 13 and 14

19. On which service suppliers are universal service obligations imposed?

- Incumbent operator
- Private operators offering local services
- Private operators offering long distance and international services
- Other: all operators

Source: Article 12

A. Investment

26. Investment indicators (for the years 1990-2000)

What is the total amount of investment in fixed line services? 178Million TND (1998)

What is the total amount of foreign direct investment in this sector? 0

What is the total stock of foreign direct investment in this sector? X%

Source:

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

**Supprimé** : II. Market Structure Section¶

¶ 20. Please list the characteristics of all facilities-based operators providing local services (starting with the incumbent PTO).¶

Name of firm

... [1]

B. Prices

Please indicate the prices of the following services. Where relevant, distinguish between peak and off-peak charges. For a comprehensive assessment of telecommunications performance, it would be extremely useful to have historical data on prices for the various services<sup>134</sup> If time series data are available, please attach them separately (preferably electronically).

Service	Price (in local currency)	Date	Comments
Installation charges*	Residential =20 TND Business = 20TND	05/2005	A sharp decrease ; it used to be 120TND until 2003
Monthly <u>ption for business</u> *	=2.5TND	05/2005	
<u>Monthly subscription for households</u> *	= 2.5TND	05/2005	Constant since 1995
3-minute local call*	=0.03TND	05/2005	Local call ( less then 1200 minutes; 0.06 TND otherwise)
3-minute <u>domestic</u> Long distance call*	Peak =0.06 Off-Peak =0.042  Peak = 0.3 Off-Peak = 0.21	05/2005	Less than 50 km  More than 50 km
3-minute call to	Peak=0.102 Off-Peak=0.304	05/2005	
3-minute call to Tokyo (peak)			
3-minute call to middle east and West Europe	Peak= 0.115 Off-peak=0.495	05/2005	

<sup>134</sup> Note that some of the price indicators are available in the World Telecommunication Indicators, published by the ITU.

3-minute call to Latin America and Eastern Europe	Peak=1.86 Off peak=1.83		
Monthly leased line charges (capacity: 56Kbs)			

*Prices have been significantly decreased: between 30%, for long distance and 80% for short distance.*

Source: See annex I

#### D. Quality and Access to Services

28. Please fill in the following indicators of quality and access to services. If time series data are available, please attach them separately (preferably electronically)<sup>135</sup>.

Indicator	Value	Date	Comments
Total number of main telephone lines in the country	1214000 521742	2005 1995	
Number of main telephone lines in rural areas	Not available		
<u>Number of main telephone lines in urban areas</u>			
Number of payphones and/or call centers	6800 38831	1996 2005 (as off March 2005)	
Waiting time for installation of basic telephone services	?????	1995 2001 2005	
Waiting list for installation of basic telephone services	129518 ?????	1995 2005	
Percentage of network that is digitized	80.8% 100%	1995 Starting 1999	
Percentage of unsuccessful calls			
Faults per 100 main lines per year %	78.6 29	1995 2001	
Are callback services available?	Yes		
Percentage of households with access to cable television	0		There is no cable television

Source:

Please, provide the name and contact information of the respondent of this questionnaire, or of a specialist from whom we can obtain clarifications if necessary.

## Telecommunications—Mobile Services

<sup>135</sup> Note that some of the quality and access indicators are available in the World Telecommunication Indicators, published by the ITU.

Note: Unless specified, please give information for the latest year available and indicate which year. If insufficient space is provided, please attach additional information on separate sheets.

I. Policy Section

A. Market Access

Are there policy restrictions on new entry? <sup>136</sup>						
YES						
	Entry by any firm		If yes, total number of firms allowed	Entry by foreign firms		If yes, number of foreign firms all
Analogue mobile	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	
Digital mobile	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	3*	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	2
Source: -ARTICLE N° 19						
If entry is restricted, what are the reasons provided by the government?						
<input checked="" type="checkbox"/> To give incumbents time to prepare for competition <input type="checkbox"/> To increase government revenue from privatization or license fees <input checked="" type="checkbox"/> Exclusive rights believed necessary to attract (strategic) investment <input type="checkbox"/> Limited availability of radio frequencies <input type="checkbox"/> Other: __						
*The third license is envisaged _____						

B. Ownership

Is private ownership in the provision of services allowed? YES						
	Existing operators		Maximum private equity permitted (%)	New entrants		Maximum private equity permitted (%)
Analogue mobile*	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	35%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	*
Digital mobile	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	35%	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	100%
* The existing private operator uses digital technology only.						
Source:						
4. Is foreign ownership in the provision of services allowed? YES						
	Existing operators		Maximum foreign equity permitted (%)	New entrants		Maximum foreign equity permitted (%)

<sup>136</sup> If policy restrictions on new entry in analogue or digital mobile differ across regions within the country, please explain on a separate sheet.

Analogue mobile	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
Digital mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes 35%	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes 100%
Source:		

C. Regulation

5. Please indicate regulatory responsibilities for the following functions:

	Licensing	Setting of interconnection rates	Regulation of retail tariffs	Dispute settlement and arbitration	Spectrum Allocation
Operator	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ministry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other: -Agence Nationale des fréquences) -National Competition Board (Conseil National de la concurrence)				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Source: Article No. 18, 36, 17, 67 and 46

6. How are licenses for mobile services allocated? If the number of operators is limited by policy, through what mechanism are service licenses allocated?  
Source:

Competitive tender  
 Discretionary decision by the licensing authority  
 Other: \_\_\_\_\_

b) Are foreign firms subject to different licensing requirements from domestic firms?  
 No  
 Yes If yes, please specify what additional requirements have to be met by foreign operators:

Source:

c) Do licenses foresee specific network roll-out plans?  
 No  Yes ( the obligations of covering all the national territories)

Source:

d) [Do licenses grant exclusivity periods](#)  
 No  Yes

If yes, please indicate for the relevant market segments (local, long distance, international,) [when](#) the exclusivity period [will](#) expire? 30 month starting 27/12/2002.

Source: LAW n 46 -2002 ( May 7th 2002) see annex I

## 7. Allocation of radio spectrum

- a) If radio frequencies are not awarded with the service license, through what mechanism are licenses for radio frequencies allocated?
- Auction
  - Discretionary decision by the licensing authority
  - First come, first served
  - Other: There are license fees fixed by the authorities

Source: Article 51

- b) Is there a separate fee for radio frequency licenses?

No  Yes If yes, please indicate the average fee paid by operators: Approximately NOT AVAILABLE.. per annum

Source:

## 8. Regulation of network interconnection

- a) How are interconnection agreements between mobile and fixed-line carriers determined?
- Private negotiations between parties
  - Private negotiations, but general terms determined by regulatory agency
  - Detailed terms of interconnection determined by the regulatory agency
  - Other:

Source: Article N° 37

- b)
- Private negotiations between parties
  - Private negotiations, but general terms determined by regulatory agency
  - Detailed terms of interconnection determined by the regulatory agency
  - Other:

Source: Article N° 36 and 37

- c) Which of the following aspects of interconnection are set by the regulatory agency?
- Technical standards (minimum requirements to be set by INT)
  - Procedures for interconnection
  - Time frames for interconnection
  - Points of interconnection
  - Price of interconnection
  - Other: \_\_\_\_\_

Source: Article N° 36 and 37

- d) Are interconnection agreements required to be made public?

No  Yes

Source: Article N°38

- e) Which of the following interconnection pricing rules are applied in your country?
- Reciprocal pricing<sup>137</sup>
  - Unbundling<sup>138</sup>
  - Imputation<sup>139</sup>

<sup>137</sup> Reciprocal pricing requires that all networks charge the same amount to terminate calls coming from other networks.

<sup>138</sup> An 'unbundling' policy requires the dominant network operator to sell network components independently of each other, so that rival networks are not forced to buy services they do not need.



Source:  Other: \_\_\_\_\_

f) Are mobile carriers allowed to charge for incoming mobile calls?  
 No  Yes  
 If yes, do mobile carriers actually charge for incoming calls?  No  Yes

Source:

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9. How are end-user tariffs for mobile services determined in your country?

By market forces (i.e., not regulated)  
 Price caps established by the regulator  
 Rate of return regulation  
 Other: \_\_\_\_\_

Source:

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10. Public consultation and transparency

Which of the following are consulted in advance of regulatory decisions?

Service providers  
 Consumer groups  
 User industries  
 Other: the ministerial department and technical commissions composed by technicians and experts

Source: ARTICLE N° 76, and annex I :

D. Regional Integration Agreements in Mobile Services

11. Please indicate if there are any preferential arrangements and/or cooperative arrangements affecting mobile services, and list the measures.<sup>140</sup>

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures

E. Past and Future Changes in Policy

12. Please indicate major changes in market access policies, ownership rules, and regulation since 1990, as well as changes that are anticipated, grant of additional mobile licenses, relaxation of ownership rules).

<sup>139</sup> Imputation rules are designed to eliminate any markup on services components sold to competing firms over and above the implicit charges for internal use – and should tend to equalize prices charged by direct competitors.

<sup>140</sup> Please, specify how the treatment of mobile service suppliers of member countries of the agreement differs from the treatment of mobile service suppliers of non-member countries.

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
<i>Licensing</i>		
<i>A second license granted to ORASCOME</i>	2002	From a monopoly the market changed to a duopoly

## II. Market Structure Section

13. Please list the characteristics of all operators providing analogue mobile services.

Name of firm	Year the firm first offered services	Technology	share	Owners of capital and their respective shares (domestic/foreign)
Tunisie Telecom	1995	RTM and RTF	100%	100% Government property

14. Please list the characteristics of all operators providing digital mobile services.

Name of firm	Year the firm first offered services	Technology (e.g., GSM, CMDA)	Market share	Owners of capital and their respective shares (domestic/foreign)
<i>Tunisie Telecom</i>	1995	GSM		100% Government property
<i>Tunisiana</i>	12/2002	GSM		100% foreign

## III. Performance Indicators Section

### A. Employment NOT AVAILABLE

<p>15. Main employment indicators (for the years 1990-2000)</p> <p>How many people are employed in the provision of mobile services?</p> <p>What share of the total labor force is employed in this sector?</p> <p>What share of workers in this sector is employed by state-owned operators?</p> <p>What share of workers in this sector is employed by foreign-owned service providers?</p> <p><a href="#">What is the annual average wage in this sector?</a></p> <p>If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.</p>
--

### B. Investment

<p>16. Investment indicators (for the years 1990-2000)</p> <p>What is the total amount of investment in mobile services?</p> <p>What is the total amount of foreign direct investment in this sector?</p> <p>What is the total stock of foreign direct investment in this sector?</p>
---

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

C. Prices

17. Please indicate the prices of the following services. Where relevant, distinguish between peak and off-peak charges. For a comprehensive assessment of mobile performance, it would be extremely useful to have historical data on prices for the various services. If time series data are available, please attach them separately (preferably electronically).

Service	Price (in local currency)	Date	Comments
Acquisition of handset			
Monthly rental charges			
3-minute domestic call	Peak=0.54 Off peak=4.2	2005	
3-minute call to neighboring country: UMA Countries	Peak=0.102 Off-Peak=0.912		
3-minute call to Tokyo			
3-minute call to middle east and West Europe	Peak= 1.65 Off-peak=1.485		
3-minute call to Latin America and Eastern Europe	Peak=1.96 Off peak=1.83		
Average roaming charges			
Average interconnection charge with fixed network**			
Average interconnection charge between mobile networks			

D. Quality and Access to Services

18. Please fill in the following indicators of quality and access to services. If time series data are available, please attach them separately (preferably electronically).

Indicator	Value	Date	Comments
Total number of mobile subscribers in the country ( per 100 inhabitants)	19.69 43	2003 2005	
Number of mobile subscribers in rural areas			
Waiting period for acquisition of handset and initiation of service	ZERO	Since 2003	
Percentage of unsuccessful calls**			

Note: Unless specified, please give information for the latest year available and indicate which year. If insufficient space is provided, please attach additional information on separate sheets.

I. Policy Section

A. Market Access

1. Are there policy restrictions on new entry of Internet service providers?			
Entry by any firm	If yes, total number of firms allowed	Entry by foreign firms	If yes, number of foreign firms allowed
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	12 (7 public and 5 private)	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	ZERO
Source: <a href="http://www.ati.tn">www.ati.tn</a> -Article No. Article 10 of Telecommunications Law			
2. If entry is restricted, what are the reasons provided by the government?			
<input type="checkbox"/> To give incumbents time to prepare for competition <input type="checkbox"/> To increase government revenue from privatization or license fees <input checked="" type="checkbox"/> Other: article 10 requires authorization from the authorities of telecommunications.			
Subject to government discretion. No specific reasons indicated in the law. Source: Telecommunication law			

B. Ownership

3. Is private ownership in the provision of services allowed?			
Existing operators	Maximum private equity permitted (%)	New entrants	Maximum private equity permitted (%)
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%
4. Is foreign ownership in the provision of services allowed?			
Existing operators	Maximum foreign equity permitted (%)	New entrants	Maximum foreign equity permitted (%)
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	

C. Regulation

5. Licensing regime : <u>ATI</u> (L'Agence Tunisienne d'Internet), created in 1996, is the agency in charge of national regulation and promotion of internet services in the country. It also has an operational role.	
a) Is there a licensing regime for Internet service providers?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes to a), which governmental agency issues licenses? ATI and Ministry. Source: <a href="http://www.ati.tn">www.ati.tn</a>	
If yes to a), please specify the main conditions new entrants have to fulfill: no condition imposed;	

officially, it is not a full licensing procedure but a simple declaration.

- d) Are foreign firms subject to different licensing requirements from domestic firms?
- No  
 Yes If yes, please specify what additional requirements have to be met by foreign operators:

6. Infrastructure and interconnection

- a) Are Internet service providers allowed to build their own networks?  No  
 Yes
- b) Are Internet service providers (other than the incumbent or affiliates) allowed to own or lease their own international data gateways?  No  Yes
- Source: - [Decree N°2004-979; 19 April 2004](#)

7. Public consultation and transparency

Which of the following are consulted in advance of regulatory decisions?

- Service providers  
 Consumer groups  
 User industries  
 Other: the ministerial department and technical commissions.

Source: ARTICLE N° 76 and annex I.

D. Regional Integration Agreements in Internet Services

8. Please, indicate if there are any preferential arrangements and/or cooperative arrangements affecting internet services, and list the measures.<sup>141</sup>

No preferential agreements exist

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures

E. Past and Future Changes in Policy

9. Please indicate major changes in market access policies, ownership rules, and regulation since 1990, as well as changes that are anticipated (e.g., grant of additional licenses for Internet services, relaxation of ownership rules).

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
Creation of ATI (l'Agence Tunisienne d'Internet).	1996	

<sup>141</sup> Please, specify how the treatment of internet service suppliers of member countries of the agreement differs from the treatment of internet service suppliers of non-member countries.

## II. Market Structure Section

10. a) What is the total number of Internet service providers? 12  
 b) How many Internet service providers are related to telecom operators? 12  
 Source: [www.ati.tn](http://www.ati.tn)

11. Please list the characteristics of the six largest Internet services providers (private providers).

Name of firm	Year the firm first offered services	Market share	Owners of capital and their respective shares (domestic/foreign)
Planet Tunisie			100% DOMESTIC
3S Global Net			100% DOMESTIC
Hexqbyte			100% DOMESTIC
Tunet			100% DOMESTIC

## III. Performance Indicators Section

### A. Employment

12. Main employment indicators (for the years 1990-2000)  
 How many people are employed in the provision of Internet and data services? ( 6550 in 2003: for the entire sector of information)  
 What share of the total labor force is employed in this sector? Not Available  
 What share of workers in this sector is employed by state-owned service providers? Not Available  
 What share of workers in this sector is employed by foreign-owned service providers? Not Available  
[What is the average annual wage in this industry?](#)  
 If time series data on these employment indicators are available, please attach them separately. 4377 (1997), 6550 (2000) and 6480 (2003).  
 Source:

### B. Investment

13. Investment indicators (for the years 1990-2000)  
 What is the total amount of investment in Internet services? Not Available  
 What is the total amount of foreign direct investment in this sector? Not Available

What is the total stock of foreign direct investment in this sector? Not Available

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

#### C. Prices

14. Please indicate the prices of the following services. Where relevant, distinguish between peak and off-peak charges. For a comprehensive assessment of Internet performance, it would be extremely useful to have historical data on prices for the various services. If time series data are available, please attach them separately (preferably electronically).

Service	Price (in local currency)	Date	Comments
Average monthly charges for low bandwidth residential Internet access (Capacity:28K)	75DT(subscription fee)+75DT (fee usage )	2004	
Additional (per minute) local telephone charges (if relevant)	Zero		
Average monthly charges for high bandwidth business Internet access (Capacity:64.4K)	100 DT+100DT		RNIS 64.4 K
Additional connection charges (if relevant)			

#### D. Quality and Access to Services

15. Please fill in the following indicators of quality and access to services.

Indicator	Value	Date	Comments
Number of Internet hosts	271.000	2003	
Number of household subscribers	0.27	2003	Hosts per 100 inhabitants
Total number of Internet users	630.000 771.000	2003 oct 2004	
Number of users that access the Internet via the fixed telephone network	Not available		
Number of users that access the Internet via leased lines	Not available		
Number of users that access the Internet via the cable network	Not available		
Annual value of e-commerce transactions	Not available		

Source: [www.ati.it](http://www.ati.it) and UIT

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# **The Impact of Liberalizing the Telecommunication Sector in Morocco**

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*Revised version*

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## **Introduction**

OVER THE LAST DECADE, THE TELECOMMUNICATION SECTOR HAS EMBARKED IN A PERIOD OF DEEP CHANGE INITIATED BY TECHNOLOGICAL INNOVATION, LIBERALIZATION OF NATIONAL MARKETS, AND BY PARTIAL OR FULL LIBERALIZATION OF INCUMBENT OPERATORS. HISTORICALLY, TELECOM OPERATORS WERE STATE-OWNED AND VERTICALLY INTEGRATED MONOPOLISTS. DUE TO LARGE FIXED COSTS OF BUILDING A NETWORK, THE ACTIVITY OF PROVIDING TELECOMMUNICATION SERVICES WAS CONSIDERED AS NATURAL MONOPOLY. HOWEVER, TECHNOLOGICAL PROGRESS AND INNOVATION GENERATED NEW TRANSMISSION SYSTEMS AND DECREASED THE COST OF BUILDING INFRASTRUCTURE. THEREFORE, THE IDEA OF A NATURAL MONOPOLY IS NO LONGER SEEN AS VALID. IN ADDITION, EVIDENCE INDICATES THAT THE ABSENCE OF COMPETITION DOES NOT PROVIDE INCENTIVES TO DECREASE COSTS, LEADS TO INEFFICIENCIES AND WELFARE LOSS. AS A CONSEQUENCE, MOST HISTORICAL OPERATORS, ALL OVER THE WORLD, HAVE BEEN SUBJECTED TO PRIVATIZATION PLANS.

Since the early nineties, Morocco, like most other countries, has put substantial emphasis on telecommunication and information technologies because of their role in the digital age. The significant development recorded over the last decade can be traced back to three major causes: legal and institutional telecommunications reforms; political openness and democratisation; and, technological changes.

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<sup>142</sup> Valuable research assistance has been provided by A. IRALI and A. HASSANI.

The purpose of this paper is to present the major developments recorded in telecommunication sector in Morocco and assess the impact of regulating the telecommunication sector in Morocco along the European Union lines. The basic assumption underlying this work is the following. Further liberalization of various market segments of the telecommunication sector would benefit communications intensive industries that provide key “backbone services” to the economy, such as transport, distribution and finance. It would also improve competitiveness of exporting industries by reducing their costs and facilitating their integration to transnational production networks. The quality and price of telecommunication services directly affect business costs, but also affects the capacity of firms to network and compete in foreign and domestic markets. Finally, development of telecommunication services sector would create more investment opportunities for the domestic private sector, and help attract more FDI and portfolio investment. Regulatory reforms that inject more competition in markets for services and network industries are, in turn, instrumental in forcing operators to improve efficiency and pass on the lower production costs to users. But because in many developing countries domestic providers of services often operate below international efficiency standards, opening up markets to competition has to go in tandem with lowering trade barriers in services and making room for increased foreign entry in domestic markets. Cross-border supply of almost all services relies on telecommunication services. From the Moroccan perspective, it is an area where trained and cheap labor force can represent a significant comparative advantage.

However, better performance in Telecom may result from liberalization, but is also partly driven by economic development. Income growth bolsters demand for telecommunications and networking services, both from businesses and households, and at the same time provides the financial resources for investment necessary to expand the telecommunications infrastructure. Moreover, in higher-income countries services markets are generally more competitive, so that further empirical analysis is needed to disentangle the impact of market liberalization from that of economic development and other factors<sup>143</sup>.

The association agreement between the European Union and Morocco, which entered into force in March 2000, represents the legal basis of EU-Morocco relations. This agreement provides for the gradual establishment of an industrial free-trade zone by 2012 and progressive liberalization of trade in agriculture. The agreement between Morocco and the EU foresees, in addition to that, to start negotiations for a free trade area in services. Although the signed agreement contains no binding commitments in the area of services, it has provisions on freedom of establishment, free movement of capital and competition rules. In addition, Morocco is expected to deepen further its relationships with Europe within the framework of the “*Neighboring Policy*”. In addition, As WTO member, Morocco has committed itself to gradually liberalize its telecommunication services, and signed a FTA with the US that covers telecommunication services.

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<sup>143</sup> Rosotto , Sekkat and Varoudakis, "Opening up Telecommunications to competition and MENA integration in the World economy".

So far, the potential impact of liberalizing trade in goods on the Moroccan economy has received a relatively significant academic attention (Rutherford and Tarr (1997), Chater and Hamdouch (2001), Achy and Milgram (2003) and Chater (2004)). In contrast, the potential impact of liberalizing trade in services in general, and telecommunications services more specifically, have not received comparable interest. The main objective of this research is to filling this gap in the literature. The potential impact of liberalizing telecommunications services goes beyond the telecommunication sector itself since these services enter as intermediate inputs in other activities. Further liberalization is expected to lead to increase competition, decrease prices for users, and improve quality and access to various telecommunications services.

The rest of this paper is organized as follows. The first section presents the major developments in the Telecommunication sector in Morocco. Section two examines the Moroccan regulations as well as institutions in charge of supervising Telecommunication sector activity. Section three computes the degree of trade restrictiveness in this sector in Morocco with respect to that of the European Union. Section four provides a first approximation of the potential welfare effects of harmonizing the Moroccan regulations in the Telecommunication sector with those of the EU. Finally, section five concludes.

## 1. Major developments in the telecommunication sector

### a. Major regulatory and institutional developments

Telecommunication sector in Morocco recorded remarkable changes over the last decade in its regulatory framework as well as in its market structure. Before the issuance of the law 24-96 in 1997, telecommunication sector in Morocco was controlled and run by a state monopoly company. This legal framework replaced a very old legislation that goes back to 1924, which reserved an exclusive right for the state monopoly of wire line and wireless telegraphs and telephones. The law of 1984 simply transferred the same monopoly to a state-owned company: the *Post Office and Telecommunications Board*<sup>144</sup>.

The Moroccan government has recognized, relatively earlier than other countries in the region, the potential of telecommunication sector to become an essential pillar for economic development. The need for reform, including privatization and competition within the telecom sector, started in the late eighties and led to the adoption by the Moroccan parliament of the law 24-96 in 1997 following almost seven years of deliberation.

As a result of the telecommunication law of 1997, the *Post Office and Telecommunications Board* (ONPT<sup>145</sup>) was restructured and two entities have been created in 1998: *Itissalat Al Maghrib* (IAM) or *Maroc Telecom S.A.* for telecommunications, and *Barid Al Maghrib* for postal services. The Law also set up the

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<sup>144</sup> Office National de Postes et des Télécommunications (ONPT).

<sup>145</sup> ONPT: Office National des Postes et Télécommunication

National Telecommunications Regulation Agency (ANRT<sup>146</sup>), an independent entity in charge of regulating the telecommunications services.

A second Global Satellite Messaging (GSM) license was granted in August 1999 and inaugurated in April 2000 for fifteen years. The license guarantees that no third cellular license will be awarded before August 2003. The winning bidder, *Medi telecom*, a consortium led by Spain's Telefonica paid an amount of DH 10.6 billion, which is the equivalent of US \$ 1.1 billion. *Medi telecom* is owned by a consortium of international telecom operators – Telefonica S.A. (30.5%), and Portugal Telecom S.A. – (30.5%) in addition to Moroccan institutional and financial investors led by the BMCE Bank (20%) and CDG<sup>147</sup> (8%). Relative to Morocco's population size, this is the highest fee ever paid for a mobile license

In conformity with the law 24-96, value added services<sup>148</sup> were also liberalized and full competition has been introduced in their supply. Companies such as *European Datacom Maghreb*, *Globalstar North Africa*, *Orbcomm Maghreb*, *Soremar* and *Thuraya Maghreb*, are competing on the GMPCS<sup>149</sup> market. Companies such as *Cimcom*, *Gulfsat Maghreb*, and *Space Com* are providing VSAT<sup>150</sup>'s services. Competition also exists for data transmission, internet services, and cybercafés. The market for value added services is still underdeveloped or even declining in some of its segments (National leased lines and X-25 for instance). It continues also to be excessively dominated by the historical operator, *Maroc Telecom*. As internet service provider, *Maroc Telecom* operates under the commercial brand “*Menara*”, it controls over 90 percent the market and keeps all other “competitors” in a very marginal position.

In January 2001, the incumbent operator “*Maroc Telecom*” was partially privatized by transferring 35 per cent of its capital to *Vivendi Universal* for DH 23.3 billion or the equivalent of US \$ 2.3 billion.

On 24 April 2002, the ANRT issued a "call for tender" for the granting of a second fixed telephony license, which should have ended the monopoly of *Maroc Telecom*. However, due to the global situation in the telecommunications sector and the need for the ANRT to prove its credibility and effective independence from the executive, the tender received no bids before the deadline.

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<sup>146</sup> ANRT: Agence National de Réglementation des Télécommunications

<sup>147</sup> CDG: Caisse de dépôt et de Gestion, which is a public financial institution.

<sup>148</sup> According to WTO, value-added telecommunication services are telecommunications for which suppliers “add value” to the customer's information by enhancing its form or content or by providing for its storage and retrieval.

<sup>149</sup> GMPCS is a personal communication system providing transnational, regional or global coverage from a constellation of satellites accessible with small and easily transportable terminals. GMPCS services include two-way voice, fax, messaging, data and even broadband multimedia.

<sup>150</sup> VSAT stands for Very Small Aperture Terminals and refers to receive/transmit terminals installed at dispersed sites connecting to a central hub via satellite using small diameter antenna dishes. VSAT technology represents a cost effective solution for users seeking an independent communications network connecting a large number of geographically dispersed sites. VSAT networks offer value-added satellite-based services capable of supporting the Internet, data, LAN, voice/fax communications, and can provide powerful, dependable private and public network communications solutions.

The telecommunications law (24-96) has been amended and completed by the promulgation of the new law (55-01), which came into effect in November 2004. The new legal framework aims at promoting investment in various segments of telecommunications services, ensure a rational use existing infrastructure, promote research and innovation in telecom related activities, and provide the legal and financial means for universal service, which accounts internet as one of its components according to the law. The regulatory agency (ANRT) has also been given wider prerogatives to monitor competition, arbitrate disputes, and impose penalties on anticompetitive practices.

*Vivendi Universal* agreed with the Moroccan government in November 2004 to increase its stake in *Maroc Telecom* from 35 to 51 percent. The agreement took effect in January 2005. The deal amounts to DH 12.4 billion, or approximately \$ 1.4 billion. This sum includes the value of the additional 16% stake in the capital and a premium for continuing control by *Vivendi Universal*.

A further step in the privatization of *Maroc Telecom* has been made when the government decided to sell another 14.9 percent of the capital through an international public offering. The offering, which ran from 22 November to 7 December 2004, was oversubscribed 21 times. This IPO is the first international equity offering and offshore listing of a Moroccan company. It led to an allocation of 30 percent of the offering to overseas institutional investors, and the rest, 70 percent, to national investors (44 percent for corporate entities, 23 percent for individual investors and 3 percent for *Maroc Telecom* personnel). The *Maroc Telecom* IPO allowed the government to collect nearly US \$ 1 billion.

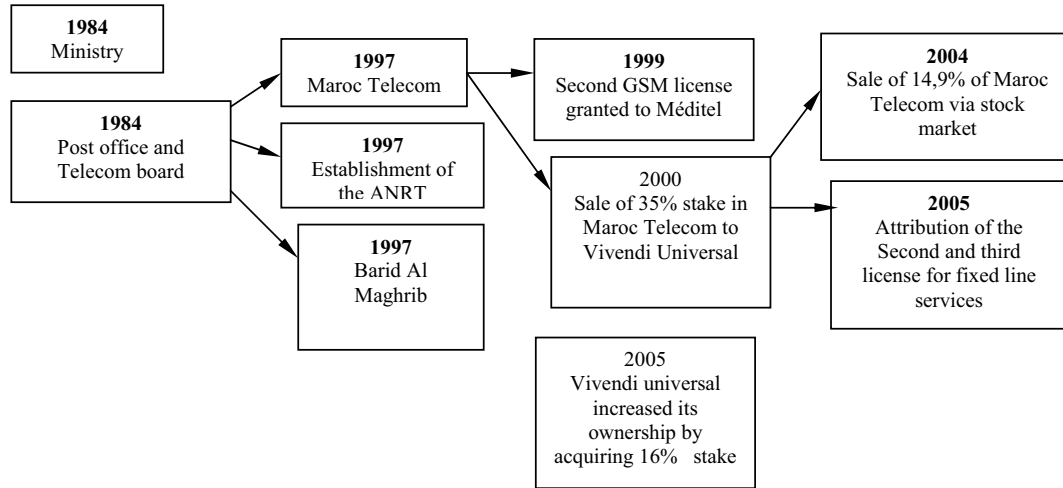
The process of liberalization has been reinforced by launching the second "call for tender" for the second fixed-telephony license that was finally granted to *Medi telecom* in July 2005 for DH 75 million. The license covers a local loop network, an inter-urban network, and an international network. *Medi Telecom* is expected to be operational on the fixed telephony market at the beginning of 2006.



**Figure 1**

**Gradual deregulation agenda of telecommunication sector in Morocco**

Stage 1	Stage 2	Stage 3	Stage 4
Separation of regulatory and operation functions	Restructuring	Opening up the sector to competition (not fixed lines) and partial privatization	Further privatization of Maroc Telecom and introduction of competition in fixed line services



More recently, in September 2005, *Maroc Connect*, the second Internet service provider in Morocco, was awarded the third fixed-telephony license by the National Telecommunications Regulatory Agency. The license provides for offering fixed line phone services within a 35km area. The capital of *Maroc Connect* is equally shared between “Attijari-Capital Risque” and “Fipar Holding” respectively subsidiaries of ONA<sup>151</sup> and CDG. The company paid DH 306 million or about US \$34 million to the government and is committed to invest some US \$ 110 million before the end of the first year of the contract.

The unilateral reform process was supported by multilateral commitments made by Morocco under the WTO's General Agreement on Trade in Services (GATS). Morocco participated in telecommunications negotiations (Telecommunications Agreement) under GATS which started in 1996 and made commitments that were annexed to the Fourth Protocol of GATS in February 1997 and went into effect in January 1998. Morocco committed not to impose any restrictions on market access for cross-border supply (mode 1), and consumption abroad (mode 2) for value added services (excluding telephone and telex). It has also committed not to impose any limitations on national treatment for the same services. A schedule of specific commitments that completes the

<sup>151</sup> ONA is the largest private financial holding in Morocco.

1997 commitments has been offered by the Moroccan authorities and came into force in October 2000. It indicates in a more comprehensive way the various commitments made by Morocco under each of the four modes of supply of telecommunications services. Morocco committed to keep some activities such fixed telephony, telex services and ISDN<sup>152</sup> under monopoly of *Maroc Telecom* until the end of 2001. However, for the extent of foreign participation in Maroc Telecom capital, no bidding commitment has been scheduled. So far, Morocco has fulfilled its commitments and has even gone beyond as presented earlier.

**Table 1**  
**Summary of Morocco's telecommunication sector commitments under the GATS**

Items	Mode of supply			
	Cross-border supply	Consumption abroad	Commercial presence	Presence of natural persons
	Market access/National treatment			
<i>Telecommunication services</i>				
Value-added services (excluding telephone and telex)	N/N	N/N	OP/N	NBex/NB
Electronic mail services	N/N	N/N	OP/N	NBex/NB
Telephone answering services	N/N	N/N	OP/N	NBex/NB
Direct permanent information search services and database servers	N/N	N/N	OP/N	NBex/NB
Electronic data exchange services	N/N	N/N	OP/N	NBex/NB
Improved value added fax services, including registration, retransmission and registration and search	N/N	N/N	OP/N	NBex/NB
Point-to-point telephone services	OP/N	N/N	OP/NBex	NB/NBex
Telex services	OP/N	N/N	OP/NBex	NB/NBex
Integrated service data network (ISDN)	OP/N	N/N	OP/NBex	NB/NBex
Packet-switched data transmission services (TDCP)	OP/N	N/N	OP/NB	NBex/NBe x
Frame relaying services	OP/N	N/N	OP/NB	NBex/NBe x
Mobile telephone services	OP/N	N/N	OP/N	NBex/NBe x
Paging services	OP/N	N/N	OP/N	NBex/NBe x
PCS systems	OP/N	N/N	OP/N	NBex/NBe x
Mobile data transmission services	OP/N	N/N	OP/N	NBex/NBe x
Private leased circuit services	OP/N	OP/N	N/NB	NBex/NBe x

Source: WTO (2003): "Trade Policy Review, Kingdom of Morocco", Report by the Secretariat.

- N None: Morocco has agreed not to impose any restrictions on this item.  
 Nex None, except for contrary provisions under horizontal commitments made by Morocco.  
 NB Not bound: Morocco has not undertaken any commitment on this item.  
 NBex Not bound, except for contrary provisions under horizontal commitments made by Morocco.  
 OP Other provisions apply.

<sup>152</sup> ISDN: Integrated Service Data Network

b. *Major developments in basic telecommunication indicators*

The telecommunication sector in Morocco expanded steadily following the process of its liberalization. The expansion has been particularly remarkable for the mobile telephony.

The number of telephone fixed lines increased from 400 000 lines in 1990 to almost 1 500 000 lines in 2000. However, due to the cream-skimming effect from the mobile, this number decreased by some 22 percent in 2001 and stagnated in 2002. The demand for the mainline network has been rising since 2003 driven essentially by an increasing demand for Internet connection. In 2004, Morocco has a telephone density of less than fifty lines per one thousand inhabitants, which is very low in comparison with other countries with the same level of economic development. In 2002, the average telephone density for middle income countries is 167 mainlines per 1000 people, 107 for MENA region and 585 for high income countries<sup>153</sup>. The demand for fixed lines continues to be dominated by residential subscriptions that represent 68 percent of the market, compared to 22 percent for professional use, and the rest, 10 percent, for public phones.

Regarding mobile telephone services, Morocco is referred to a success story in the region. Since March 2000, the mobile telephone market has been shared between two operators: *Maroc Télécom* and *Méditel*. Their market shares at the end of 2004 are respectively 67.5 and 32.5 percent. The number of subscribers rose from less than 400 000 subscribers in 1999 to 2.852 million in 2000, 6.2 million in 2002, and 9.3 million subscribers by the end of 2004. The last figures released by the ANRT for the end of September 2005 indicate that the total number of mobile subscribers in Morocco is approaching 12 million. Many remote areas with no previous telephone services are currently covered by the mobile phone network.

**Table 2**  
**Telephone Penetration (fixed and Mobile) in Morocco over the period 1997-2005**

	1997	1998	1999	2000	2001	2002	2003	2004	Sept 2005
Number of subscribers (1000)	1368	1504	1835	4323	5915	7324	8551	10645	13322
Fixed telephony (000)	1300	1393	1471	1472	1140	1127	1219	1308	1345
GSM (000)	68	111	364	2851	4775	6197	7332	9337	11977
Number of lines (per 100) inhabitants	5,10	5,40	6,50	15,45	19,62	24,77	28,59	35,61	45,1
Fixed	4,80	5,00	5,20	5,05	3,92	3,86	4,11	4,38	4,5
Mobile	0,30	0,40	1,30	10,40	15,70	20,91	24,48	31,23	40,06

<sup>153</sup> World Development Indicators (2004)

The spectacular boom of the mobile network has enabled Morocco to compensate for its lag in fixed line services and even to catch up with other middle income countries in terms of overall telephone penetration. This indicator stood at 35.4 percent at the end of 2004 and more than 40 percent on the basis of the last available figures of September 2005. However, a significant proportion of mobile phones in Morocco are run through prepaid cards (95 percent) rather than through regular subscriptions (only 5 percent), which might be detrimental for growth potential in the medium and long-run. In addition, as indicated earlier, the upsurge in the mobile demand has been achieved at the expense of the mainline network. This cannibalisation of the market the mobile demand seems to be hampering internet development.

However, other factors contribute to the weakness of internet demand in Morocco. The illiteracy rate among adults in Morocco is one of the highest in the region and stands at 48 percent in 2004. The number of personal computers per 100 people is also very low. It did not exceed 2.36 in 2002 compared to 4.54 for middle income countries, 3.82 in MENA region<sup>154</sup>. The estimates provided by the National Regulatory Agency (ANRT) for 2004 indicate that 12 percent of households are equipped with personal computers<sup>155</sup>. So far, the cost of access and the lack of competition in fixed telephony also lie behind the low internet penetration rate in Morocco.

Due to the attractive commercial offers by *Maroc Telecom*, the *number of subscribers* has almost doubled over the first nine months of 2005 increasing from 113 170 to 206 452. Although the *number of internet users* is much higher as the number of cybercafés is growing, Morocco still compares unfavourably to both middle income countries, and the MENA region. The expected entry of new operators on the fixed telephony market is expected to foster competition and boost household as well as corporate demand for internet services.

## 2. The regulatory framework analysis

Telecommunication sector reform in Morocco is a relatively recent process that effectively started with the adoption of the new telecommunication law in 1997 (*Law 24-96 on Postal and Telecommunications Services*). The Law 24-96 admits the principle of competition in all branches of the telecommunications market. The Law governs interconnection of various operators' networks and lays down the criteria and prerequisites for telecommunication services' supply. The law 24-96 has been recently (November 2004) amended and completed by the adoption of the Law 55-01. The new law offers the legal means to effectively address new issues in telecommunication industry in a liberalized market.

The rest of this section analyzes the provisions of the regulatory framework governing telecommunication sector in Morocco. It focuses on the prerogatives granted to the national regulatory agency (ANRT), the legal regime under which each telecommunication activity can be undertaken. The section deals with other issues, very critical and highly sensitive in a newly liberalized market, such as interconnection, price regulation, frequency allocation and universal service<sup>156</sup>.

<sup>154</sup> World Development Indicators (2004)

<sup>155</sup> With an average of 5 people per household, this figure is equivalent to 2.4 computers per 100 people. There is almost no change in comparison with the figure provided by the World Bank for 2002.

<sup>156</sup> On the basis of the law 24-96 as amended and complemented by the law 55-01

### ***2.1. Telecommunication Regulatory Agency***

The National Telecommunication Regulatory Agency (ANRT) is a publicly-owned entity endowed with legal independence and financial autonomy. It holds broad legal, technical and economic regulation powers adapted to the new requirements of a rapidly evolving sector which is highly strategic both nationally and internationally. The ANRT has been invested with wide authority for regulation, oversight and supervision, enforcement, and monitoring development of telecommunication sector. It is involved in all technical, economic and legal aspects of telecommunication operations and provided with legal means ranging from information request to ordering of injunctions and penalties.

In the *legal sphere*, ANRT is entrusted with the drafting laws, decrees and other legal texts regulating the telecommunication sector, preparing draft legislation with respect to the legal regimes governing operators' activities, preparing and keeping up to date the terms of reference setting out the rights and obligations of network operators, establishing the procedure for submitting interconnection disputes, designing rules governing the management and oversight of the radio frequency spectrum, issuing its opinion with respect to applications for the awarding of licenses, receiving declarations that are filed, expressing the intent to offer value-added services on a commercial basis, setting the conditions for undertaking investigations, Issuing authorizations to establish and operate independent networks. ANRT is also in charge of establishing the interconnection terms and conditions on a case-by-case basis.

Regarding its *technical regulatory* powers, ANRT is in charge of establishing the technical and administrative specifications for the acceptance of terminal equipment; granting certifications for manufacturing, importing, offering for sale and distribution of terminal equipment, and for its connection to a public telecommunication network; certifying telecommunication equipment testing and measurement laboratories which may be authorized to issue permits; establishing categories and technical conditions with respect to the use of radio networks and installations consisting of low-power and low-range equipment.

Regarding its *economic regulatory* powers, ANRT is in charge of proposing the tariff ceiling that can be charged for universal service; establishing licensing fees and other fees relating to attribution and renewal of licenses with respect to radio frequency assignments. ANRT is also in charge of developing a legal framework with a view to ensuring that free competition and the principle of equal treatment prevail, and to protect providers and as well as users from anti-competitive or discriminatory practices. ANRT ensures that all users receive equal treatment.

The law on telecommunication also specifies the responsibilities of ANRT and its powers regarding the security of communications, the confidentiality of information, and ensures that the needs of national defense and public security are met, that operators support regional and national development, and environmental protection, and they contribute in funding universal service objectives.

The national regulatory agency has been provided with effective powers for investigating operators' compliance with laws and regulations in force and terms of licenses, authorizations and approvals granted in the telecommunication sector. It is also responsible for assuring compliance with provisions governing interconnection and those relating to dispute settlement.

**Table 3**

**Responsibilities of ANRT regarding interconnection**

Approval of fixed-to-fixed interconnection tariffs	Approval of fixed-to-mobile interconnection tariffs	Disputes settlement	Remarks
Set by ANRT in advance	<ul style="list-style-type: none"> <li>– Negotiated</li> <li>– Referred to ANRT in case of disagreement</li> </ul>	ANRT has sole responsibility in the settlement of disputes. This function is performed by the management committee	Only ANRT has the power to set interconnection charges and serve as an arbitrator

Source: Effective regulation, Case Study: Morocco (2001)

The ANRT power of investigation is exercised through inquiries, including on-site inspections and the requesting of any necessary information or documents that will enable the Agency to examine operators' compliance with their obligations and terms of reference.

The enforcement and penalty power is the strongest weapon with which ANRT is endowed to prevent anti-competitive practices by network operators. The law (55-01) has set various financial penalties depending on the type of violation committed.

- Operators not respecting to supply ANRT with the information required by the regulation in force regarding analytical accounting and the accounts audit, information regarding universal services, information on research and training, information on the general directory of subscribers, or on tariff offers are liable to a penalty of a maximum of one hundred thousand Moroccan dirham (DH 100 000).
- Operators and telecom services suppliers not respecting to supply ANRT with the information regarding the use of radio frequencies and the equipment of telecommunications, or deadlines to supply ANRT with the information required by the regulation in force or by the latter are liable to a penalty of a maximum of fifty thousand Moroccan dirham (DH 50 000).
- Operators and telecom services suppliers not respecting to supply ANRT with the information regarding other issues (not list above) are liable to penalties of a maximum of twenty thousand Moroccan dirham (DH 20 000).

If the holder of public telecom networks license fails to respect legal and regulatory texts provisions or his specifications document, and fails to conform to the formal

notice addressed to him by the director of ANRT, he becomes liable to a warning that can be published in the official bulletin, to a total or partial suspension of the license for a maximum of 30 days, and/ or a fine of a maximum of 1% of the previous year's turnover exclusive of tax and net of the interconnection expenses.

The management and administrative bodies of the ANRT are structured into three entities: the board of directors (BD), the management board (MB) and general director (GD).

The BD consists, in addition to its president, of the representatives of the State and individuals from public and private sector appointed by decree for one five year period for their technical, legal and economic skills in the field of information and communication technologies (ICT). The BD deliberates on the general focus of the ANRT and decides on its annual activity program, it examines the ANRT's management reports and meets as often as circumstances require but at least twice a year (before 31 May, to approve the financial statements for fiscal year-end, and before 31 October, to adopt the budget for the following fiscal year).

The MB assists the BD which deliberates on issues delegated by the BD. The MB is in particular in charge of settling disputes regarding interconnection. The members of the MB are appointed by the BD for a single five year renewable term.

The GD, appointed by the King by royal decree, holds all the powers necessary to manage the ANRT. The DG participates, in an advisory role, in the meetings of the BD and MB during which it assumes the role of reporter.

In order to enhance its transparency and accountability, ANRT establishes at the end of each fiscal year an annual report on its activities. This report is sent to the Prime Minister, and published in the Official bulletin. It allows making activities of the ANRT public and ensures that regulatory functions are performed transparently.

The power and credibility of ANRT have been put to test over the last few years over settling disputes on interconnection fees, and through license allocation. The decisions made by ANRT show both its independence and effectiveness in regulating the market and handling telecommunication related affairs.

## ***2.2. Legal regimes in telecommunication sector***

Different legal regimes are in place in the telecommunication sector (under the law 24-96 promulgated in 1997 and the law 55-01 officially issued in November 2004) depending on the nature of services provided.

The ***licensing regime*** applies to public telecommunication networks that make use of the public domain or the radio frequency spectrum. The License is granted by government decree to any legal entity selected in a call for tender. The legal entity selected in a bid has to comply with the general principles of operating public telecom networks as well as with specific provisions stipulated in the call for tender. These

provisions relate to the establishment of the network, provision of the service, coverage area for the service, radio frequencies and blocks of numbers assigned, as well as conditions with respect to access to high points that are in the public domain. There are also minimum requirements as to professional and technical qualifications, and financial guarantees imposed to applicants. The call for proposals specifies access conditions to and interconnection with public telecommunication networks, and can also, specify the terms and conditions for leasing any components of those networks.

The ***authorization regime*** applies to independent networks that may be established and operated by any individual or legal entity. The authorization is granted by the ANRT. It can be issued only if such networks don't interfere with the technical operation of existing networks.

The ***approval regime*** applies to terminal equipment that are intended to be connected to a public telecommunication network to radio facilities whether or not connected to public network, and to laboratories for the testing and measurement of telecom equipment. The approval is issued by the ANRT or by a test and measurement laboratory.

The ***declaration regime*** applies to value-added services, fixed by regulation. These services may be freely provided by any individual or legal entity after having submitted a declaration to the ANRT. The latter notifies within two months, eventually, its opposition if it appears that service offered undermines safety, public order or is contrary to morality and common values.

Any supply of telecommunications services is *subjected to commercial presence*. Thus any foreign company wishing to provide telecommunication services or infrastructure must establish its subsidiary in Morocco.

License-holders are bound by various obligations among which: fair competition, obligation to keep independent financial accounts for each network and service operated, confidentiality and neutrality of service with respect to the messages transmitted, requirements in connection with national defense and public security, conditions with respect to providing the information required for an annual directory of subscribers, and obligation to comply with international agreements ratified by Morocco.

Internet access providers are not qualified as telecom operators. They are not subject to the licensing regime, but simply must file a declaration with ANRT. However, this does not rule out that they are subject to the general obligations set in Law 24-96 and 55-01 in addition to the terms of their declaration. The declaration sets out the terms and conditions under which services are to be provided.

The Internet access service must, under a leasing agreement, use the linkage facilities of one or more of the existing public telecommunication networks unless the Internet access provider holds a license itself and wishes to use the linkage facilities of the network covered by that license.



### *2.3.Mechanism of licenses allocation*

The awarding of the second GSM license represented a significant success for the ANRT. It is worthwhile to examine the procedure in detail.

ANRT initiated the process for awarding a second license for the establishment and operation of a mobile public telephone network according to the GSM standard. In 1998, a *GSM-2* Project Team was set up within ANRT, and an invitation for expressions of interest was issued. The procedure was completed in 1999 when the license was awarded. The steps whereby the process was carried through to its conclusion were as follows: establishment of a specific organizational unit to administer the project, issuing of an invitation for expressions of interest<sup>157</sup>, selection of a bank to advise on the procedure, pre-qualification process, finalization of the terms of reference, issuing of the call for bids, and the publication of the notice ranking the bids.

The key provisions set forth in the terms of reference cover the following areas: the duration of the license, which was fixed at 15 years, terms and conditions for the establishment and operation of the network, the possibility of the successful bidder constructing its own transmission network, authorization to provide subscribers with direct international access from 1 January 2002, a period of exclusive operation of four years, mechanisms for contributing towards the general objectives of the State, mechanisms for paying financial counterpart funds and various fees, itemization of the various responsibilities of the successful bidder.

### *2.4.Frequency allocation*

The frequency spectrum in Morocco forms part of the State's public domain and ANRT is responsible for allocating frequencies to the various users (ITU (2001)). It is also in charge of enforcing restrictions with regard to any encoding of information exchanged, spectrum planning, and coordination at the international level. ANRT has already allocated frequencies for independent radio networks, public entities, government ministries, diplomatic missions, security agencies, and operators of public telecommunication networks, (Médi Telecom, Maroc Telecom).

### *2.5.Price regulation*

In the initial phases of the reform process, competition is not fully developed and an asymmetry exists between the incumbent operator and new entrants (ITU (2001)). ANRT has been particularly concerned about abuse of a dominant position in the marketplace and predatory pricing for mobile and Internet services. The Agency regularly reviews changes in the tariffs charged and particularly when they relate to access to universal service.

### *2.6.Universal service<sup>158</sup>*

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<sup>157</sup> 15 international operators had made submissions: Deutsche Telecom, France Télécom, GTE, CGSAT, Telecel, SBC, Stet, Telecom Portugal, Telefónica, Telia, MTN, Rumeli, Investcom Holding, TIM and Vodafone.

<sup>158</sup> On the basis of ITU (2001), "Effective Regulation, Case study: Morocco"

The concept of universal service was first introduced in the Law 24-96, which defines it as *“making available to everyone of a minimum service consisting of a telephone service of specified quality at an affordable price, the connection of emergency calls, the provision of an information service and a directory of subscribers, either in printed or in electronic form, and the provision throughout the country of telephone booths installed in public places, all in keeping with the principles of equality, continuity, universality and flexibility”*.

Under Article 40, the incumbent (Maroc Telecom) is charged with providing universal service together with other operators. The cost of universal service, however, is shared amongst all telecommunication operators. All operators of public networks are required to make a contribution towards universal service equivalent to 2 percent of their turnover net of taxes and interconnection fees. A special fund devoted to Universal Service was created by the financial law of 2005 and managed by the regulatory agency.

### *2.7. Interconnection*

The concept of interconnection refers mainly to two types of services. First, reciprocal services offered by operators of networks that are open to the public, which allow all users to communicate freely with one another, regardless of the network to which they are attached or the services they use. Second, services offered by the operator of a network that is open to the public to a provider of telephone service that is open to the public.

ANRT has broad responsibilities regarding technical regulation of interconnection. In particular, it is in charge of approving technical and tariff quotations offered by operators, revising interconnection agreements whenever necessary, settling disputes in regard to interconnection. Dominant operators are compelled to maintain separate accounts for their interconnection activities as to ensure transparency and avoid discriminatory treatment among various operators.

## **3. Assessment of barriers to trade in the telecommunication sector in Morocco**

It has been emphasized (Achy & Hassani 2005) that measurement of barriers to trade in services is very challenging and much more complex than the case of trade in goods. Yet, measurement of trade in services is very crucial to policy makers in their bilateral, regional and multilateral negotiations. The main objective of this section is to provide a first assessment on the potential impact of regulating the telecommunication sector in Morocco along the European Union lines. The basic assumption that lies behind this exercise is that by removing barriers to trade, liberalization will increase competition in the domestic market, and reduce the price of telecommunications services. This first order effect of liberalization is expected to make consumers better off by improving their surplus. In addition, since telecommunications services are inputs for other activities, any reduction of their cost will improve competitiveness and generate wider economic effects. Hence to study welfare effects of adopting the EU regulation in the area of telecommunications; we shall consider not only the effect on consumer surplus due to the change in price of telecommunications but also those effects owed to changes in the price of other commodities.

### 3.2 Literature review

Various methodologies have been used to quantify barriers to trade in services: frequency indexes based either on actual restrictions or commitments scheduled by countries under GATS, quantity-based measures and price-based measures.

GATS schedules provide information on measures affecting services trade as related to market access and national treatment both by service sector and by mode of service supply. It is then possible to identify barriers to commercial presence or foreign direct investment (mode 3) as well as those restraining cross-border supply of telecom services (mode 1). However, the information contained in the GATS schedules suffers from various limitations. First, commitments contained in the national schedules do not include any information on services which have been left unbound or which have not been included in the schedules<sup>159</sup>. Information in the national schedules reports only commitments and does not reliably reflect the actual restrictions. Third, it is very difficult to assess and compare the relative restrictiveness of measures contained in GATS schedules among sectors or countries.

The quantity-based methodology makes use of penetration models to estimate the quantity wedge existing between actual and consumption volumes in fully liberalized environment. The price-impact approach follows a similar approach in order to estimate the price wedge existing between the actual price of a service and the hypothetical price of the service once all restrictions have been removed (Deardorff and Stern (2004)).

For the specific case of telecommunications, Warren (2000a) used a 1997 survey by the International Telecommunications Union (ITU) to construct a set of policy indexes for 136 countries taking into account actual market structure and performance indicators. The indexes have been constructed to incorporate the limitations on market access (MA) and national treatment (NT) for two modes of supply, cross-border trade and foreign direct investment.

Entry barriers impede either cross-border trade or limit FDI in telecommunications. Technological changes are rendering the first category of barriers less and less effective and it becomes virtually impossible to limit access of residents to foreign telecommunication services directly through international calls. However, foreign firms aiming at supplying cross-border services may not be allowed to operate from their home country and be required to have a physical presence in the market. Regarding impediments to FDI, foreign capital may be limited by legislation, administrative decree or terms of concession. Entry of foreign telecom providers may also be prevented by asking them to construct and operate their own networks instead of leasing existing networks.

An important constraint on operations arises from the lack of effective regulation that guarantees fair network interconnection. Usually, the national network is controlled by a dominant carrier, which also competes with new entrants (domestic and foreign) in the final product market. Another constraint is the existence of non-transparent and

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<sup>159</sup> Unbound services are assumed to be fully restricted, but this may not actually be the case.

discriminatory standards. Incompatibility of telecommunication systems can represent a substantial extra-cost for foreign suppliers and may force them to adopt incumbent standards in order to connect to the local network (Warren (2000a)).

In order to assess the economic impact of these restrictions, Warren (2000b) uses penetration models to quantify the impact of limits on competition upon fixed network services and mobile telephony consumption using a sample of 20 countries. Restrictions on competition are accounted for through a simple count of the number of operators (fixed and mobile) and by the inclusion of the indexes described earlier (Warren (2000a)). The policy variables used are based on data for 1997. Warren shows that liberal policies increase both fixed and mobile network penetration. The results are used to estimate the quantity impact of barriers to trade in each country of the sample. Tariff- equivalent can be then deduced from these quantity-impact measures. Warren concludes that the major beneficiaries are primarily developing countries, where significant increases in penetration are expected if more liberal policies were adopted.

Trewin (2000) applies a price-based methodology to estimate the price-wedge arising from restrictions to trade in telecommunications services. Tariff equivalents are deduced from a decomposition of the price wedge. Prices of telecommunications services are estimated using output and input measures, as well as others related to policies and quality of services. Using a time series of ITU-based data over the period 1982-1992 on 37 countries, Trewin shows that telecom services in high income countries appear to be more capital-intensive and dynamic than low-income countries, in which these services are costly, labor-intensive and static. Trewin suggests that these last aspects could be reflecting policies in terms of pricing, labor arrangements and competition.

### **3.2. *Computation of restrictiveness index for Morocco***

Our objective in this research is to measure the degree of restrictiveness to trade and FDI in the telecommunication sector in Morocco.

Restrictiveness indexes computed by Warren (2000a) are based on a 1997 survey by the International Telecommunications Union (ITU). Table 3 reports these indexes for a subset of countries. It reveals that the degree of restrictions to trade in telecommunications services for Morocco is extremely high. The index takes the value 0.9 compared to 0.9333 for Tunisia, 0.7987 for Turkey and 0.6333 for Egypt.

**Table 4**  
**Restrictiveness Index score for Telecommunications Services**

	Restrictions on establishment			Restrictions on ongoing operations			Restrictions on establishment			Restrictions on ongoing operations		Foreign index total
	Restrictions on direct investment in fixed network services	Restrictions on direct investment in cellular mobile phone services	Restrictions on cross-border trade	Restrictions on cross-border trade	Restrictions on ongoing operations total	Domestic index total	Restrictions on direct investment in fixed and mobile network services	Restrictions on cross-border trade	Restrictions on ongoing operations total	Restrictions on ongoing operations		
	MA/INV (fixed)	MA/INV (Mobile)	MA/INV	MA/Trade			NT/FDI	NT/Trade				
Morocco	0,1667	0,1667	0,3333	0,1667	0,1667	0,5000	0,5333	0,3667	0,5333	0,3667	0,9000	
Egypt	0,1667	0,0667	0,2333	0,2000	0,2000	0,4333	0,2333	0,4000	0,2333	0,4000	0,6333	
Finland	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	
France	0,0250	0,0250	0,0500	0,0000	0,0000	0,0500	0,2100	0,0000	0,2100	0,0000	0,2100	
Germany	0,0247	0,0247	0,0493	0,0000	0,0000	0,0493	0,0493	0,0000	0,0493	0,0000	0,0493	
India	0,1300	0,0567	0,1867	0,2000	0,2000	0,3867	0,2887	0,4000	0,2887	0,4000	0,6887	
Israel	0,1383	0,0183	0,1567	0,1333	0,1333	0,2900	0,1967	0,3333	0,1967	0,3333	0,5300	
Japan	0,0218	0,0218	0,0436	0,0000	0,0000	0,0436	0,0436	0,0000	0,0436	0,0000	0,0436	
Tunisia	0,1667	0,1667	0,3333	0,2000	0,2000	0,5333	0,5333	0,4000	0,5333	0,4000	0,9333	
Turkey	0,1667	0,1000	0,2667	0,2000	0,2000	0,4667	0,3987	0,4000	0,3987	0,4000	0,7987	

Note: The restrictiveness index scores range from 0 to 1. The higher the score, the greater are the restrictions for an economy.  
Source: Warren, T. (2000).

Considering 1997 as the base case, the expected price reduction in telecommunications services in case Morocco fully liberalizes its market is remarkably high as it amounts to 1000 percent according to Warren's computations.

**Table 5**  
**Price effect of fully liberalizing telecommunications services**

	Domestic price effect				Foreign price effect			
	Restrictions on establishment		Restrictions on ongoing operations		Restrictions on establishment		Restrictions on ongoing operations	
	Restrictions on direct investment in fixed network services	Restrictions on direct investment in cellular mobile phone services	Restrictions on establishment total	Restrictions on cross-border trade	Restrictions on ongoing operations total	Restrictions on direct investment in fixed and mobile network services	Restrictions on cross-border trade	Restrictions on ongoing operations total
Morocco	185,19%	185,19%	370,37%	185,19%	555,56%	592,59%	407,41%	1000,00%
Egypt	18,85%	7,54%	26,39%	22,62%	49,02%	26,39%	45,25%	71,64%
Finland	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
France	0,17%	0,17%	0,34%	0,00%	0,34%	1,43%	0,00%	1,43%
Germany	0,16%	0,16%	0,32%	0,00%	0,32%	0,32%	0,00%	0,32%
India	188,77%	82,28%	271,06%	290,42%	561,47%	419,17%	580,83%	1000,00%
Israel	1,23%	0,16%	1,40%	1,19%	2,58%	1,75%	2,97%	4,72%
Japan	0,13%	0,13%	0,26%	0,00%	0,26%	0,26%	0,00%	0,26%
Tunisia	28,05%	28,05%	56,10%	33,66%	89,76%	89,76%	67,32%	157,08%
Turkey	7,00%	4,20%	11,20%	8,40%	19,59%	16,74%	16,79%	33,53%

Warren, (2000a). 'The identification of impediments to trade and investment in telecommunications services', in Findlay, C. and Warren, T. (eds) 2000, Impediments to Trade in Services: Measurement and Policy Implications, Routledge, London and New York. (<http://www.pc.gov.au/research/memoranda/servicesrestriction/traderestrictivenessindexes.xls>)

However, given the dramatic changes recorded in telecommunication landscape in Morocco over the last few years, it would not be relevant to consider 1997 as the base case for assessing the welfare effects. The telecommunication law was passed in 1997 and then completed in 2004; the independent regulatory agency was created in 1998; the second GSM license was attributed in 1999 and value added services were fully liberalized; the incumbent was partially privatized in 2001 and effectively controlled by a foreign shareholder (Vivendi Universal) since 2004; a second license of fixed telephone services was attributed in July 2005 covering a local loop network, an inter-urban network, and an international network; and finally a third license for offering fixed line phone services within a 35km area was granted in November 2005. Operations under both licenses are expected to start in 2006.

To account for these changes, we computed updated restrictiveness indexes for telecommunications services in Morocco based on a methodology similar to that of the Australian Productivity Commission developed by McGuire and Schuele (2000) for banking services and Warren (2000a) for telecommunications services. Following Boylaud and Nicoletti (2000), who pointed out that telecommunications services are heterogeneous, we consider that it may not be appropriate to compute a single index to account for regulatory and policy environments in the whole telecommunication sector. Therefore, three restrictiveness indexes have been computed covering the three main activities (fixed lines, mobile and value added services). The same exercise has been done by Boughzala (2005) for the telecommunication sector in Tunisia.

The three steps methodology more comprehensively described in (Achy & Hassani 2005) has been applied. In the first step, all potential restrictions are listed and classified into categories. Weights are assigned to them respectively depending on their importance. These weights indicate how significantly each category of restrictions would limit service suppliers from competing in the market. In the second step, a score is assigned to each category based on available data, surveys and interviews. The assigned scores range from 0 (absence of restrictions) to 1 (high degree of restrictiveness). For each category, the restrictiveness index component is obtained by multiplying the assigned score by its corresponding weight. Finally, the restrictiveness index is calculated by summing up the various components.

It should be noticed that the scores reflect not only the state of regulations but also the perception of their effective implementation. For instance, the market for fixed telephony is still under monopoly in 2005, but the attribution of the second and the third license is already felt on the market (market contestability). This anticipated entry of new competitors pushed *Maroc Telecom*, the incumbent operator, to start behaving as if it were already in 2004 and 2005 under some degree of competition.

On the basis of our computation, restrictiveness indexes for fixed telephony, mobile telephony and internet services in Morocco in 2005 are respectively 0.34, 0.21 and 0.26. These figures lead to an overall restrictiveness index, obtained as simple arithmetic average, of 0.267. As the three activities are not of the same importance, an adjusted index has been computed by weighting each activity by its corresponding share of the total turnover in telecommunication sector in 2004. The overall restrictiveness index on



the basis of this alternative computation is 0.278, which is not significantly different compared to the unadjusted index.

The Restrictiveness index computed by Warren on the basis of 1997 data was much higher than ours because all liberalization reforms in telecommunication sector in Morocco have been implemented after 1997, as has been extensively presented earlier.

However, the degree of restrictiveness in telecommunications services in Morocco is still higher when compared to the European countries. According to Warren (2000a), restrictiveness indexes in 1997 for Finland and UK were (0.00), Netherlands and Denmark (0.03), Germany (0.05), Austria (0.13), Italy (0.14), Luxembourg (0.17), Belgium (0.20), and France (0.21). Since 1997, the European Commission has adopted several directives to ensure that telecommunications markets are open and fully competitive (Akdemir et al. (2005) for a review of the regulatory framework in the European Union). Therefore, adopting the “*acquis communautaire*” would mean removing all the remaining restrictions.

### 3.2. *Tariff equivalent of impediments to trade in telecommunication sector*

The tariff equivalent is the additional price paid by consumers due to the existence of various restrictions. Theoretically, the presence of restrictions affects access, quality and price. Under liberalization and full competition, telecommunications services would be accessible to a wider range of customers; of a better quality, and cheaper than under restrictions. The focus of this paper is on *price-based measure* of the impact of liberalizing telecommunications services. The two other components are also highly important, particularly when access to fixed telephony and internet services are extremely limited. However, these dynamic components require more data and specific approaches to assess their potential effects.

The tariff-equivalent approach derives estimates of barriers to trade from the difference between current prices and prices that would prevail once all restrictions were abolished.

By extending the findings of Warren (2000a) in converting the overall restrictiveness index for telecommunications services in Morocco, estimated to (0.278), we obtain a tariff-equivalent of (32 percent). In other words, the extent of existing restrictions increases the price of telecommunications services by 32 percent compared to what would prevail under full liberalization. Our calculation also indicates that the magnitude of the tariff equivalent amounts to 40.5 percent for the fixed telephony, 29.7 percent for internet services, and only 23.4 percent in the mobile telephony. These results provide evidence that full liberalization of telecommunications services would benefit users particularly in fixed telephony and internet services. The expected price reduction for mobile services is relatively lower but still significant in absolute terms.

#### 4. Welfare effects of fully liberalizing telecommunications services

The objective of this research is not only to quantify the magnitude of barriers to trade in the telecommunication sector, but also to provide an assessment of the impact of these barriers on the rest of the economy. The same exercise has already been done in the area of removing barriers on goods using econometric, as well as partial and general equilibrium methodologies. The relevance of this assessment arises from the need to understand how the removal of barriers to trade in such services will affect conditions of competition, productivity, allocation of resources, and economic welfare within and between sectors and countries (Deardorff and Stern 2004).

On the basis of our previous calculations, the adoption of the “*acquis communautaire*” in the telecommunication sector would result in a 32 percent decrease in the price of telecommunications services, which would make consumers better-off by increasing their surplus. But since telecommunications services are inputs used by almost all activities in their processes of production and distribution of other goods and services, it is expected that prices in these activities would also decrease, which would further increase consumers’ surplus.

In order to assess the total effect a 32 percent decrease in the price of telecommunications services on the economy, the 1998 *Input-Output table* of the Moroccan economy has been used<sup>160</sup>. By using this table, we assume that there are no significant changes in the structure of the Moroccan economy over the period 1998-2005. We suppose in particular that the telecommunication sector plays more or less the same role in 2005 compared to 1998. In our view, this assumption is a serious limitation as it tends to underestimate the remarkable progress in telecommunication sector over the last few years. The second limitation of the 1998 *Input-Output table* of the Moroccan economy is the absence of any distinction between transport and telecommunications, only one line stands for both<sup>161</sup>. On the basis on value added data, the share of telecommunications in “Transport and telecommunications” amounted to 23 percent in 1998 and more than 34 percent in 2002<sup>162</sup>. The third limitation is that Input-Output methodology only accounts for static effects. It does not account for any potential increase in consumer demands for the different commodities following their price reduction, which would require information on *price elasticities of demand* for the 36 commodities included in the input-output table.

Hence, our assessment would provide a rough downward biased estimate of welfare effect of liberalizing telecommunications services. The exact welfare gain is very likely to be higher.

On the basis of previous computations, the adoption of the EU rules and regulations in the telecommunication sector is expected to lead to an average reduction of telecom services’ price of 32 percent. Accordingly, the welfare of the society captured through

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<sup>160</sup> This is the most recent input-output table available in Morocco.

<sup>161</sup> As we overlooked this issue at this stage, our results should be interpreted cautiously.

<sup>162</sup> Comptes et Agrégats de la nation (1980-2002)

total consumption, will improve by 1,627 percent. Since in 1998 consumption represented 86.12 percent of GDP<sup>163</sup>, this welfare gain will translate into an increase of 1.4 percent in GDP.

Since in 2004, GDP amounted to DH 444 billion or the equivalent of US\$ 50 billion, our first and rough approximation of the welfare gain from adopting the EU rules and regulations in the telecommunication sector is estimated to US\$ 700 million. It very likely that this figure underestimate the total effect of liberalizing telecommunications services in Morocco.

## 5. Conclusion

Since 1997, the telecommunication sector in Morocco has embarked in a period of deep change initiated by technological innovation, liberalization of national markets, and by partial privatization of the incumbent operator.

The purpose of this paper was to present the major developments recorded in telecommunication sector in Morocco, quantify the extent of the existing restrictions, and assess the impact of regulating the telecommunication sector in Morocco along the European Union lines.

Measurement of trade in services is very crucial to policy makers in their bilateral, regional and multilateral negotiations. The potential impact of liberalizing telecommunications services goes beyond the telecommunication sector itself since these services enter as intermediate inputs in other activities.

On the basis of our computation, restrictiveness indexes for fixed telephony, mobile telephony and internet services in Morocco in 2005 are respectively 0.34, 0.21 and 0.26. These figures lead to an overall restrictiveness index, obtained as a simple arithmetic average, of 0.267. As the three activities are not of the same importance, an adjusted index has been computed by weighting each activity by its corresponding share of the total turnover in telecommunication sector in 2004. The overall restrictiveness index on the basis of this alternative computation is 0.278, which is not significantly different compared to the unadjusted index. The Restrictiveness index computed by Warren on the basis of 1997 data was much higher than ours because all liberalization reforms in telecommunication sector in Morocco have been implemented after 1997.

On the basis of our previous calculations, the adoption of the “*acquis communautaire*” in the telecommunication sector would result in a 32 percent decrease in the price of telecommunications, which would make consumers better-off by increasing their welfare. Our first and rough approximation of this welfare gain is estimated to US\$ 700 million but needs to be taken cautiously due to data paucity. It very likely that this figure underestimate the total effect of liberalizing telecommunications services in Morocco.

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<sup>163</sup> Haut Commissariat au Plan (2003), « Comptes et Agrégats de la nation 1980-2002 »

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**Appendix 1**  
**Key information on telecommunication sector in Morocco**

Item	Situation in Morocco
Ownership of the incumbent	<i>Maroc Telecom</i> The government of Morocco (34%), Vivendi Universal (51%), Shareholders through the stock market (14,5%), Employees (0,5%)
Ownership of other telecom operators	<i>Médi Telecom</i> (awarded the second GSM license in 1999 and won the second fixed phone license in July 2005)  Portugal Telecom (30,5%), Telefonica (from Spain) (30,5%), BMCE Bank (20%), Group Afriquia (11%) and CDG (8%)
Degree of ownership allowed	No limit on foreign ownership. Under GATS, Morocco reserved the right to limit the proportion of foreign ownership but the level has not yet been specified.
Degree of market liberalization	Opening up of telecommunication services to competition: mobile telephony since 1999 and other licenses may awarded through public tender, GMPCS open to competition in 1999, VSAT in 2000. Full liberalization of value-added services (radio messaging, internet access and service providers (ISPs). Access to market is also open for packet-switched data transmission and frame relay. Fixed telephony (local, long distance and international) has been a monopoly of Maroc Telecom until recently (July 2005).
Leased line and resale	More than 6200 leased lines in 2003
Callback	Callback services are allowed

**Appendix 2**  
**Methodology for constructing restrictiveness indexes in telecommunication sector**

<b>Policy Index</b>	<b>Content</b>
Market access/Trade <i>(MA/trade)</i>	Captures policies that discriminate against all potential entrants (domestic and foreign) seeking to supply cross-border telecom services. It is based on data on leased lines and resale.
MA/Investment (fixed) <i>MA/INV (fixed)</i>	Captures policies that discriminate against all potential entrants (domestic and foreign) seeking to supply fixed network services via investment in the country at issue. The index is a weighted average of three questions: <ul style="list-style-type: none"> <li>– Does competition operate in the market for fixed services? (the number of competitors)</li> <li>– Does policy allow for competition in the market for fixed services? (local, long distance domestic, international, data and leased lines). Full competition (0), Partial competition (0,5), monopoly situation (1).</li> <li>– Is the incumbent privatized? The inverse of the fraction of the incumbent that is privatized (0.0-1.0).</li> </ul>
MA/Investment (mobile) <i>MA/INV (mobile)</i>	Captures policies that discriminate against all potential entrants (domestic and foreign) seeking to supply cellular mobile services via investment in the country at issue. The index is constructed in much the same way as MA/INV (fixed).
National Treatment/Trade <i>NT/Trade</i>	Captures policies that discriminate against potential foreign entrants seeking to supply cross-border telecommunications services. It is constructed from the ITU data on individual country policy relating to callback services.
National Treatment /Investment <i>NT/INV</i>	Captures policies that discriminate against potential foreign entrants seeking to supply fixed or mobile telecommunications services via investment in the country at issue. It is constructed on the basis of ITU data on individual country policies. The index is based on the percentage of foreign investment allowed in competitive carriers.

Source: Warren (2000)





## **EU Integration and the Maritime Transport Sector: The Case of Turkey**

*Sübidet Togan and Aykut Kibritçioğlu*

With liberalization of trade, tariffs and non-tariff barriers were substantially reduced over the last decades in Turkey. Concurrently, the importance of transport costs as a determinant of competitiveness of Turkish goods and hence of trade has increased. Any additional effort to integrate the country into the world trading system has to consider and analyze the effect of transport costs and its determinants. In this paper we consider the maritime transport services and concentrate on the study of the effects of liberalization in the sector on the Turkish economy. The paper is structured as follows. While section 1 considers the characteristics, rules and regulations in the maritime transport sector at the global level, sections 2 and 3 concentrate on discussion of related issues in the European Union (EU) and Turkey respectively. The economic effects of EU integration in the maritime transport sector are studied in section 4. Finally, section 5 concludes.

### **maritime transport services**

Maritime transport services consist of three types of activities: (i) international maritime transport, that is, the actual transportation service performed once the commodity is on board of a ship in a country until the moment when the vessel reaches the destination port of a different state; (ii) maritime auxiliary services, that is, any activities related to cargo manipulation in ports and on ships; and (iii) port services, that is, activities related solely to ship management in ports (Fink et al. (2002)).

Due to differences in commodity types as well as to technological improvements in the shipping industry, international maritime freight transport has developed specialized branches. A clear distinction needs to be made between liner shipping and bulk shipping. Liner shipping is a regular line which publishes in advance its calls in different harbours. The liner fleet includes container vessels, but also includes conventional, roll-on/off and multipurpose vessels, and cargoes are transported for several shippers simultaneously. Capital intensive character of container shipping led to substantial degree of concentration. Non-liner shipping is performed irregularly and is provided on a demand basis predominantly by specialised bulk carriers. Vessels carry unpacked dry carriages (iron, grain) or liquid cargoes (oil, gas), and bulk shipping operations are carried out for individual shippers. Compared to liner shipping there is less concentration in bulk shipping, and there are substantial number of small owners with fleets of one or two vessels. While non-liner tankers and bulk carriers dominate in terms of trade volumes, liner vessels are far more significant in value terms since they tend to carry relatively high-value and low-volume cargoes (Kang and Findlay, 2000).

A principle organizational feature of the liner sector is the ability of operators to enter into co-operative arrangements and agreements. Worldwide, there are currently over 300 liner conferences. As one of the oldest forms of cartel in the world, shipping cartels commonly involve collusion to set prices and limit competition among members. Closed type of conferences not only set freight rates, which applies to all members, but

also allocates cargo quotas and restrict membership while open conferences merely set the freight rates on a specific route. A recent development in the sector has been supplementation of conferences with talking agreements and similar arrangements. As emphasized by Francois and Wooten (2000) the Transpacific Stabilization Agreement during 1998 has controlled about 86 percent of U.S. waterborne trade with Asia, and the Trans-Atlantic Conference Agreement a comparable share of North Atlantic trade. Compared with independent shipping operations, conferences are expected to coordinate the fleet capacity, create scale economies, prevent unexpected fluctuations in freight rates, limit competition between members and generate higher profits. However, it is usually argued that even if conferences create cost savings, part of these savings is not necessarily passed on to shippers, consumers and producers of shipped commodities. Conferences usually cause increases in shipping rates and establish market power for their member, restricting the entry of newcomers, and delaying improvement in the quality of shipping services.

The high incidence of conferences is due to the fact that the United States, European Union and many other countries exempt shipping conferences from antitrust regulation on the ground that they provide price stability and limit uncertainty regarding available tonnage. But in recent years, the power of conferences has eroded. Containerization has made it possible for outsiders to supply the same services as the conferences at lower cost to consumers. Non-conference lines offering independent semi or full container services at a frequency varying between weekly and fortnightly emerged, and they were based mainly in the newly industrializing economies of East Asia. Kang and Findlay (2000) report that by 1995 the share of non-conference lines in world liner shipping market had increased to about 40 percent.

On the other hand the bulk traffic is organized as a spot market, and contracts are allocated on an extremely competitive basis. As pointed out by WTO (1998) business is won on the basis of freight rates a few cents per ton lower than the competitor. Hence, bulk shipping services and related freight rates respond to market developments and to supply and demand pressures. Bulk shipping pools are occasionally created, but they fail to survive for long periods.<sup>164</sup> In addition, these pools are not generally exempted from competition policy laws, and hence they are dealt with by competition agencies in the same way as other commercial activities.

Another organizational feature of the maritime transport sector is the existence of classification societies. The classification societies make rules for ship construction and maintenance and issue a "class certificate" to reflect compliance. They arose from the efforts of insurers to establish that the vessels for which they were writing insurance were sound.<sup>165</sup> The classification societies have no legal authority. Today they mainly aim to enhance the safety of life and property at sea by securing high technical standards of design, manufacture, construction and maintenance of mercantile and non-

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<sup>164</sup> Some bulk companies do enter into pooling arrangements whereby they share the profits and losses made by their respective fleets.

<sup>165</sup> Although a shipowner must class his vessel to obtain insurance and in some instances a government may require a ship to be classed, the importance of the classification certificate extends beyond insurance. It is, as stated by Stopford (1997), the industry standard for establishing that a vessel is properly constructed and in good condition.

mercantile shipping. More than 50 organizations worldwide define their activities as providing marine classification. Ten of those organizations form the International Association of Classification Societies (IACS). It is estimated that these ten societies, together with the additional society that has been accorded associate status by IACS,<sup>166</sup> collectively class about 94 percent of all commercial tonnage involved in international trade worldwide. The voluntary nature of classification implies that classification societies compete with each other to offer attractive classification services to ship owners. In general, the services offered by classification societies have two major aspects, namely developing rules and implementing them. They continuously update the rules to reflect changes in maritime technology. The second aspect covers the application of the rules, which includes a technical inspection of the plans of the ship, surveys during construction, and periodic surveys for the maintenance of class.

Because ships trade internationally, there is also a strong need to standardise those aspects of national maritime law that are related to the international operation of ships. International maritime laws are developed by the participation of flag and port states in treaties or conventions. International conventions set out agreed objectives for legislation on particular issues, such as maritime safety, pollution control and conditions of seafarers' employment. They provide internationally accepted templates from which individual flag states can develop their own national maritime legislation. By doing that, it is hoped that most countries will have the same law on key maritime transport issues so that major inconsistencies between national maritime legislations are avoided. Consultation, drafting, adoption of draft, opening for signature by the governments and ratification by countries are major steps in making a maritime convention in which several United Nations (UN) agencies and Organization for Economic Cooperation and Development (OECD) are involved. At the global level, the maritime industry is principally regulated by the International Maritime Organization (IMO), which is a small UN agency responsible for the safety of life at sea and the protection of the marine environment.<sup>167</sup> The International Labour Organisation (ILO) is responsible for the development of labour standards applicable to seafarers worldwide.<sup>168</sup> The third UN agency that deals with international shipping conventions is the Shipping Committee of the UNCTAD. Finally, the GATT/WTO commitments, the ongoing services

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<sup>166</sup> Ten member societies that form the IACS ([www.iacs.org.uk](http://www.iacs.org.uk)) are: American Bureau of Shipping (USA, [www.eagle.org](http://www.eagle.org)), Bureau Veritas (France, [www.veristar.com](http://www.veristar.com)), China Classification Society (China, [www.ccs.org.cn](http://www.ccs.org.cn)), Det Norske Veritas (Norway, [www.dnv.com](http://www.dnv.com)), Germanischer Lloyd (Germany, [www.gl-group.com](http://www.gl-group.com)), Korean Register of Shipping (South Korea, [www.krs.co.kr](http://www.krs.co.kr)), Lloyd's Register (UK, [www.lr.org](http://www.lr.org)), Nippon Kaiji Kyokai (Japan, [www.classnk.or.jp](http://www.classnk.or.jp)), Registro Italiano Navale (Italy, [www.rina.org](http://www.rina.org)) and Russian Maritime Register of Shipping (Russian Federation, [www.rs-head.spb.ru](http://www.rs-head.spb.ru)). The Indian Register of Shipping ([www.irclass.org](http://www.irclass.org)) is an associate member of the IACS, while the Croatian Register of Shipping ([www.crs.hr](http://www.crs.hr)) was an associate member of the IACS until 31 December 2004.

<sup>167</sup> The Inter-governmental Maritime Consultative Organization (IMCO) was founded in 1958, following a long process to entry into force after the adoption of the IMCO convention in 1948. Then, in 1982 IMCO changed its name to the IMO. As of the end of 2005, IMO has 166 member states.

<sup>168</sup> Regarding maritime transport ILO's major interest is in working conditions on ships, such as provisions on manning, hours of work, pensions, vacation, sick pay and minimum wages. Between 1923 and 2005 a total of 41 maritime labour conventions concerning seafarers and dockworkers were adopted, in addition to 33 maritime labour recommendations.

negotiations at the World Trade Organization (WTO)<sup>169</sup>, and the Maritime Transport Committee (MTC) of the Organisation for Economic Co-operation and Development (OECD) provide important forums for the liberalization of maritime services.<sup>170</sup>

Turning to consideration of maritime auxiliary and port services we note that seaports offer many different services. According to Trujillo and Nombela (1999) seaport activities can be divided between (i) infrastructure, (ii) services provided by ports, which require the use of the infrastructure, and (iii) coordination between different activities performed at ports. Infrastructure consists of the infrastructure within ports (berths, quays, docks and storage yards) and the superstructure (sheds, fuel tanks, office buildings, cranes, van carriers, tractors). Besides the provision of basic infrastructure for the transfer of goods between sea and land, there are multiple port services such as pilotage, towing, tying, cargo handling, freezing, administrative paperworks, permits, cleaning, refuse collection and repair facilities to ships. Since there are many different activities being performed simultaneously within the limited space of port areas, there is a need for an agent to act as coordinator to ensure the proper use of common facilities, and to take care of safety of port facilities. In most seaports this function is played by port authority, which are usually public and in fewer cases private organization.

There are mainly three organizational modes for seaports. With 'landlord ports', the port authority owns and manages port infrastructure and private firms provide the rest of port and maritime auxiliary services. Private firms are able to own superstructure and operate assets pertaining to infrastructure by concession or licensing. With 'tool ports', the port authority owns both infrastructure and superstructure, but private firms provide services by renting port assets through concessions or licenses. Finally, with 'service ports', the port authority owns assets and supplies services by directly hiring employees.

Shipping industry encounters a web of regulations and practices both national and international. Overall, these regulations and practices can be classified following the approaches of the OECD (2001) under two broad headings: (i) regulations related to commercial operations and practices, and (ii) regulations related to rights and obligations of states and to safety and environment related regulations.

### *1.1 Regulations Related to Commercial Operations and Practices*

Regulations related to commercial operations and practices consider shipping specific economic policy regulations, ship registration conditions, cargo reservation / cargo

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<sup>169</sup> The negotiations at the World Trade Organization (WTO) in Geneva are of significant relevance to shipping's fortunes. Further negotiations on liberalization of maritime services were scheduled to improve on the commitments included in the initial Uruguay Round schedules. Although negotiations were scheduled to end in 1996, little progress has been achieved. Participants failed to agree on a package of commitments. Lately, the talks have resumed. As of 2005 some commitments exist in some countries' schedules covering the three main areas of the maritime services, namely access to and use of port facilities; auxiliary services, and ocean transport.

<sup>170</sup> The Maritime Transport Committee of the OECD is the only international forum that looks at this sector from both the policy and economic perspectives. Key activities of Committee include the development of common shipping policies and exchange of information on shipping policy developments both within and outside the OECD, and combating substandard shipping to achieve better ship safety and the protection of the environment through the involvement of the entire maritime industry.

sharing provisions, cabotage laws, cargo liability regimes, national security measures, competition legislation, and seaport industry. These regulations reflect a more pragmatic rationale, aimed at giving effect to government policies, the achievement of economic or national objectives, and ensuring national participation or simply regulating commercial activities. While some regulations (such as competition or anti-trust laws) are intended to free up the market, the majority probably distort or interfere with the market to some degree.

In the case of liner shipping the basic regulatory framework between OECD countries consists of “The Code of Liberalization of Current Invisible Operations” and “The Common Shipping Principles”. “The Code of Liberalization of Current Invisible Operations” was formally adopted by the Council of the OECD in 1961. Under the Code, members are obliged to eliminate restrictions between each other on current invisible transactions and transfers relating to maritime transport operations. According to Note 1 to Annex A of the Code the provisions of maritime freights, including chartering, harbour expenses, and disbursements for fishing vessels, and all means of maritime transport including harbour services (bunkering and provisioning, maintenance, repairs, expenses for crews), and other items that have a direct or indirect bearing on international maritime transport, are intended to give residents of one Member state the unrestricted opportunity to avail themselves of, and pay for, all services in connection with international maritime transport which are offered by residents of any other Member state. As the shipping policy of the Governments of the Members is based on the principle of free circulation of shipping in international trade in free and fair competition, it follows that the freedom of transactions and transfers in connection with maritime transport should not be hampered by measures in the field of exchange control, by legislative provisions in favour of the national flag, by arrangements made by governmental or semi-governmental organisations giving preferential treatment to national flag ships, by preferential shipping clauses in trade agreements, by the operation of import and export licensing systems so as to influence the flag of the carrying ship, or by discriminatory port regulations or taxation measures, the aim always being that liberal and competitive commercial and shipping practices and procedures should be followed in international trade and normal commercial considerations should alone determine the method and flag of shipment.

“The Common Shipping Principles” adopted by the Council of OECD in 1987 and updated in 2000 complement the provisions of the code, and lays down a common approach to international shipping policy and practices between OECD members based on the following elements: (i) the maintenance of open trades and free competitive access to international shipping operations, (ii) coordinated response to external pressure, based on full consultations between Member countries, (iii) the role and recognition of governmental involvement by Member countries to preserve free competitive access and the provision of choice to the shippers, (iv) a common approach to application of competition policy to the liner shipping sector, and (v) measures relating to safety, the environment and substandard shipping.

The most important category of barriers applied to international maritime transport have been various cargo reservation schemes. These require that part of the cargo carried in trade with other states must be transported only by ships carrying the national-flag or

interpreted as national by other criteria. These policies have typically been justified by either security or economic concerns. Cargo reservation can be imposed either unilaterally, if ships flying national flags are given the exclusive right to transport a specified share of the cargo passing through the country's ports, through cargo sharing with trade partner countries on the basis of bilateral or multilateral agreements, or through a specific form of cargo reservation scheme. In the second case the governments of two or more countries may decide to distribute cargo arising from their common trade, so that each national-flag fleet is granted a significant share. Ships belonging to third countries are allowed access to a small share, or, in some cases, no share at all.

It was mentioned above that a principle feature of liner sector is the ability of operators to enter into co-operative arrangements and agreements. To counteract the anti-competitive actions of liner conferences at the multilateral level, the United Nations Convention on a Code of Conduct for Liner Conferences was adopted in 1974. The so-called UN Liner Code, which entered into force in 1983 by its ratification by more than 70 countries, applies only to liner conferences in trades between contracting states, and embraces a self-regulatory philosophy for "closed" conference shipping operations. The Code established a framework within which conferences should operate in trades between contracting states, and grants certain rights to those conferences, but at the same time it imposes certain obligations upon them, thereby protecting shipper interests. It is best known for its cargo sharing formula of 40:40:20, which suggests that cargo between member countries be divided with 40 percent of cargo being carried by vessels of the country of origin, 40 percent by vessels of the country of destination and 20 percent by cross-trading vessels. It should be noted that the 20 percent figure and therefore the "40:40" is recommended only. However, two important qualifications need to be made about this provision. First, the provisions concern conference trades only, and not the totality of the liner trade. Second, it is for conferences themselves, not governments, to determine the allocation of the cargo shares between conference members. Governments have no part to play in that allocation. Countries opposing the Convention do so for a variety of reasons. It is stated that that cargo sharing leads to inefficiencies, reduced competition, reduction of shipper choice, and ultimately to higher freight rates, that shipper protection could be provided more efficiently through national legislation, and that ratification would be inconsistent with OECD obligations and would run counter to existing competition legislation. Despite having been in force for more than 15 years, it should be noted that the Convention is nowadays of limited economic relevance.

On the other hand one of the best known conventions of UNCTAD on maritime is the 'Code of Conduct for Liner Conferences', which entered into force on 6 April 1983. It provides for the national shipping lines of developing countries to participate on an equal basis with the shipping lines of developed countries. In 1991 the conference reviewed this convention and adopted guidelines towards its more effective implementation. By December 1995 there were 78 contracting parties to the convention. Another UNCTAD convention is the 'UN Convention on Conditions for Registration of Ships', agreed on 1986. It aimed at strengthening the genuine link between a state and ships flying its flag, in order to give more effective control of the identification and accountability of shipowners and operators especially in administrative, technical,

economic and social matters. The convention defined the responsibility of the flag state to set up an adequate national maritime administration to ensure that ships flying its flag comply with the law and to ensure that the owner of the ship can be identified and held accountable where necessary.

The primary legal authority governing the activities of merchant ships is the state in which the ship is registered, the flag state. It is responsible for regulating all aspects of the commercial and operational performance of the ship. By registration in a particular country, the ship and its owner become subject to the laws of this flag state. That is, registration makes the ship an extension of national territory while it is at sea. Therefore, for shipowners the choice of register is a major issue which may have important consequences in terms of the (a) tax, company law and financial law, (b) compliance with maritime safety conventions, (c) crewing and terms of employment, and (d) naval protection. Beside national registers, however, there are also open, or international, registers which aim to offer terms that are favourable to an international shipowner.<sup>171</sup> Furthermore, in some cases it is also possible for a shipowner to register a ship under two different flags. All of these alternatives to register a ship in one, or two, national registers or simply in an open register force shipowners to carefully weigh up the relative advantages and disadvantages of each of the possibilities. In general, the restrictions that apply on ship registration set maximum permitted stakes in a ship permitted for foreign nationals/corporate bodies, or minimum levels that must be owned by domestic interest. Many also require that the person or organization owning that ship should have its principle place of business located within their country, or that certain senior management posts within the owning company be filled by nationals.

In an effort to reserve the largest possible share of the country's seaborne trade, foreign firms are sometimes restricted from entering, or operating in, the domestic market. Ships engaged on cabotage, referring to transportation of commodities between ports of the same country, have been required to be manned by the country's own citizens, wholly or majority owned by domestic nationals, built at domestic shipyards, or registered under the national flag. In return, owners operating ships on cabotage routes have not had to compete with foreign flag vessels.

In the case of seaports public budgets have been used until recently to finance the building of most large infrastructure construction costs, generally public port authorities financed the costs of maintenance and repairs for infrastructure, and port authority was financed partially with public funds and the rest by port tariffs and fees from private firms operating in the port. With the increase in private participation in the operation of seaports the landlord port became the most desirable category for the operation of seaports from the efficiency point of view, since it allows private enterprises and market forces to play a role in the supply of services, while preventing monopolization of essential assets by private firms. Trujillo and Nombela (1999) maintain that the type of economic regulation changes with the size of seaports. For small and large local ports that do not require more than a general cargo terminal it is possible to consider the introduction of some form of competition among those firms that are willing to operate in the port. Once the single operator is chosen, it is necessary to have some regulation

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<sup>171</sup> Panamanian and Liberian registries are among the most popular open registries since early 1920s.

over the charges that this firm imposes on port users, since otherwise it would enjoy a monopoly position. The regulatory authority could mainly use price-cap systems or a rate of return type of regulation. On the other hand in cases of seaports of large size one could introduce competition within the port. If a large port is divided into several independent terminals, it is possible to induce competition between operators for the traffic that calls at the port. In such a case, regulation of prices is less of an issue. However, some form of supervision would be needed, since the parties could collude due to small number of parties involved.

### *1.3 Regulations Related to Safety and Environment*

The regulations on safety and environmental protection are generally based on international conventions that carry the authority and force of the United Nations. In this context the UN Convention of the Law of the Sea of 1982 (UNCLOS) provides the basis for the regulation of ships and provision of maritime transport services. According to the convention the flag state has primary legal responsibility for the ship in terms of regulating safety, labour laws and on commercial matters, while the coastal state also has limited legal rights over any ship sailing in its waters. The limits of the rights of the coastal states to enforce their own laws are defined by dividing the sea into four ‘zones’, each of which is treated differently from a legal point of view: (a) the territorial sea, which is the strip of water closest to the shore, (b) the contiguous zone, which is a strip of water to the seaward of the territorial sea, (c) the exclusive economic zone, which is a belt of sea extending up to 200 miles from the legally defined shoreline, and (d) the high sea which nobody owns. Coastal states have the right to enforce international laws and their own laws on safe navigation and pollution in territorial area which has a maximum width of 12 nautical miles. The coastal states have limited powers to enforce customs, fiscal and immigration laws in the contiguous zone, and in the exclusive economic zone they have the power to enforce only the oil pollution regulations.

The ‘Paris Memorandum of Understanding (MOU) on Port State Control’ adopted in 1982 aims at eliminating the operation of sub-standard ships through a harmonized system of port state control. Ships are selected for inspection according to the Paris MOU targeting system. Only internationally accepted conventions are enforced during port state control inspections. When serious deficiencies are found, the ship shall be detained. The captain is instructed to rectify the deficiencies before departure. On the other hand, flag states which are not a party to conventions receive no more favourable treatment. The results of each inspection are recorded in the central database, which is located in Saint Malo, France. Their periodically updated black-grey-white lists, which show the degree of riskiness of individual ships from different flag states, became one of the major indicators of safeness and environment-friendliness of national shipping fleets within the last decade.

IMO has adopted a comprehensive framework of detailed technical regulations, in the form of international diplomatic conventions which govern the safety of ships and protection of the marine environment. National governments, which form the membership of IMO, are required to implement and enforce these international rules, and ensure that the ships which are registered under their national flags comply. The majority of IMO conventions fall into three main categories. The first group is concerned with maritime safety, the second with the prevention of marine pollution, and the third with liability and compensation, especially in relation to damage caused by pollution. Outside these major groupings are a number of other conventions dealing with facilitation, tonnage measurement, unlawful acts against shipping and salvage. The current status of IMO conventions by selected countries are shown in Table 1.







\* There are several inter-governmental organizations which have concluded agreements of cooperation with IMO. For example, the Commission of the European Communities (EC) and the Organization for Economic Co-operation and Development (OECD) signed cooperation agreements with IMO in 1974.

\*\* IMO's conventions are regularly amended and revised while new instruments/protocols are adopted. The forthcoming dates of entry into force of amendments/instruments already adopted are shown at [www.imo.org/Conventions/mainframe.asp?topic\\_id=262](http://www.imo.org/Conventions/mainframe.asp?topic_id=262) on-line.

\*\*\* As at 31 August 2005.

**Abbreviations:** COLREG: Convention on the International Regulations for Preventing Collisions at Sea; CLC: International Convention on Civil Liability for Oil Pollution Damage; CSC: International Convention for Safe Containers; FAL: Convention on Facilitation of International Maritime Traffic; FUND: International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage; HNS: Hazardous and Noxious Substances by Sea; INMARSAT: Convention on the International Maritime Satellite Organization; INTERVENTION: International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties; LC: Convention on the Prevention of Maritime Pollution by Dumping of Wastes and Other Matter; LL: International Convention on Load Lines; LLMC: Convention on Limitation of Liability for Maritime Claims; MARPOL: International Convention for the Prevention of Pollution from Ships; NUCLEAR: Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material; OPRC: International Convention on Oil Pollution Preparedness, Response and Co-operation; PAL: Athens Convention relating to the Carriage of Passengers and their Luggage by Sea; SALVAGE: International Convention on Salvage; SAR: International Convention on Maritime Search and Rescue; SFV: The Torremolinos International Convention for the Safety of Fishing Vessels; SOLAS: International Convention for the Safety of Life at Sea; STCW: International Convention on Standards of Training, Certification and Watchkeeping for Seafarers; STP: Special Trade Passenger Ships Agreement; SUA: Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation; TONNAGE: International Convention on Tonnage Measurement of Ships.

The level of ratification and enforcement of IMO Conventions is generally very high in comparison with international rules adopted for shore-based industries. The principal responsibility for enforcing IMO regulations concerning ship safety and environmental protection rests with the flag states. Flag states enforce IMO requirements through inspections of ships conducted by a network of international surveyors. Much of this work is delegated to classification societies. However, flag state enforcement is supplemented by what is known as Port State Control, whereby officials in any country which a ship may visit can inspect foreign flag ships to ensure that they comply with international requirements.

Among the IMO conventions the 'International Convention for the Safety of Life at Sea' (SOLAS) which entered in force in 1980 covers a wide range of measures to improve the safety of shipping. The provisions of the convention cover the design and stability of passenger and cargo ships, machinery and electrical installations, life protection, life-saving appliances, navigational safety, and the carriage of dangerous goods. In 1990 the 'International Safety Management Code' was incorporated into SOLAS Regulations. The Code requires shipping companies to develop, implement and maintain a Safety Management System which includes company safety and environmental policy, and written procedures to ensure safe operation of ships and protection of the environment. The Code has been effectively enforced as the violation of the Code could lead the vessel to be detained by port authorities, denial of permission for the ship to enter its intended port of call and fines.

The IMO has recently adopted comprehensive maritime security measures at the 'Conference of Contracting Governments to the International Convention for the Safety of Life at Sea'. The Conference held at the end of 2002 adopted a number of amendments to the 1974 SOLAS, the most far-reaching of which enshrines the new 'International Ship and Port Facility Security Code' (ISPS Code). The Code contains detailed security-related requirements for Governments, port authorities and shipping companies in a mandatory section, together with a series of guidelines about how to meet these requirements in a second, non-mandatory section. The Conference also adopted a series of resolutions designed to add weight to the amendments, encourage the application of the measures to ships and port facilities not covered by the Code and pave the way for future work on the subject.

The 'International Convention for the Prevention of Pollution from Ships' (MARPOL) adopted in 1973 deals with all forms of marine pollution except the disposal of land generated waste. It covers such matters as the definition of violation, special rules on the inspection of ships, enforcement, and reports on incidents involving harmful substances. It should be noted that most oil tankers are currently of "single hull" design. In such vessels, oil in the cargo tanks is separated from the seawater only by a bottom and a side plate. Should this plate be damaged as a result of collision or stranding, the contents of the cargo tanks risk spilling into the sea and causing serious pollution. An effective way of avoiding this risk is to surround the cargo tanks with a second internal plate at a sufficient distance from the external plate. This design, known as a "double hull", protects cargo tanks against damage and thus reduces the risk of pollution. Following the *Exxon Valdez* accident in 1989, the United States, unilaterally imposed double hull requirements on both new and existing oil tankers, set according to vessel age limits and according to deadlines for the phasing out of single-hull oil tankers. Faced with the unilateral measure on the part of the Americans to impose double hull requirements on both new and existing oil tankers during the 1990s, the IMO established double hull standards in 1992 in the International Convention for the Prevention of Pollution from Ships (MARPOL). This Convention requires all oil tankers with a deadweight tonnage (DWT) of 600 tonnes DWT or more delivered as from July 1996 to be constructed with a double hull or an equivalent design. There are therefore no longer any single hull tankers of this size that have been constructed after this date. For single hull tankers with a deadweight tonnage of 20 000 tonnes DWT or more, and delivered before 6 July 1996, the International Convention requires that they comply with the double-hull standards at the latest by the time they are 25 or 30 years old, depending on whether or not they have segregated ballast tanks.

It has long been recognized that limitations on the draught to which a ship may be loaded make a significant contribution to her safety. These limits are given in the form of freeboards. In the 1966 'International Convention on Load Lines', adopted by IMO in 1996, provisions are made determining the freeboard of tankers by subdivision and damage stability calculations. The regulations take into account the potential hazards present in different zones and different seasons. The technical annex contains several additional safety measures concerning doors, freeing ports, hatchways and other items. The main purpose of these measures is to ensure the watertight integrity of ships' hulls below the freeboard deck. All assigned load lines must be marked amidships on each side of the ship, together with the deck line.

The 1978 'International Convention on Standards of Training, Certification and Watchkeeping for Seafarers' was the first to establish basic requirements on training, certification and watchkeeping for seafarers on an international level. The Convention prescribes minimum standards relating to training, certification and watchkeeping for seafarers which countries are obliged to meet or exceed.

The IMO Resolution A.747(18) on the tonnage measurement of ballast spaces in segregated ballast oil tankers aims to promote the use of environmentally friendly oil tankers in transport operations to, from or within the Community. Where port authorities base the dues payable by an oil tanker on its gross tonnage, they must, in accordance with the provisions of the Resolution deduct the tonnage of the segregated ballast tanks from the vessel's gross tonnage

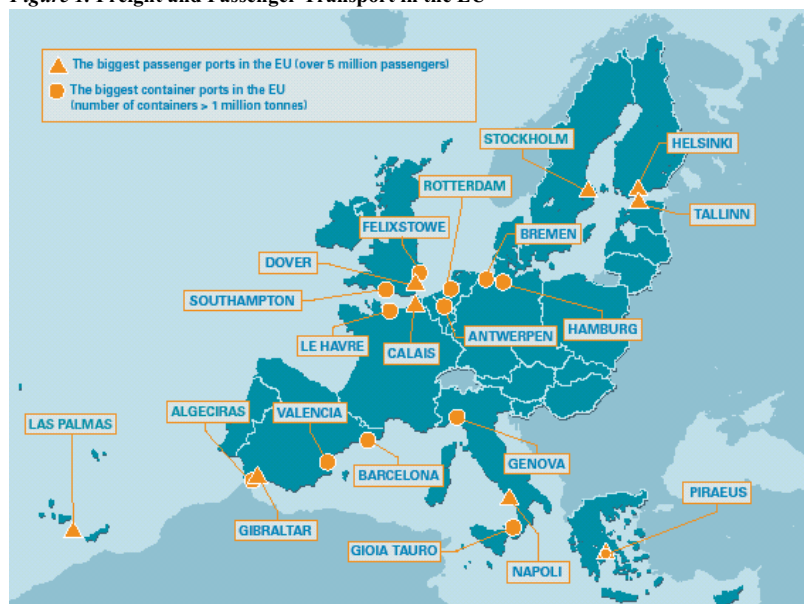
so that their calculations are based on the resulting reduced gross tonnage. Dues thus calculated must be at least 17 percent lower than those for an oil tanker of the same gross tonnage but without segregated ballast tanks.

Because of the unique character of seafaring, most maritime countries have special laws and regulations on seafarers. On the other hand, the ILO has adopted over 60 maritime labor standards during the past 75 years. The standards adopted specifically on seafarers during the years cover a multitude of questions including minimum age of entry to employment, recruitment and replacement, medical examination, articles of agreement, repatriation, holidays with pay, social security, hours of work and rest periods, crew accommodation, identity documents, occupational safety and health, welfare at sea and in ports, continuity of employment, vocational training and certificates of competency. Among the ILO conventions the ILO Convention 180 adopted in 1996 aims to promote the health and safety of workers, improve maritime safety and protect the marine environment. The Convention establishes limits on seafarers' hours of work or rest on board ship, and stipulates a maximum of 14 hours work per day and 72 hours per week for seafarers on board ship, with minimum rest periods of 10 hours daily and 77 hours weekly, and the creation of a mechanism to ensure enforcement of the Convention's provisions by inspection of ships calling at the port of the Member State in respect of ships registered in a third country that operate in EU waters.

## **EU Rules and Regulations on Maritime Sector**

Europe is a large peninsula with thousands of kilometres of coastline. It is surrounded by a number of islands, including island-states. The EU, surrounded by four seas and one ocean, has the world's largest maritime territory, while the maritime regions of Europe account today for nearly half of the EU's population and GDP. Twenty out of twenty-five EU Member States are coastal states. When Romania and Bulgaria join the Union, EU borders will extend to the Black Sea. Within the enlarged EU there are now more than 1,000 ports situated near industrial and population centres, which represents the largest concentration of ports in the world (see Figure 1). Since over 90 percent of EU external trade goes by sea and more than 1 billion tonnes of freight a year are loaded and unloaded in EU ports, maritime transport is of fundamental importance to Europe. This means that shipping is the most important mode of transport in terms of volume.

Figure 1. Freight and Passenger Transport in the EU



Source: EC (2005).

EU maritime transport legislation aims to apply the EC Treaty’s principle of free movement of services to the EU’s sea transport industry and its compliance with competition rules. Thus, it aims to improve the functioning of the internal market in maritime services by promoting safe, efficient and environmentally sound and user-friendly maritime transport services. The maritime transport acquis relates to market liberalisation, technical and safety standards, security, social standards, and state aid control in the context of the internal maritime transport market.

In the following the EU regulations on maritime transport are classified under the headings (i) regulations related to commercial operations and practices, and (ii) regulations related to rights and obligations of states and to safety and environment related regulations.

### 2.1 Regulations related to Commercial Operations and Practices

All EU Member States subscribe to the “The Code of Liberalization of Current Invisible Operations” regarding the maritime transport. Only France has lodged reservation with regard to liberalization of maritime freights, including chartering, harbour expenses, and disbursements for fishing vessels. Regarding the “Common Shipping Principles”, we note that all EU Member States have accepted the principles except Greece, which could not commit itself to accepting the new Principles 14 and 15 regarding the auxiliary services and international multimodal transport.

Most EU Member States are parties to the UN Convention on a Code of Conduct for Liner Conferences in a manner that safeguards the conditions of competition among lines from EC and other OECD countries, so as to accord a preferential treatment to national lines of developing countries, in accordance with an EC Council Regulation of

15 May 1979. This renders the cargo sharing provisions of Article 2 of the Code inapplicable in conference trades between EC Member States and, on a reciprocal basis, between EC Member States and other OECD countries. It also makes subject to redistribution, among the conference lines of the Member States and of other OECD countries offering reciprocity, the shares of the national lines of the Member State concerned. On the other hand in ratifying the UNCTAD's "Code of Conduct for Liner Conferences" the European Economic Community countries were faced with problems because in restricting competition, it was held to be contrary to the Treaty of Rome. Therefore, it took almost 20 years for all of the EEC countries to ratify the convention. This compromise is known as "Brussels Package".

Besides the above mentioned international rules and regulations on commercial operations and practices, the EU has a number of regulations on the principles of freedom to provide services, competition, and free access to the market in sea transport, freedom to provide services in sea transport within Member States, and application of competition policy to maritime transport.

Council Regulation (EEC) No 4055/86 gives Member State nationals (and non-Community shipping companies using ships registered in a Member State and controlled by Member State nationals) the right to carry passengers or goods by sea between any port of a Member State and any port or off-shore installation of another Member State or of a non-Community country. Any current national restrictions which reserve the carriage of goods to vessels flying the national flag are to be phased out. Existing cargo sharing arrangements in bilateral agreements with non-Community countries are to be adjusted or phased out according to this Regulation. Cargo sharing arrangements in future bilateral agreements with non-member countries will be limited to those Member States whose shipping companies would not otherwise have an opportunity to ply for trade to and from the particular non-member country.

Council Regulation (EEC) No 4056/86 lays down the rules for applying Articles 81 and 82 of the Treaty (free competition) to maritime transport. The transport must be between one or more Community ports, and tramp vessel services are excluded. Technical agreements whose sole object is to achieve technical improvements or cooperation are exempted by the Regulation from the prohibition in Article 81(1) of the Treaty. Restrictive practices engaged in by members of one or more liner conferences are exempted from the prohibition in Article 81(1), on certain conditions, in so far as they seek to coordinate shipping timetables, determine the frequency of sailing, allocate sailings among members of the conference, fix rates and conditions of carriage, regulate carrying capacity, or allocate cargo or revenue among members. [Regulation No 1/2003](#) provides for a changeover from a centralised system of prior notification to a directly applicable exception scheme: competition law is now to be enforced by any competition authority, including the Commission, and by the courts of the Member States

Thus, the EU regulates liner operations by granting ocean carriers a specific block exemption from competition law. Currently, the EU is re-examining the continued validity of the ocean carriers' block exemption from competition laws. During the review the Commission issued a consultation paper seeking comments from the shipping industry and public. In response, the shipper groups argued in favor of

eliminating the exemption for ocean carriers, while the carriers continued to argue that the exemption is a necessary component for the liner industry. In October 2004, the Commission issued its 'White Paper on Liner Shipper' summarizing its findings and proposing an end to the carriers' block exemption from EU competition laws. As emphasized by Bank et al. (2005) the possibility remains, that final EU decision might end up permitting carriers to share general, aggregate price information and market conditions, but prohibiting the collective rate setting capability that the lines have enjoyed for over 130 years.

Council Regulation (EEC) No 4057/86, which entered into force on 1 June 1987, enables the EC to apply compensatory duties in order to protect shipowners in Member States from unfair pricing practices on the part of non-Community shipowners. The Regulation defines the injury that can be taken into consideration, e.g. a reduction in the shipowner's market share or profits or in employment. It lays down a procedure for complaints, consultations, and subsequent investigations. It allows compensatory duties to be imposed on foreign shipowners. These follow an investigation, which demonstrates that injury has been caused by unfair pricing and that the interests of the Community make intervention necessary.

In cases where a third country seeks to impose cargo sharing arrangements on Member States in liquid or dry bulk trades, the Council shall take the appropriate action in accordance with Regulation (EEC) N° 4058/86 to safeguard free access to cargoes in ocean trades for shipping companies of Member States or by ships registered in a Member State, except where such action is taken in conformity with the UN Liner Code. It provides for coordinated action by the Community following a request made by a Member State to the Commission. Such action might include diplomatic representation to non-Community countries and countermeasures directed at the shipping companies concerned. Similar coordinated action can be taken at the request of another country belonging to the OECD with which a reciprocal arrangement has been concluded.

Council Regulation (EEC) No 3577/92, dated 1 January 1999, implements the freedom to provide services to the national maritime transport of EU member states, providing for the progressive liberalisation of cabotage restrictions. The Regulation liberalised maritime cabotage in the countries where that economic sector was reserved for nationals. Accordingly, freedom to operate between two ports in the same Member State is offered to all Community shipowners, not only to national shipowners.

Regarding ship registration conditions we note that the conditions vary among the EU countries. In Germany registration in the German Ship Register is reserved to vessels that are owned by nationals of an EU Member State or by companies having their place of business in an EU Member State, and the registration is a precondition for the right to fly the German flag. On the other hand in Sweden a ship is entitled to fly the Swedish flag if it is more than half-owned by a Swedish national or a Swedish legal entity. The Swedish national maritime administration may grant the right to fly the Swedish flag to other ships whose operation is essentially under Swedish control and whose owner has his permanent residence in Sweden.



Finally, regarding port policy we note that the Commission adopted in 2001 the Communication “Reinforcing Quality Service in Sea Ports: A Key for European Transport”. The cornerstone of this Communication was a proposal for a Directive on “Market Access to Port Services”. The proposal has led to an extensive debate in the EU. However, at the end of 2003 the European Parliament rejected the proposal for a Port Services Directive. The Commission believing that it is necessary, in the interests of operators, authorities and consumers, to introduce specific and clear rules on access to the port services market which will take account of its unique features, decided to bring forward a new proposal, which was presented during October 2004. To a large extent, the new Directive proposal simply reiterates principles contained in the 2001 version.<sup>172</sup> This new proposal is currently going through the legislative co-decision procedure, according to which the Directive shall only be conclusively adopted if its final (possibly amended) version is approved jointly by the Council of Ministers of the Member States and the European Parliament.

## *2.2 Regulations Related to Safety and Environment*

The main international rules that regulate safety at sea have been transposed into the Community law, ensuring that they have legal force and uniform application throughout the Member States. In this context we note that the EU has ratified the UN Convention on the Law of the Sea (UNCLOS). Furthermore, a close consideration of Table 1 reveals that the EU countries have joined the 1973 MARPOL Convention amended in 1978, the 1974 SOLAS Convention, and the LOAD LINES conventions.

As mentioned before classification societies are organizations which develop and apply technical standards to the design, construction and assessment of ships and other marine facilities. EU has authorized 12 classification societies for the inspection and statutory certification of their ships via [Commission Decision 2002/221/EC](#). These societies are: American Bureau of Shipping, Bureau Veritas, China Classification Society, Det Norske Veritas, Germanischer Lloyd, Hellenic Register of Shipping (recognition for Greece only), Korean Register of Shipping, Lloyds Register, Nippon Kaiji Kyokai, Registro Internacional Naval (recognition for Portugal only), Registro Italiano Navale, Russian Maritime Register of Shipping. The main EU legislation which deals with classification societies is [Directive 94/57](#).

Noting that flag states do not guarantee that their vessels will meet all international safety and environmental requirements the EU insisted on the requirement that a solid port state control system is necessary to ensure that safety standards are met. To ensure the effective operation of these port states, in 1982 member states of the European

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<sup>172</sup> Van Hooydonk (2005) states that: “In particular, the Commission has shown its willingness to accept several important amendments agreed upon by interested parties during the previous legislative process. Yet it cannot be denied that the new proposal still does not adequately respond to some fundamental criticism of the previous proposal. The Directive continues to lack a convincing justification. A number of basic concepts are still surrounded by obscurity as to their exact meaning and purport. Additionally, the internal logic of the 2001 draft is disturbed by some fundamental and rather complicated reversals. Generally speaking, the wording of the new proposal is confused and leaves room for divergent interpretations by Member States, public and private sector players and their lawyers. As a consequence, the new initiative threatens to create massive legal uncertainty for port authorities, existing and prospective port operators and port users alike. Therefore, a thorough revision of the Directive's overall structure and single provisions seems highly recommendable.”

Union signed the “Paris Memorandum of Understanding on Port State Control”, which at present covers 19 maritime administrations. Through this regional administrative agreement, based on a number of international conventions, signatories exercise their rights to control foreign ships within their ports on the basis of the provisions of these conventions.

The purpose of the Council Directive [95/21/EC](#) of June 1995 is to improve maritime safety in Community waters by attempting to ban substandard shipping from them. The Directive applies to all merchant shipping and crews using a seaport of a Member State or offshore terminal or anchored off such a port or installation. Member States are obliged to establish and maintain national maritime administrations for the inspection of ships in their ports or in the waters under their jurisdiction. Each Member State is obliged to inspect at least 25 percent of the ships flying other countries' flags which enter its ports. Vessels which have already been inspected within the previous six months are exempt. Enhanced controls must be carried out on oil tankers within five years or less of the date of phasing out, bulk carriers older than 12 years of age, passenger ships, gas and chemical tankers, over ten years old counting from the date of construction shown on the ship's safety certificates. An obligation is placed on the Member States to ensure that any deficiencies revealed in the course of the inspection are rectified. Conditions warranting detention of the ship are laid down.

The Regulation (EC) No [725/2004](#) of March 2004 is on enhancing ship and port facility security. The main objective of the Regulation is to implement Community measures aimed at enhancing the security of ships used in international trade and associated port facilities in the face of threats of intentional unlawful acts. The Regulation contains preventive measures and transposes the part of the IMO Convention for the Safety of Life at Sea (SOLAS Convention) on special measures to enhance maritime security and, at the same time, the International Ship and Port Facility Security Code (ISPS Code), two of the cornerstones of maritime security at world level. Member States must vigorously monitor compliance with the security rules by ships intending to enter a Community port, whatever their origin. Security checks in the port may be carried out by the competent maritime security authorities of the Member States, but also, as regards the international ship security certificate, by inspectors acting in the framework of port State control, as provided for in Directive [95/21/EC](#).

Council Regulation (EC) No [2978/94](#) of November 1994 is on the implementation of IMO Resolution A.747(18) on the application of tonnage measurement of ballast spaces in segregated ballast oil tankers. The Regulation aims to encourage the use of oil tankers fitted with segregated ballast capacity by requiring the Community's port and pilotage authorities either to apply the recommendations of Resolution A.747(18) or to permit a system of rebates on dues, such as that provided for in the said Resolution. The Resolution invites governments to advise port authorities to apply to all tankers with segregated ballast tanks the recommendation of deducting the segregated ballast tank tonnage from the gross tonnage wherever their dues are based on the latter, and to advise pilotage authorities to act in accordance with the same recommendation. On the other hand the recent environmental catastrophes caused by oil spills in European waters have put the oil tanker sector under the direct scrutiny. After the sinking of the single hull oil tanker Prestige in November 2002, the EU adopted straightforward measures such as banning the entry into EU ports, and offshore terminals under the jurisdiction of the EU Member States, of single hull tankers carrying heavy grades of oil, and accelerating the phasing out of single hull oil tankers calling at EU ports. The purpose of Regulation (EC) No [417/2002](#) is to reduce the risk of accidental oil pollution in European waters by speeding up the phasing-in of double hulls. The Regulation applies to all tankers of 5 000 tonnes deadweight or above entering or leaving a port or offshore terminal or anchoring in an area under the jurisdiction of a Member State, irrespective of their flag, and flying the flag of a Member State.

The Directive 94/58 of 22 November 1994 on minimum training conditions for seafarers gives the 1978 IMO Convention on standards of training, certification and watchkeeping for seafarers the force of Community law. In the same way, Council

Regulation 2978/94 of 21 November 1994 implements IMO Resolution A.747(18) on the application of tonnage measurement of ballast spaces in segregated ballast oil tankers. It aims to ensure that this type of vessel, which is more environmentally friendly than conventional oil tankers, does not attract higher port dues in view of its greater tonnage for the same load capacity.

Council Directive 93/75 of 13 September 1993 concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods requires carriers to declare the loading of such goods in accordance with international regulations. It also defines the information which the operator must supply to the competent authorities of the Member States for which the vessel is bound or which it is leaving, and the action to be taken in the event of an accident.

Council Directive 94/57 of 22 November 1994 lays down common rules and standards for ship inspection and survey organisations and for the relevant activities of maritime administrations. It sets out the arrangements for organisations responsible for ensuring that vessels comply with international standards. It establishes uniform criteria for surveying and certification so as to ensure a standard degree of reliability.

The Council Directive [1999/63/EC](#) of June 1999 concerning the Agreement on the organisation of working time of seafarers is largely inspired by ILO Convention 180. The current directive is intended to put into effect the European Agreement concluded in 1998 between the trade-union and employers' organizations of the maritime transport sector concerning the working time of seafarers. The agreement, comprised in an annex to the directive, applies to seafarers on board every seagoing ship, whether publicly or privately owned, which is registered in the territory of a Member State and is ordinarily engaged in commercial maritime operations. Hours of work and rest are laid down as follows: (i) either the maximum hours of work which must not exceed 14 hours in any 24-hour period, 72 hours in any seven-day period or the minimum hours of rest which must not be less than 10 hours in any 24-hour period or 77 hours in any seven-day period. Hours of rest may not be divided into more than two periods, one of which must be at least six hours in length, and the interval between consecutive periods of rest must not exceed 14 hours. Musters, fire-fighting and lifeboat drills, and drills prescribed by national laws and international instruments must be conducted in a manner that minimizes the disturbance of rest periods. Provision is to be made for a compensatory rest period if a seafarer's normal period of rest is disturbed by call-outs. Seafarers are entitled to paid annual leave of at least four weeks, or a proportion thereof for periods of employment of less than one year. The minimum period of paid leave may not be replaced by an allowance in lieu. Seafarers under the age of 18 are not permitted to work at night. In addition, no person under 16 years of age is allowed to work on a ship. All seafarers must possess a certificate attesting to their fitness for the work for which they are employed, and have regular health assessments.

Finally, we should note that the EU, in order to guarantee safe, secure and clean maritime goods transport, has set up under Regulation (EC) N° 1406/2002 of June 2002 the 'European Maritime Safety Agency', the main objective of which is to provide technical and scientific assistance to the European Commission and Member States in the proper development and implementation of EU legislation on maritime safety, pollution by ships and security on board ships.

## **Turkish Maritime Rules and Regulations**

Turkey is a peninsula country surrounded by the Black Sea in the north, the Aegean Sea in the west and the Mediterranean in the south, and located on important

transport routes having strategic waterways with Istanbul (Bosporus) and Çanakkale (Dardanelles) Straits connecting Black Sea and other northern countries to southern seas (see Figure 2). Although domestic transportation in Turkey is dominated by road transport with a share of 93.2 percent in 2002, major part of Turkish internationally traded goods is realized by sea. In 2003, 80.4 percent of exports and 91 percent of imports were transported by sea, implying that the average share of the maritime transport sector on Turkish total trade is around 87.6 percent. Table 2 shows the international and domestic components of the market for maritime transportation in Turkey. According to this table, the Turkish shipping fleet is transporting only about 40 percent of all goods loaded or uploaded on Turkish ports. Meanwhile, only one fourth of it consists of domestic (cabotage) transportation. That is, roughly 70 percent of internationally traded goods in Turkey are transported by ships with foreign flags. The foreign exchange earnings of the maritime sector is shown in Table 3.

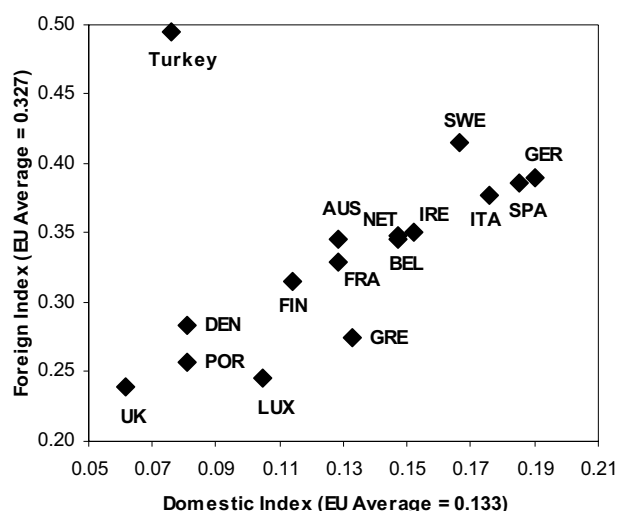
**Figure 2. The Mediterranean in a Central Position on Shipping Routes**



Note: The Mediterranean occupies a choice position on the large international shipping routes (the “mother lines”, see map above from the Geography Department of the University of Montreal). Its central position, within the three major straits of - Gibraltar, Suez and the Bosporus, also provides scope for its gradual transformation into a unique call zone for the Orient-America lines, in a context of competitive pressure from global transport operators attempting to drag prices downwards. It has thus created giant shipping “hubs”, located on the edges of these routes, the likes of Algeciras (most southerly point of Spain) or Gioia Tauro (Calabria). This opportunity of reviving activity in the Mediterranean requires that large feeder ports be capable of accommodating large vessels and supplying logistics and goods shipping services towards central and southern Europe, as are Rotterdam, Antwerp or Marseille.

Source: ANIMA, *Sector Perspectives on Transport and Logistics: Logistics in the Mediterranean, the Shipping Lanes First*, [http://www.animaweb.org/opportunitites\\_transport\\_en.php](http://www.animaweb.org/opportunitites_transport_en.php)

Figure 3. Restrictiveness Index Scores for Maritime Services: Turkey versus 15 EU Countries (as end of 1998)



Source for the Data: McGuire *et al.* (2000) and [www.pc.gov.au/research/rm/servicesrestriction/index.html](http://www.pc.gov.au/research/rm/servicesrestriction/index.html).

Note: The calculated two indexes are based on the available information on restrictions in place as at 31 December 1998. In general, the foreign restrictiveness index scores range from 0 to 1, while the domestic restrictiveness index scores vary between 0 and 0.665. The higher the score, the greater are the restrictions for an economy. Accordingly, the figure shows that, among all countries considered, the UK's maritime sector is the most liberalized sector in terms of both the foreign and domestic restrictiveness indexes. See also the notes under Table 9 above.

The capacity of the Turkish maritime fleet decreased from 10.9 million DWT in 1996 to 7.6 million DWT in 2003. Currently the Turkish shipping fleet is mainly dominated by dry cargo ships, followed by tugboats, bulk carriers and oil tankers as major ship types. Average age of the Turkish shipping fleet is about 23.4 years, while the average age of dry cargo ships is around 29.1. The main ports of the country are Istanbul, Izmir, Izmit, Samsun, Trabzon, Mersin and Iskenderun that provide modern facilities under a well-advanced infrastructure. In 2002, total freight handled in Turkish ports was around 150 million tonnes (down from 170 million tonnes in 1999). In 2001, container handling reached almost 1 million teu (twenty feet equivalent unit). New port projects are being prepared to ensure the requirements of Turkey's port demand to 2020, within the framework of National Ports Master Plan. In addition to the main ports, 8,926 berthing places including 25 marinas, yacht ports, 274 fishing shelters and 423 cultivate ranches are also situated.

### 3.1 Maritime Transportation

In Turkey, all the maritime-related decision and policymaking activities including signing international maritime conventions are carried out by the 'Undersecretariat for Maritime Affairs' (UMA, [www.denizcilik.gov.tr](http://www.denizcilik.gov.tr)). UMA governs seven district directorates located on Trabzon, Samsun, Istanbul, Çanakkale, Izmir, Antalya and Mersin and 68 harbourmasters along the Turkish coastline. Maritime activities in Turkey are mainly subject to Turkish Commercial Law No 6762, Cabotage Law No 815, Ports Law No 618, and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers of 1978 (STCW78). As emphasized by the WTO (2004) the Law on Turkish International Flag Registration and the new Port

Development Master Plan were put into effect in 2000. With the Master Plan Turkey aims to restructure the ports and convert them into efficient international transportation corridor.

The Turkish shipping industry's own regulatory authority is the 'Turkish Lloyd Classification and Certification Society' (Türk Loydu, [www.turkloydu.org](http://www.turkloydu.org)), which is established in 1962. It is aimed to (a) maintain the independence, impartiality, confidentiality and reliability, (b) ensure the safety of life, property and environment of all shareholders by delivering services in accordance with national and international rules and standards, (c) comply with "Türk Loydu Code of Ethics", (d) improve continually the system effectiveness in order to meet the requirements of the system and customer needs and expectations, (e) ensure that the services are uniformly accessible to all customers, (f) conduct the services having occupational health and safety conscious by following the relevant developments in a healthy and safe environment, (g) minimize pollution by preventing it at the source (h) ensure the effective usage of the natural sources and (i) consume the materials which does not have any harmful effect on human life and environment for all processes.

Up to 1983, Turkish regulations required that all imports of public enterprises and public entities be transported by Turkish-flag vessels. This restrictive policy was liberalised in 1983 by Decree 152, which stipulates that all imports for the account of public entities are to be carried on board Turkish-flag vessels if the freight rate is not more than 10 percent higher than that quoted by foreign operators. If, on the other hand, the rate quoted by Turkish operators is more than 10 percent above that of their foreign competitors, foreign-flag vessels will move the imports. Foreign flag vessels are used when (i) Turkish flag vessels' quotations are more than 10 percent higher than quotations by foreign vessels, (ii) loading is at ports not used by Turkish vessels, and (iii) the capacity/technology used by Turkish vessel is insufficient for the cargo and the route. On the other hand according to the Cabotage Act No 815, dated 29 April 1926, cabotage is reserved to national flag carriers. No more than 49 percent equity participation by foreigners is allowed. Registration of commercial ships is granted only to locally incorporated companies whose management is under the control of Turkish citizens, and majority of voting shares are owned by Turkish citizens

According to the Law on Turkish International Flag Registration put into force in 2000 there are two different types of ships registry: National Ship Registry (NSR) and Turkish International Ships Registry (TISR). In order to fly the Turkish flag, on the NSR, shipping companies must be 51 percent owned by Turkish nationals, and first mates and masters of ships must be of Turkish nationality, while up to 40 percent of the officers of ships engaged in international seaborne transportation excluding cabotage can be foreign nationals. We note that (i) ships that belong to legal persons, such as bodies, institutions, associations, and foundations set up in accordance with Turkish law, the majority of whose Board of Directors are of Turkish nationality, (ii) and ships that belong to trading companies, the majority of whose managerial staff and representatives are of Turkish nationality and are registered on the Turkish Trade Register are considered as Turkish. On the other hand, the Turkish International Ship registries are open for foreign ships with foreign seafarers except for cabotage. In the Turkish flagged ships registered to TISR, 49

percent of the crew can be employed from foreign seafarers provided that first captain is a Turkish citizen. With introduction of International Ship Registry, Turkish maritime sector has been opened to free competition for seafarers and it is expected that positive outcomes will occur regarding employment of seafarers and their quality.

Since going into effect at the end of 1999 a total of 734 vessels have registered with the TISR, and almost all of them are Turkish-owned ships. Very few foreign owned vessels have sought out the TISR. There are several explanations for the lack of foreign interest such as the restriction against bareboat charters, the requirements to establish a company under the laws of Turkey, and the restriction under Cabotage Act.

Articles 27 and 29 of the Tourism Incentive Law No 2634 and the Yacht Tourism Regulation contain exceptions to the Law No 815 on Maritime Transportation, Cabotage and Harboring and Performing Crafts and Trade in Turkish Territorial Waters (Law on Cabotage), for private and commercial yachts with a foreign flag, where they are used for excursion, sports and amusement. In the same way, articles 3 and 27 of the Tourism Incentive Law No 2634 and article 21 of the Yacht Tourism Regulation allow enterprises established abroad to work in the tourism service sector.

According to the Turkish Ports Law No. 618, dated 20 April 1925,<sup>173</sup> only Turkish citizens, and companies that are majority owned by Turkish citizens, which are managed and represented by Turkish citizens with a majority, and majority voting is held by Turkish citizens, may exercise the rights related to the ports. Again, foreign ownership in companies, which are involved in port undertakings, is restricted to 49 percent. All services, access to ports, pilotage, towing, tug assistance, provisioning, fueling, watering, and navigation aids are available to all users of port services. But, pilotage and all other port services can be provided only by Turkish flag ships. In the last few years, 13 public ports, operated by the General Directorate of the Turkish Maritime Organization (TDİ), have been privatised, but the main ports are still operated by a public enterprise, the Turkish State Railways (TCDD). According to the Turkish Privatisation Administration (OİB), which took TDİ into their privatisation portfolio on 10 August 1993, privatisation of ports (by using methods such as transferring management rights for port and urban lines, asset sale of ferries and lands, or sale of maritime lines) will be pursued gradually.<sup>174</sup> Notice that no progress has been made in turning the administration of the ports over to autonomous institutions, which would encourage more efficient management. However, a project, called “Strengthening of the Institutional and Management Structure of TCDD Izmir Port”, and recommendations for alignment of the legal framework on the EU and the IMO regulations are being implemented.

Recently, an ambitious five year Maritime Transport Action Plan for the enhancement of maritime safety was adopted in December 2003. This action plan sets out a road map for legislative alignment with the *acquis* on maritime safety, measures aimed at

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<sup>173</sup> For the full text of the Turkish Ports Law No. 618 in Turkish, see: [www.chamber-of-shipping.org.tr/wwwdocuments/618LIMANLAR\\_percent20KANUNU.doc](http://www.chamber-of-shipping.org.tr/wwwdocuments/618LIMANLAR_percent20KANUNU.doc)

<sup>174</sup> See [www.oib.gov.tr/portfoy/denizcilik\\_eng.htm](http://www.oib.gov.tr/portfoy/denizcilik_eng.htm).

strengthening administrative structures (in the area of flag State and port State control) and training and equipment needs. Since January 2004, the Turkish Undersecretariat of Maritime Affairs is conducting a broad legal and institutional harmonization project under participation of Spain as a partner EU country (the so-called “twinning project”, No. TR02-TR-01) to strengthen the Turkish institutional infrastructure on maritime transport before Turkey’s accession into the EU.<sup>175</sup> Since three years, considerable efforts are being deployed to decrease the detention rates of Turkish-flagged ships on foreign ports.

**Table 2. Extent and Composition of the Market for Maritime Transportation in Turkey**

Years	International Maritime Transportation					Domestic Maritime Transportation		Share of Ships with Turkish Flag on Maritime Transportation ( percent)
	Share of Ships with Turkish Flag ( percent)		Share of Ships with Foreign Flags ( percent)		Total Goods Transported Internationally by Sea (million tones)	Cabotage Shipping (million tones)	Share of Cabotage on Total Sea Transportation ( percent)	
	Imports	Exports	Imports	Exports				
1998	25.6	6.9	50.6	16.9	104 076 233	21 529 461	17.1	44.1
1999	21.9	6.8	48.4	22.9	110 901 420	21 229 016	16.1	40.1
2000	23.3	7.2	49.4	20.1	118 249 056	20 847 595	15.0	40.9
2001	22.2	8.8	42.0	27.0	113 414 358	12 633 778	10.0	37.9
2002	24.8	8.0	44.0	23.1	125 244 852	16 430 000	11.6	40.7
2003	21.4	7.0	49.0	22.6	140 150 438	n.a.	n.a.	n.a.

Source: Undersecretariat for Maritime Affairs and State Institute for Statistics; author’s own calculations.

**Table 3. Foreign Exchange Earnings of the Turkish Maritime Sector (million USD)**

Sub-Sectors	2002	2005
Maritime Transportation	3,000	4,500
Port Operation and Services	750	1000
Ship Building	300	1100
Sea Tourism	2,000	3,500
Sea Resources	500	600
Coastal	1,300	1,500
Fuel oil	700	1500
Total	8,550	13,850

Source: Chamber of Maritime Commerce, Istanbul.

\* Estimation.

### 3.2 International Obligations

Turkey has no laws and regulations governing the operation of liner conferences, has reservation on Note 1 of the OECD Code of Liberalization of Current Invisible Operations, does not associate itself with the OECD Common Shipping Principles, and applies cargo reservation policies. Turkey is one of the 38 states that has not signed the ‘The United Nations Convention on the Law of the Sea’ (UNCLOS). Turkish flag is on the black list of the Secretariat of the Paris Memorandum of Understanding on Port State Control. According to WTO (2004) the percentage of Turkish flag vessels detained following Port State Control has increased from 23.8 percent in 2000 to 24.5

<sup>175</sup> The 21-months-length project has 13 targets that are described in detail by Yalçın (2004a and 2004b).



percent in 2001. Turkey is a signatory to many of the IMO rules and regulations and harmonized partly its legislation by ratifying 20 out of 53 conventions listed in Table 2. Although Turkey has ratified MARPOL and SOLAS conventions and acceded some of the amending protocols, it has not ratified yet the SOLAS Protocol 78, SOLAS Protocol 88 (International Convention for the Safety of Life at Sea), MARPOL Annexes III and IV (International Convention for the Prevention of Pollution from Ships), and Load Line 88. Turkey signed 12 out of 41 ILO conventions concerning seafarers and dockworkers.

In the WTO negotiations on maritime transport services Turkey is one of the few countries which has scheduled substantial commitments on passenger transportation, freight transportation, rental of vessels with crew, maintenance and repair of vessels and maritime auxiliary services, as well as additional commitments.<sup>176</sup>

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<sup>176</sup> Major aspects of Turkey's commitments on maritime transport services can be summarized as follows:

(a) In the case of freight transportation there is no limitation on cross-border trade (mode 1) and consumption abroad (mode 2) except cabotage transportation. With respect to commercial presence (mode 3), the following limitations and conditions apply: In order to fly Turkish flag, the shipping companies must have the majority of 51 per cent Turkish shareholders. All Turkish ships shall fly the Turkish flag. A ship shall be regarded as Turkish only if its owner (or owners) is/are Turkish. However, the following ships shall also be considered as Turkish: (i) Ships which belong to legal persons such as bodies, institutions, associations and foundations set up in accordance with Turkish Law, the majority of whose Board of Directors are of Turkish nationality. (ii) Ships, which belong to the trading companies the majority of whose managerial staff and representatives are of Turkish nationality and are registered on the Turkish Trade Register. On presence of natural persons (mode 4), it is indicated that up to 40 per cent of officers of ships which are engaged in international seaborne transportation might be foreign officers. Besides, Turkish nationality is required for the first mates and masters of ships as a condition on national treatment. Additionally, in the national treatment column it is stated that, the vessels flying Turkish flag either bidding for public cargoes to be shipped to overseas countries or carrying strategic raw materials are benefited from the preferential treatment given in favour of them (i.e. they are entitled to be awarded the bids even though their quotations are up to 10 per cent higher than the lowest foreign flag vessels quotations). And also, the Undersecretariat of Foreign Trade is authorized to permit the public entities to have their imported goods (grain, coal, sulphate rocks, iron ore, fertilizer, acid) transported by foreign flag vessels.

(b) In the case of rental of vessels with crew no limitations entered for mode 1 and mode 2. However, with respect to national treatment, it is inscribed that vessels rented by foreigners can not operate inside the Turkish coastal waters and that vessels rented by Turkish nationals are considered as foreign vessels which can not fly Turkish flag. On the other hand, there is no limitation on mode 3 and mode 4.

(c) In the case of maintenance and repair of vessels there is no limitation and/or condition for all modes of supply in this sector.

(d) In the case of maritime auxiliary services cross-border trade mode is inscribed as unbound, for the sub-sectors of maritime auxiliary services, which are "maritime agency services", "maritime freight forwarding services" and "custom clearance services" in the market access column. Regarding the commercial presence mode, a condition is entered that only the agencies established in Turkey can provide these services. But, there is no limitation inscribed for national treatment column.

Turkey also scheduled additional commitments in maritime transport services. In her additional commitments, the following services are committed to be made available to international maritime transport suppliers on reasonable and non-discriminatory terms and conditions: pilotage; towing and tug; provisioning, fuelling, watering; garbage collecting, ballast waste disposal; port captain's services; navigation aids; shore-based operational services essential to ship operations, including communications, water, electrical supplies; emergency repair facilities; anchorage, berth, berthing services; and container handling, storage and warehousing, freight transport. In the additional commitments, regarding the multimodal transportation, it is stated that "where road, coastal shipping and related auxiliary services are not otherwise fully covered in this schedule, a multimodal transport operator shall have the ability to rent, hire or charter trucks and related equipment for the purposes of inland forwarding of international cargoes

European Commission in its 'Turkey 2005 Progress Report' states: *In the area of maritime transport, some progress can be reported for legislative alignment and strengthening of administrative capacity. Drafts aimed at transposing most of the maritime safety acquis were prepared... The detention rate of Turkey in 2004 decreased to 8.63 percent as compared to 17.5 percent in 2003 and to an average for EU-flagged vessels of 3.996 percent in 2004. No further improvement was, however, registered in the first 9 months of 2005. Turkey remains on the black list of the Paris Memorandum of Understanding but improved its position from very high risk to high risk category. Further improvement of the performance of the Turkish fleet is necessary. ... Access to coastal trade remains reserved for Turkish vessels. No progress was registered concerning the removal of the existing restrictions on Cyprus-flagged vessels and vessels serving the Cyprus trade. ...No progress has taken place concerning state aids. There is no established institution in Turkey regulating state aid... Inland waterways transport is an insignificant aspect of the transport sector in Turkey, with no river type vessel and no specific legislation. ...The privatisation via transferring operating rights of the TCDD ports has started with the exception of Haydarpasa. The tendering of the Iskenderun and the Mersin Ports are finalised and the tendering for the Izmir Port and the Samsun Port has started. All of the privatisations are scheduled to be finalised by the end of 2005.*

In previous Regular Reports the European Commission has emphasized that market access to coastal trade is reserved for Turkish-flagged vessels only, that Turkey needs to improve administrative capacity in the field of maritime safety, that on maritime safety substantial parts of the acquis needs to be transposed, and that further efforts need to be made in the implementation of the acquis with a view to improve the flag state performance of the Turkish fleet. Thus, joining the EU will require Turkey to adopt and implement the whole body of EU legislation and standards – the *Acquis Communautaire* including the acquis in the field of maritime transport.

## **Welfare Effects**

Restrictions on trade in services usually take the form of government regulation, which can affect the entry and operations not only of foreign service suppliers, but also of new domestic service suppliers, and this can directly raise the price or cost of both foreign and domestically supplied services. A methodology, developed by the Australian Productivity Commission and the Australian National University jointly, estimates the

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carried by sea, or have access to and use of such multimodal activities for the purpose of providing multimodal transport services". Among the proposals submitted by members on maritime transport services in the new negotiations, we support the European Union's proposal which covers the services specified in the model schedule. However, it is our opinion that, cabotage transportation and multimodal transportation to the extent that violates cabotage rights should be kept outside the scope of the GATS. Therefore, country proposals which offer to include the cabotage transportation services in the new negotiations are not acceptable by Turkey. Turkey, considering the importance of maritime transport and its contribution to the development of other services sectors as well as growth of international trade, desires further liberalization in this sector and expects from other members to make substantial commitments as Turkey did well before.

direct price and/or cost effect of restrictions on trade in services.<sup>177</sup> Their methodology involves two steps. First, qualitative information about regulations is converted into a quantitative “trade restrictiveness index”. Second, the effect of this measure of restrictions on prices and/or costs is estimated. Regarding the first step we calculate the restrictiveness index values for Turkish and EU maritime services following the methodology used by McGuire *et al.* (2000) and Kimura *et al.* (2004). Then, the index values are converted into tariff equivalents, as described in Kang (2000) and Kimura *et al.* (2004). The difference between the Turkish and EU tariff equivalents of corresponding restrictiveness indexes implies the degree of the price fall, which will be caused by further liberalization of maritime services in Turkey. In the next step, the calculated ratio of price/cost fall that may follow the liberalization of maritime services in Turkey will be used to estimate the potential economy wide welfare gain that will be created by the adoption of EU rules and regulations in the Turkish maritime transport sector. In the following when considering the welfare effects of integration, we abstract from explicit consideration of problems of implementation, and assume that once the *acquis* is adopted liberalization of the sector will be achieved.

The trade restrictiveness index score is calculated for each economy using a methodology of scores and weights. Restrictions that are common to a number of economies are grouped into restriction categories. Scores are then assigned to each restriction on the basis of a judgement about how stringent it is. The more stringent the restriction, the higher the score. Scores range from 0 (least restrictive) to 1 (most restrictive). The restriction categories are then weighted together according to a judgement about their relative economic cost. The weights are generally chosen so that the total restrictiveness index score for an economy ranges from 0 to 1. An index score is calculated separately for domestic and foreign service-suppliers. A “foreign index” is calculated to measure all the restrictions that hinder foreign firms from entering and operating in an economy. It covers both discriminatory and non-discriminatory restrictions. A “domestic index” represents restrictions that are applied to domestic firms and it generally only covers non-discriminatory restrictions. The difference between the foreign and domestic index scores is a measure of discrimination against foreigners.

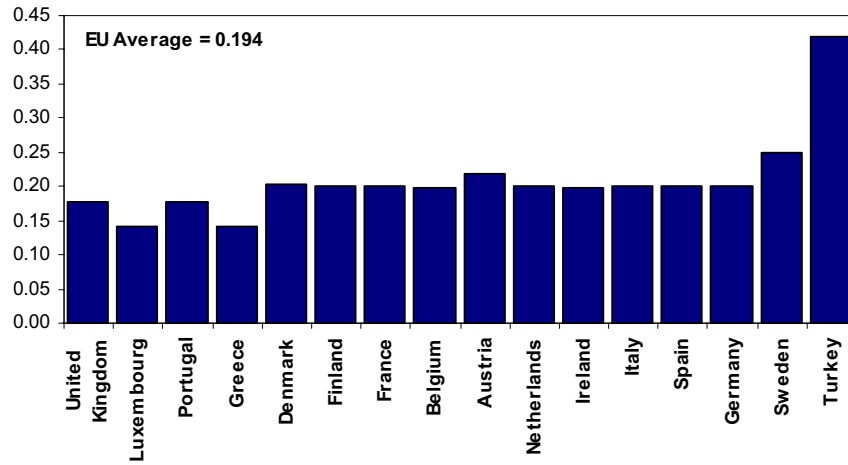
Using the methodology described above, McGuire *et al.* (2000) developed indexes for restrictions on foreign maritime service suppliers and all maritime service suppliers covering 35 economies during the period 1994-98, using a variety of GATS and other data sources. They found that: (1) Brazil, Chile, India, Indonesia, Korea, Malaysia, the Philippines, and the United States had the most restricted markets against foreign maritime suppliers, and (2) Chile, the Philippines, Thailand, Turkey, and the United States were the most discriminatory in favouring domestic suppliers. The domestic and foreign indexes of restrictiveness calculated for Turkey and 15 EU member countries are compared in Table 4, and they are shown in Figures 3 and 4. According to comparison of national domestic indexes, restrictions that are applied to domestic firms in Turkey are lower than that in all of the EU countries, except the UK. However,

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<sup>177</sup> The results of the project are published in Productivity Commission staff research papers and an edited book, Findlay and Warren (eds.) (2000). Moreover, the two databases, which produced tariff equivalents of the price and/or cost effects of restrictions for six sectors in selected 35 countries, can be found online at [www.pc.gov.au/research/rm/servicesrestriction/](http://www.pc.gov.au/research/rm/servicesrestriction/).

Turkey has a highly protected maritime industry from foreign competition, because the difference between the foreign and domestic index scores, which is significantly high for Turkey, represents the high degree of discrimination against foreigners. This large difference explains actually why the Turkish maritime community is so worried about the abrupt elimination of national cabotage during Turkey's EU accession process.

**Figure 44. Differences between the Foreign and Domestic Restrictiveness Indexes by Country**



Source for the Data: McGuire *et al.* (2000) and [www.pc.gov.au/research/rm/servicesrestriction/index.html](http://www.pc.gov.au/research/rm/servicesrestriction/index.html).

TABLE 4. Restrictiveness Index Scores for Maritime Services in Turkey and 15 EU Countries

Domestic Index	Restrictions on establishment	Restrictions on ongoing operations	Domestic index total	Foreign Index	Restrictions on establishment	Restrictions on ongoing operations	Foreign index total	Difference between the Foreign and Domestic Restrictiveness Indexes												
	Weight	Category	United Kingdom	Luxembourg	Portugal	Greece	Denmark	Finland	France	Belgium	Austria	Netherlands	Ireland	Italy	Spain	Germany	Sweden	EU 15 (ave)	Turkey	
Domestic Index	0.15	Conditions on the right to fly the national flag	0.043	0.043	0.043	0.0428	0.043	0.0428	0.0570	0.0998	0.1283	0.0998	0.0855	0.1283	0.0998	0.0998	0.0998	0.0998	0.0285	
	0.10	Form of commercial presence	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.10	Direct investment in shipping service suppliers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.10	Direct investment in onshore maritime service suppliers	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.45	Restrictions on establishment total	0.043	0.043	0.043	0.0428	0.043	0.043	0.0428	0.0570	0.0998	0.1283	0.0998	0.0855	0.1283	0.0998	0.0998	0.0998	0.0998	0.0285
	0.10	Transportation of non-commercial cargoes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.10	Part services	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	0.05	Government permits conferences	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475
	0.25	Restrictions on ongoing operations total	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475	0.0475
	0.70	Domestic index total	0.0618	0.1045	0.0808	0.1330	0.0808	0.1140	0.0713	0.1283	0.1473	0.1283	0.1473	0.1520	0.1758	0.1853	0.1900	0.1663	0.1330	0.0760
Foreign Index	0.15	Conditions on the right to fly the national flag	0.0218	0.0645	0.0218	0.0503	0.0218	0.0503	0.0645	0.1073	0.1358	0.1073	0.1500	0.1358	0.1073	0.1073	0.1073	0.1073	0.1073	0.1358
	0.10	Form of commercial presence	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
	0.10	Direct investment in shipping service suppliers	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
	0.10	Direct investment in onshore maritime service suppliers	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
	0.02	Permanent movement of people	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085
	0.47	Restrictions on establishment total	0.0453	0.0880	0.0453	0.0738	0.0453	0.0738	0.0880	0.1308	0.1517	0.1308	0.1735	0.1593	0.1498	0.1788	0.1783	0.1783	0.1783	0.1593
	0.10	Cabotage	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
	0.10	Transportation of non-commercial cargoes	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
	0.05	Part services	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263	0.0263
	0.05	Discretionary imposition of restrictions incl. for retaliatory purposes	0.0381	0.0025	0.0381	0.0025	0.0381	0.0025	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381
Foreign Index	0.05	United Nations Liner Code	0.0025	0.0381	0.0025	0.0381	0.0025	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381	0.0381
	0.05	Government permits conferences	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
	0.05	Bilateral maritime services agreements on cargo sharing	0.0485	0.0485	0.0485	0.0485	0.0485	0.0485	0.0485	0.0471	0.0500	0.0500	0.0500	0.0500	0.0500	0.0485	0.0485	0.0485	0.0485	0.0485
	0.02	Composition of the board of directors	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119	0.0119
	0.01	Temporary movement of people	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028
	0.53	Restrictions on ongoing operations total	0.2394	0.2453	0.2569	0.2750	0.2386	0.3154	0.3297	0.3457	0.3458	0.3487	0.3487	0.3510	0.3772	0.3867	0.3899	0.4152	0.3270	0.4944
	7.00	Foreign index total	0.1777	0.1406	0.1762	0.1420	0.2028	0.2014	0.2014	0.1985	0.2176	0.2014	0.2014	0.1990	0.2014	0.2014	0.1999	0.2489	0.1940	0.4184

Source: McGuire *et al.* (2000) and [www.pc.gov.au/research/rm/servicesrestriction/index.html](http://www.pc.gov.au/research/rm/servicesrestriction/index.html).

Note: An index score is calculated separately for domestic and foreign service suppliers. They range from 0 to 1. The higher the score, the greater are the restrictions for the economy. A *foreign* index is calculated to measure all the restrictions that hinder foreign firms from entering and operating in an economy. It covers both discriminatory and non-discriminatory restrictions. A *domestic* index represents restrictions that are applied to domestic firms and it generally only covers non-discriminatory restrictions. The difference between the foreign and domestic index scores is a measure of discrimination against foreigners. For more information on trade restrictiveness index, please see Findlay and Warren (eds.) (2000) and/or visit [www.pc.gov.au/research/rm/servicesrestriction/index.html](http://www.pc.gov.au/research/rm/servicesrestriction/index.html).

According to Table 4, foreign indexes for Turkey and the 15 EU member countries (on average) are calculated as 0.4944 and 0.3270, respectively. To convert the foreign restrictiveness index obtained above into its tariff (*ad valorem*) equivalent, we use coefficients estimated by Kang (2000) that estimates the price impact of restrictions on shipping margins. To do that, we follow the methodology described in Kimura *et al.* (2004). We consider three alternative scenarios to get the tariff equivalents. Scenario A is based on the assumption that Turkey will lower her foreign index (0.4944) to the level of the 15 EU member countries in average (0.3270), if she adopts the EU rules and regulations in the maritime sector as they prevail as end of 1998. In scenario B, the degree of existing maritime restrictions in Turkey is lowered to the level of the UK (0.2394), where the foreign index is the lowest among all EU member countries considered. Finally, in scenario C, we assume that the degree of existing restrictions in Turkey is reduced by 100 percent (i.e., all restrictions on trade in maritime services are removed).

The results for these three scenarios are compared in Table 5. Our calculations reveal that, if Turkey liberalises her maritime sector so that her foreign index (0.4944) falls to the 1998 level for 15 EU member countries (0.3270), then Turkish maritime prices will be reduced by 30.44 percent. A further maritime liberalization in Turkey to bring the sector to the UK's level will cause an additional fall in shipping prices in the amount of 15.92 percent points. However, a complete elimination of trade barriers in Turkish maritime sector is expected to create a cost fall of 89.9 percent.

**TABLE 5. Empirical Results for Turkey: Tariff Equivalents and Potential Welfare Effects**

	<b>Scenario A</b> (Target: EU 15)	<b>Scenario B</b> (Target: UK)	<b>Scenario C</b> (Target: no protection)
Targeted foreign restrictiveness index	0.3270	0.2394	0.000
Turkey's foreign res. index (before liberalisation)	0.4944	0.4944	0.4944
Shipping margins in Turkey (before liberalisation)	1.187	1.187	1.187
Shipping costs in Turkey (before liberalisation)	0.187	0.187	0.187
Tariff equivalents (before liberalisation)	43.75	86.44	889.38
Shipping margins in Turkey (after liberalisation)	1.130	1.100	1.019
Shipping costs in Turkey (after liberalisation)	0.130	0.100	0.019
Change in shipping costs following liberalization ( percent)	-30.44	-46.36	-89.89
Potential welfare effect ( percent)	0.2216	0.3378	0.6571
Potential increase in real GDP ( percent)	0.1616	0.2464	0.4793

Source: author's own calculations.

Given the change in the price of maritime transportation services resulting from the change in Turkish regulatory regime one can compute the change in Turkish consumer surplus as a measure of the welfare effect of EU integration from information on the consumer demand schedule for maritime transport services. But maritime transport is an intermediate good for business users that is used in the production of other commodities.

Hence, prices of other commodities in the economy will change as a result of the change in the price of maritime transport services. To study the welfare effects of EU integration one has to consider not only the change in consumer surplus due to the change in price of telecommunications but also the changes in consumer surpluses due to the changes in the prices of other commodities.

To analyse the possible welfare effect of the change in the price of maritime transport on the prices of other goods and services, we consider the 1996 Input-Output Table of the Turkish economy which has 97 sectors. Under the abovementioned three alternative scenarios about the degree of maritime liberalization in Turkey the welfare of the Turkish society will increase by 0.22, 0.34 or even 0.66 percent respectively. However, these potential welfare effects need to be converted into their real GDP growth equivalents. Since during 1996 consumption formed 72.95 percent of GDP, the percentage change in welfare of the society is equivalent to 0.1616, 0.2464 or 0.4793 percent increase in real GDP of Turkey.

### **Concluding Remarks**

The message of the paper is that there is tremendous scope for Turkey to benefit from adopting and implementing the legislative, regulatory and institutional framework of the EU maritime transport sector. Turkey by adopting and implementing the legislative, regulatory and institutional framework of the EU maritime transport sector will lead to an increase in competition in the maritime transport sector. This will lower the maritime transport , which in turn will lead to an increase in the GDP. Thus the adoption and implementation of the legislative, regulatory and institutional framework of the EU maritime transport sector expected to generate considerable benefits for the economy.

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## Maritime Transport Sector in Egypt

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The importance of the sector arises from the geographical location of Egypt which had made its seaports among the most important in the Mediterranean area whether acting as a hub for the Arab region, or as an important station for the transshipment cargo between Europe and the rest of the world. Despite, the importance of the sector for Egypt, it suffers from the relative lack of available published data and information.

The study provides an overview of the maritime sector in Egypt, its regulatory framework while trying to estimate the tariff equivalent of the restrictive regulatory measures adopted and benchmarking it with the European Union (EU) status of liberalization and finally the impact of liberalization of this sector using input-output table analysis. Section 1, following the introduction focuses on the major developments in the sector. Section 2 provides a descriptive analysis of the regulatory framework of the sector where it displays the laws, regulations and policies governing the sector over the period 1991-2004 and section 3 aims at quantifying the barriers to trade in the sector. Finally, section 4 tests the economy-wide effects of liberalizing the maritime sector using the input-output table.

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## 1. MAJOR DEVELOPMENTS IN THE MARITIME SECTOR

### *Structure of the Sector*

**Table 1 – Annex I : Specific Commitments in Maritime Transport Sector**

MEMBER	INTERNATIONAL SHIPPING	AUXILIARY SERVICES	PORT SERVICES	OTHER
Egypt*	None except (1) unbound, and (3) only through joint ventures with max. equity of 49 per cent	No commitments	Commitments only on port dredging but (1) unbound and (3) through joint ventures with max. equity of 75 per cent	

Source: WTO (1998), Maritime Transport Services, Background Note by the Secretariat, Document Nr. S/C/W/62

**Table 1 - Annex II : Characteristics of Egypt's Commercial Ports**

Port	Total Area (Km2)	Land area/or downward area?/	Maximum designing capacity (million ton per year)	Number of berths (working)	Number of berths (under experiment)	Total length of working berths (m)	Maximum depth of berths	Total area of warehouses (m2)	The biggest ship that could pass (carrying capacity in tons)
Alexandria	9.60	1.10	23.70	61	-----	8370.72	11.89	676670.40	150000.00
Dekheila	6.00	3.20	11.50	15	5	3082.75	17.37	578000.00	170000.00
Damietta	11.80	8.60	5.60	16	-----	3940.00	14.50	83286.00	-----
Port-Said	0.99	-----	5.40	34	-----	5035.00	12.99	243253.00	-----
El Arish	0.20	0.04	----	2	-----	364.00	8.00	30000.00	10000.00
East Port-Said*	35.00	33.50	-----	1	-----	1200.00	17.50	635000.00	-----
El Suez	160.40	0.31	1.50	4	-----	2070.00	8.00	24091.00	-----
Hod el Petrol		1.16	8.00	7	-----	828.00	9.00	-----	-----
Adabeia		0.85	6.00	9	----	1460.00	12.00	-----	-----
Safaga	56.97	0.48	6.50	4	-----	1011.00	14.00	40740.00	70327.00
Nuweba	9.87	0.34	0.25	4	-----	381.00	8.00	22720.00	-----
Sharm el Sheikh	88.28	0.16	-----	3	-----	775.00	8.00	51500.00	-----
El Sokhna	89.42	23.90	2.00	4	-----	1700.00	17.00	11140.00	-----
El Tor	1.26	0.43	0.1	1	-----	75.00	5.00	-----	-----
<b>Total</b>	<b>469.79</b>	<b>74.04</b>	<b>70.55</b>	<b>165</b>	<b>5</b>	<b>30292.47</b>		<b>2396400.40</b>	

\*East Port-Said port is under construction

Source: Egyptian Maritime Data Bank (2004), Egyptian Ports Bulletin, Eleventh Edition-March

**Table 1 – Annex III : The foreign restrictiveness index: restrictions on maritime services in Egypt**

Weight	Scoring	Score chosen in this paper	Estimated score index	Estimated score FDR Index	Category
0.15					Restrictions on commercial presence and cross-border trade* Conditions on the right to fly the national flag
	0.40				Commercial presence is required in the domestic economy
	0.30				50 percent or more of equity participation must be domestic
	0.20				50 percent or more of the crew are required to be domestic
	0.10				Ship must be registered
0.10		0.5	0.075	0.075	Form of commercial presence
	1.0				Measures which restrict or require a specific type of legal entity or joint venture arrangement
	0.50				Shipping service suppliers must be represented by an agent
	0.0	0.75	0.075	0.075	No restriction on establishment**
0.10					Direct investment in shipping service suppliers
		1/100	0.001	0.001	The score is inversely proportional to the maximum equity participation permitted in an existing shipping service supplier
0.10					Direct investment in onshore maritime service suppliers
		1/100	0.001	0.001	The score is inversely proportional to the maximum equity participation permitted in an existing onshore maritime service supplier
0.02					Permanent movement of people
	1.0				No entry of executives, senior managers and/or specialists.
	0.80				Executives, specialists and/or senior managers can stay up to 1 year.
	0.60				Executives, specialists and/or senior managers can stay up to 2 years.
	0.40				Executives, specialists and/or senior managers can stay up to 3 years.
	0.20				Executives, specialists and/or senior managers can stay up to 4 years.
	0.0	0.0	0.0	0.0	Executives, specialists and/or senior managers can stay a period of 5 years or more. ***

Weight	Scoring	Score chosen in this paper	Estimated score index	Estimated score FDR Index	Category
0.10					Cabotage
	1.0				Foreigners generally cannot provide domestic maritime services
	0.75				Foreigners that fly the national flag can provide domestic maritime services
	0.50				Restrictions on type and length of time cargoes can be carried
	0.0	0.5	0.05	0.05	No cabotage restrictions ****
0.10					Transportation of non-commercial cargoes
	1.0				Private shipping service suppliers cannot carry non-commercial cargoes
	0.50				National flag shipping service suppliers can carry non-commercial cargoes
	0.00	0.0	0.0	0.0	No restriction on access to non-commercial cargoes
					Other restrictions
0.10			0.065	0.0325	Port services
	0.30				Some restrictions on access to ports
	0.20	0.20			Mandatory use of pilotage
	0.15	0.15			Mandatory use of towing
	0.10	0.10			Mandatory use of tug assistance
	0.05	0.05			Mandatory use of navigation aids
	0.05	0.05			Mandatory use of berthing services
	0.05	0.05			Mandatory use of waste disposal
	0.05	0.05			Mandatory use of anchorage
	0.05	0.05			Mandatory use of casting off
0.05					Discretionary imposition of restrictions, including for retaliatory purposes
	1.0	1.0	0.05	0.05	Governments are able to impose selective restrictions*****
0.05	0.0				Governments are unable to impose selective restrictions
					United Nations Linear Code
	1.0	1.0	0.05	0.05	Economy is party to the code and applies article 2 of the code*****
	0.75				Economy is party to the code but does not apply article 2 of the code
	0.0				Economy is not party to code

Weight	Scoring	Score chosen in this paper	Estimated score index	Estimated score FDR Index	Category
0.05					Government permits conference
	1.0				Government permits the operation of conferences
	0.0	0.5	0.0025	0.0125	Conferences are subject to effective competition *****
0.05					Bilateral maritime services agreements on cargo sharing
					The score for an economy is taken from the 35 by 35 matrix of bilateral agreements on cargo sharing
		0.0	0.0	0.0	No bilateral agreements
0.02					Composition of the board of directors
					The score is inversely proportional to the percentage of the board that can comprise foreigners
		1/75	0.00027	0.00027	The score is inversely proportional to the percentage of the maximum number of foreigners allowed (75%)
0.01					Temporary movement of people
	1.0				No temporary entry of executives, senior managers and/or specialists
	0.75				Temporary entry of executives, senior managers and/or specialists up to 30 days.
	0.50				Temporary entry of executives, senior managers and/or specialists up to 60 days
	0.25				Temporary entry of executives, senior managers and/or specialists up to 90 days.
	0.0	0.0	0.0	0.0	Temporary entry of executives, senior managers and/or specialists over 90 days.
			0.36977	0.34727	



FR Index=0.3698 approx.  
 FDR Index= 0.3473 approx. which equals 94% of FRI ndex

\* following GATS commitments as identified in Annex 1.

**Table 1: Structure of the Maritime Sector in Egypt**

	1989	2001	2003
<b>Maritime</b>			
Number of Commercial Ports*	8	8	12*
Total Capacity (circa million tons)	43	52	73
Number of Frequenting Liners	8,263	9,400	10,550
Number of Egyptian Vessels	140	123	121

**Source:** Ministry of Foreign Trade, *Investing In Egypt, 2003*.

\* According to sources from the Ministry of Transport, the number of ports is 12 including Alexandria, Dekheila, Port-Said, El-Arish, East Port, Sharm, Hurghada, Nuweiba, Safaga, Suez, Adabeya and El Sokhna.

Therefore, a score of 0.5 was assigned.

\*\*Concerning licensing, no license is required yet the foreign supplier is to nominate a local agent, so a score of 0.75 was chosen.

\*\*\* As for both temporary and permanent movement of people, Egypt has no restrictions on the time (number of years of foreigners working), the constraint or restriction is on the number of those foreigners which is limited to 10% as a maximum of the total labour in the economic unit. This is according to its horizontal commitments in the GATS schedule and is consistent with Egypt's Labour Law.

\*\*\*\*There are no restrictions on private sector's participation in a large number of services including cargo handling, warehousing, and maritime freight forwarding, maritime agency, however they require a license offered by the Ministry of Transport, therefore a score of 0.5 is assigned

\*\*\*\*\* Government is able to impose selective restrictions, for example concerning prices of auxiliary services, there is a price floor determined by the GOE following a ministerial decree no. 74/2003 for warehousing and storage services and a ministerial decree no. 72/2003 for cargo handling services followed by the ministerial decree no. 393/2003 which set a fixed price for such services instead of determining floor prices, excluding El Sokhna and East Port), therefore a score of 1 was assigned reflecting a high degree of restrictiveness

\*\*\*\*\* As Egypt is a member and it applies 40/40/20 ratio

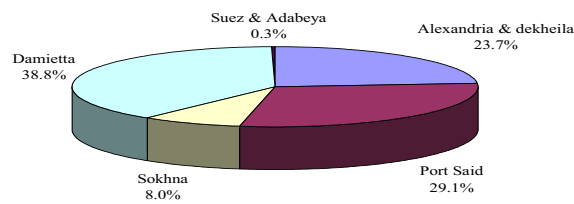
\*\*\*\*\*Government permits conference agreements:

As conference agreements are allowed, both open and closed, and the transport carriers do not benefit from exemptions to competition law, we consider this effective competition and hence a score of was given

Table 1 provides some indicators identifying the structure of the maritime sector in Egypt.

There are five important international maritime ports: Alexandria, Dekheila, Damietta, Port-Said, Suez. El Sokhna and East Port started to gain increasing importance in the last year. For the general characteristics of Egypt's commercial ports see Annex 2. The former five ports are all landlord port type with public port authority. Figure 1 shows the relative size of the ports in terms of the containers handled in 2003.

Figure 1: Share of Egyptian Seaports in Total Containers Handled in 2003



Source: Ministry of Transportation, Egyptian Maritime Data, *Analytical Report*, Vol. 11, March 2004  
 \* includes inbound, outbound & transit containers.

The Egyptian commercial fleet comprised 106 vessels in 2004 with 18 owned by the public sector and the rest owned by the private sector or by joint venture (Ministry of Transport, 2004). According to the data available there are five main national firms which transported 5.45 million tons in 1997/1998 (The Egyptian Firm for Maritime, The National for Maritime, Egypt for Sea Transport, The Arab Firm for Maritime, The Arab Union for Sea Transport). According to UNCTAD data (2004), Egyptian merchant fleet in 2003 accounted for the following: a total of 1151 thousand gross registered tons (grt) divided into 223 oil tankers, 432 bulk carriers, 309 general cargo, 48 container ships, and 139 others. Following another classification which is the dead weight tons (dwt)<sup>181</sup>, Egyptian merchant fleet in 2003 accounted for the following: a total of 1688 thousand

<sup>181</sup> A common measure of ship carrying capacity. The number of tons (2240 lbs.) of cargo, stores and bunkers that a vessel can transport. It is the difference between the number of tons of water a vessel displaces "light" and the number of tons it displaces "when submerged to the 'deep load line'." A vessel's cargo capacity is less than its total deadweight tonnage. The difference in weight between a vessel when it is fully loaded and when it is empty (in general transportation terms, the net) measured by the water it displaces. This is the most common, and useful, measurement for shipping as it measures cargo capacity.

gross registered tons (grt)<sup>182</sup> divided into 380 oil tankers, 740 bulk carriers, 400 general cargo, 58 container ships, and 110 others. There are a number of characteristics that characterize the Egyptian commercial fleet, namely:

- 1) Low capacity as a result of its small number and weak capabilities.
- 2) Old age of the vessels where on average the age of the existing vessels exceed 15 years.
- 3) Low investments in this field.
- 4) Inability of the firms in this field to merge and hence enjoy economies of scale.

In some fields of maritime services there is relatively high concentration. For example there exist five important international shipping companies in the market (out of a total of 28 highly active shipping lines and around 50 shipping lines operating directly or indirectly (i.e. via transshipment or hub port in Egypt). They control around 45% of the market share (international shipping +cabotage). They are namely, Maersk/Sea Land (14.8%), CMA-CGM (9.8%), Contship (9.5%), P&O (8.5%) and Bulcon (4.2%) (Burrell and Ghoneim, 2004). Table 2. shows the total number of shipping lines that operate in Egypt.

**Table 2: Shipping Lines Serving Egypt**

Canada maritime	CMA	DNOL	DELMAS
Zim	CMB	Messina	Turkon
Miscellaneous	Ellerman	Adriatica	Bulcon
MAERSK/Sea Land	NYK	NEDDLOYD	P&O
Gilanavie	BORCHARD	DANOUB	NECOL
CHOYANG	FARELL	EVGE	MSC
Croatia	Blue Container Line	SCL	Polish Ocean
Evergreen	NORASIA	COSCO	Hyundai Merchant
DSR/Senator	Hamburg Sud	Blasco	OTAL
UASC	WEC	Malaysian	SARLIS
Med Club Express	HEX	MOL	
Yang Ming	Tricon Service	ContShip	

**Source:** Burrell and Ghoneim (2004)

According to the *Egyptian Maritime Data Bank* of the Ministry of Transport, the TEUs<sup>183</sup> handled by all Egyptian ports increased from 435,655 TEUs in the year 1995 to

<sup>182</sup> A common measurement of the internal volume of a ship with certain spaces excluded. One ton equals 100 cubic feet; the total of all the enclosed spaces within a ship expressed in tons each of which is equivalent to 100 cubic feet.

<sup>183</sup> TEU is a standard container measure and it refers to Twenty Feet Equivalent Unit.

884,481 TEUs in the year 2003, a 56% increase whereas the number of vessels visiting

**Table 3: TEUs handled by Egyptian Ports**

*in TEU*

		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Alexandria & Dekheila	Import	149,450	155,601	166,833	204,343	262,962	310,215	305,498	300,335	303,654	291,282
	Export	134,977	146,240	158,296	185,035	230,345	275,800	274,016	254,622	256,025	228,657
	<b>Total</b>	<b>284,427</b>	<b>301,841</b>	<b>325,129</b>	<b>389,378</b>	<b>493,307</b>	<b>586,015</b>	<b>579,514</b>	<b>554,957</b>	<b>559,679</b>	<b>519,939</b>
Port-Said & Arish	Import	33,066	39,444	46,859	51,841	62,406	66,186	59,639	55,497	49,373	45,669
	Export	32,093	39,259	48,532	52,173	65,463	78,106	70,929	77,506	67,273	76,163
	<b>Total</b>	<b>65,159</b>	<b>78,703</b>	<b>95,391</b>	<b>104,014</b>	<b>127,869</b>	<b>144,292</b>	<b>130,568</b>	<b>133,003</b>	<b>116,646</b>	<b>121,832</b>
Damietta	Import	13,376	22,804	21,300	26,910	31,386	32,932	38,078	41,277	30,986	28,682
	Export	15,842	22,955	27,794	37,915	30,122	24,931	45,980	52,197	65,393	80,463
	<b>Total</b>	<b>29,218</b>	<b>45,759</b>	<b>49,094</b>	<b>64,825</b>	<b>61,508</b>	<b>57,863</b>	<b>84,058</b>	<b>93,474</b>	<b>96,379</b>	<b>109,145</b>
Red Sea Ports	Import	4,748	5,682	8,978	7,224	23,129	35,572	56,442	48,807	54,239	48,877
	Export	2,903	3,670	8,166	5,297	13,780	13,170	14,571	13,532	20,237	84,688
	<b>Total</b>	<b>7,651</b>	<b>9,352</b>	<b>17,144</b>	<b>12,521</b>	<b>36,909</b>	<b>48,742</b>	<b>71,013</b>	<b>62,339</b>	<b>74,476</b>	<b>133,565</b>
Total	Import	200,640	223,531	243,970	290,318	379,883	444,905	459,657	445,916	438,252	414,510
	Export	185,815	212,124	242,788	280,420	339,710	392,007	405,496	397,857	408,928	469,971
	<b>Total</b>	<b>386,455</b>	<b>435,655</b>	<b>486,758</b>	<b>570,738</b>	<b>719,593</b>	<b>836,912</b>	<b>865,153</b>	<b>843,773</b>	<b>847,180</b>	<b>884,481</b>

**Source:** Ministry of Transportation, Egyptian Maritime Data, Analytical Report, Vol, 11, March 2004

Egyptian ports increased from 8,796 in 1995 to 11,876 in 2004 (see Tables 3 and 4).

Table 4: The Number of Ships that Visited the Egyptian Ports

Port	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Alexandria and Dekheila</b>	4,019	3,981	3,839	4,058	4,466	4,581	4,309	4,124	4,400	4,082
<b>Port-Said and El-Arish</b>	1,550	1,918	1,812	1,823	1,654	1,931	2,169	2,285	2,293	2,557
<b>Damietta</b>	1,398	1,508	1,493	1,594	1,478	1,585	1,794	1,859	1,977	2,393
<b>Red Sea ports</b>	1,136	1,392	1,681	1,476	1,672	1,884	1,756	1,645	2,953	2,844
<b>Total</b>	8,103	8,799	8,825	8,951	9,270	9,981	10,028	9,913	11,623	11,876

Source: Ministry of Transport (2004), *Egyptian Maritime Data Bank*, Statistical Report 1994-2003

Up to the year 1995 Egypt experienced a rapid rise in transshipment trade. A large number of container ships called at Egyptian ports, notably Port-Said, to deliver and pick up containers. These large container ships also picked up and delivered Egyptian import and export containers. Transshipment trade, however, leveled off at about 800,000 TEU's per year in 1995, declined 50% to only 400,000 TEUs in 1998 and increased again reaching 1392,000 in 2003 (see Table 5). The reason for this dramatic drop was Egyptian ports' inability to compete with the new hub ports opening throughout the Mediterranean area. The frequency of calls by large container ships at Egyptian ports has drastically declined over the past few years.

Table 5: Transshipment Trade in Egyptian Ports

in TEU

		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Alexandria & Dekheila	Import	2,337	1,134	0,884	4,143	11,780	20,977	100,997	7,408	8,748	9,926
	Export	2,351	1,147	0,881	3,806	10,876	21,732	11,476	7,741	8,545	10,819
	<b>Total</b>	4,688	2,281	1,765	7,949	22,656	42,709	22,473	15,149	17,293	20,745
Port-Said & Arish	Import	59,695	125,971	120,511	157,340	72,583	136,452	219,281	223,221	227,232	282,353
	Export	58,807	119,813	120,132	154,040	69,463	129,984	178,060	213,212	217,516	254,454
	<b>Total</b>	118,502	245,784	240,643	311,380	142,046	266,436	397,341	436,433	445,248	536,807
Damietta	Import	246,515	280,312	268,441	273,455	122,246	185,097	252,297	257,927	315,008	406,267
	Export	242,270	270,491	267,960	268,693	125,254	189,369	246,705	248,287	288,371	372,651
	<b>Total</b>	488,785	550,803	536,401	542,148	247,500	374,466	499,002	506,214	603,379	778,918
Red Sea Ports	Import	-----	-----	-----	-----	-----	-----	-----	-----	-----	564,54
	Export	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	<b>Total</b>	-----	-----	-----	-----	-----	-----	-----	-----	-----	564,54
Total	Import	308,547	407,417	389,836	434,938	206,609	342,526	482,575	488,556	551,488	755,000
	Export	303,428	391,451	388,973	426,539	205,593	341,085	436,241	469,240	514,432	637,924
	<b>Total</b>	611,975	798,868	778,809	861,477	412,202	683,611	918,816	957,796	1065,920	1392,924

Source: Ministry of Transportation, *Egyptian Maritime Data*, Analytical Report, Vol, 11, March 2004

### *Major Changes of Governmental Policies in the Sector*

In the 1960s the sector was fully owned and controlled by the public sector (ownership of ports and services provided). Such situation continued till 1981. In 1981 the Government of Egypt (GOE) headed towards changing its policy towards maritime transport allowing for the introduction of market forces mechanisms. Starting mid 1990s, the Government undertook several policy and regulatory changes to enhance the role of the private sector in the provision of different services (see Section Two).

The GOE realized the importance to the economy of maritime services related to the superstructure of seaports and port services (berthing, pilotage, towing, tug assistance, cargo handling, stevedoring, terminals, storage, and ancillary services: waste disposal, repairs, etc.) in its reform process of the sector. Hence, the government through enactment of new laws, amendment of old laws, and issuing of several executive decrees opened the way for the private sector to participate in offering maritime services and hopefully to provide a more efficient service (see Section 2 for more details).

The government does not *explicitly* subsidize domestic shipping companies, as the sector is totally left to market forces and competition. But, the government has been covering operational losses of shipping companies in the past five years, as the holding company for maritime transport covers the losses incurred by the publicly owned maritime companies.

Though the regulations show a clear shift towards market forces as shown in Section 2, in practice such increased role of the private sector participation was highly limited to several maritime service related fields. For example, the government has been considering the introduction of the landlord port model, however its efforts remain incomplete. The Ministry of Transport controls four port authorities as well as the Ports and Lighthouses Authority, which inspects ships and maintains navigational aids. In mid-1997, the autonomy of the port authorities was formally strengthened but was still limited in practice. The Government still owns stevedoring companies, shipping agencies, and shipyards through two holding companies. In addition, the recent shift of the government by determining the auxiliary port services instead of providing a price floor reflected a main aspect of limiting competition.

Port Authorities of some ports are shareholders in the container handling company operating in the port, for example Alexandria Port Authority owns 40% of Alexandria Container Handling Company (ACHC) and The Port Authority of Port-Said owns 39% of Port-Said Container Handling Company. This cross-ownership between port authorities and these state-owned service companies blurs the boundaries between regulatory and commercial functions creating a barrier to entry for the private sector in those ports and up-to-date important port services remain monopolies controlled by the state-owned companies, making their market not contestable in practice though privatization is introduced in theory. There is a clear conflict of interest here when it comes to allowing a private company to rent a terminal and provide container-handling services, since this means allowing a new company to compete with ACHC and hence is viewed as a threat to a major and continuous source of foreign currency.

Authorities have allocated many terminals in the seaports of Dekheila, Damietta and Port-Said to be offered by tender to the private sector. There has been no clear private

sector initiatives in this sector except for El Sokhna Port (in addition there are some attempts to replicate this model in East Port). This can be attributed to the fact that the

company operating the container terminal in the El Sokhna is the sole operator. This is not the case in Alexandria, Dekheila, Damietta and Port-Said.

### *Performance of the Sector*

The weak characteristics of the Egyptian fleet as aforementioned have resulted in weak participation of the Egyptian commercial fleet in transporting Egyptian trade where it ranged between 20 and 40% of total Egyptian trade till the 1990s. Table 6 provides an overview of the major indicators of the modest performance of the maritime sector in Egypt. As seen from the table, the poor characteristics of the sector have resulted in high port fees, long dwell time<sup>184</sup>, low productivity of equipment and low loading and unloading rates.

**Table 6: Performance Indicators of Egyptian Ports**

**Source:** Ministry of Transport, unpublished data

	Best Practice	Egyptian Ports
Indicator		
Overall fees for container transport	120-180 US \$	300-500 US \$
Dwell time (general cargo)	7-12 days	5-20 days
Dwell time (containers)	4-7 days	5-20 days
Productivity of equipment	80%	60-70%
Loading and unloading rates	25 containers per hour per clinch	22 containers per hour clinch

The sector has been evaluated to suffer from certain deficiencies. For example, container port services are perceived to be of modest performance. After unloading at the container terminal the shipment is cleared through customs, handed over to the buyer's shipping agent and after 2.5 days (on average) in the terminal, the container is loaded onto the ship. Terminal charges for handling services plus clearance agent fees are about \$370 for the container with a level of service considered unsatisfactory by exporters. This is due in part to uneven implementation of Ministerial Decree No. 30/1998 which was designed to introduce greater competition into container port services but maintains the restriction that private entry into container port terminals is only allowed in greenfield terminal development. Another obstacle is stevedoring where authorities have allocated specific docks to favored public companies, allowing an operator to control more than 50% of general cargo traffic (Devlin and Yee, 2002).

Another example is the case of stevedoring activities observed in the seaport terminals which were compared to similar types of activities performed in typical modern international container terminals in the United States. The number of container moves from a vessel per hour is one of the yardsticks used to

<sup>184</sup> Time spent since the container is unloaded from a ship till it is reloaded, either empty or full.



determine the productivity of a stevedoring operation. Various stevedoring officials at the three terminals reported the average discharge rate to be 25 moves per hour in Dekheila and Damietta and 20 to 25 moves per hour in Alexandria. According to Maersk/Sealand's statistics, cycle rates are much lower, with a rate of 15 to 18 moves per hour. This compares to a rate of 40 moves per hour in a modern terminal in the United States or Far East. Production rates equal one container every 1.5 minutes versus one container every 3 to 4 minutes in Egypt. Although the cycle rate affects the overall costs associated with cargo handling and can be considered a constraint, the overall dwell time for a container is not greatly affected by the cycle rate. Most container vessels are in port for a very short time (12 to 15 hours), and the total discharge and loading operation is calculated in hours, where dwell time is calculated in days. A recent statistical benchmark study undertaken by USAID focused extensively on the length of time a container remains in port until released by Egyptian Customs. The report surveyed over 300 importers/exporters/clearing agents and found the average release time to be approximately 18 days (Burrell and Ghoneim, 2004).

Dwell time is excessive in Egyptian seaports and adds considerable expense to an import shipment. The average dwell time according to Maersk/Sealand's statistics is 21 days in the three seaports (Alexandria, Dekheila and Damietta). The length of dwell time could be attributed to importers and brokers failing to file declarations and clearance documents in a timely fashion. Other studies have determined that excessive dwell time can be attributed to Customs processing or quality control inspections. Reasons are many and varied and statistics are not available to determine the frequency of this problem. Additional studies should be undertaken to gather additional data on this subject (Burrell and Ghoneim, 2004).

Eliminating the government monopolies and introducing private-sector services in a competitive setting<sup>185</sup> helped to lower the costs of exporting and importing and greatly enhance marketing. However, according to exporters, there are approximately 20 costly administrative steps, which cannot be justified for the services rendered. In addition, at least 17 percent of the overall costs go to the shipping companies, which is very high compared to ports of competitor countries. Recent efforts to streamline the cumbersome procedures have been undertaken in the Damietta port and have shown positive results according to interviews with exporters as they expressed that transactions costs (time and money) have been reduced significantly.

Due to the inefficiency in port and especially customs procedures, shipping companies apply extremely high charges on goods in their possession. It is difficult to assess the period of time goods are under their control given the lack of an automated systems (e.g. electronic data interchange). Also, the average dwell time for containers in Egypt is around 21 days, hence affecting negatively the velocity of movement of the containers, which translates into higher shipping fees (Essawy and Ghoneim, 2004). As a result, Egyptian importers face a problem in shipping rates, as the fees are higher than other countries in the region, exports on the other hand do not face such a problem. This is due to several factors as Egypt is a net importing country hence the shipping lines have greater bargaining power. Compared to other ports in the Mediterranean, Alexandria and Dekheila ports do not have critical mass that would push fees to lower levels and are not regional transshipment hubs, also almost 60% of inbound containers remain empty. The aforementioned factors do not make Egypt an attractive node on the north-south or south-south routes<sup>186</sup> (Essawy and Ghoneim, 2004). The inefficiency in provision of port services resulted in high freight costs in Egypt (ESCWA, 2003). Table 7 provides an average of the freight costs to selected destinations from Egyptian ports.

**Table 7 : Data on Freight Costs from Egyptian Ports to Different Destinations (2001-2003)**

<sup>185</sup> The Holding Company for Maritime Transport and the Holding Company for Inland Transport have privatized fractions of their shares (20 percent and 17 percent respectively).

<sup>186</sup> A high rate of containerization is vital for the overall efficiency of the trade system. The total world average containerization rate of general cargo is approx., 50 to 60 % and could reach 80% for the most busy trade routes. In contrast, containerization rate of general cargo in Egypt was 27% for imports and 36% for exports.

Year	2001		2002		2003	
Container	20'	40'	20'	40'	20'	40'
Beirut	\$225	\$400	\$150	\$300	\$150	\$300
Hong Kong	N.A.	N.A.	\$400	\$550	\$325	\$550
Rotterdam	Dm120	Dm 250	Eur 175	Eur 200	Eur 100	Eur 300
New York	N.A.	N.A.	\$ 1700	\$ 2225	\$ 1825	\$ 1900

Table 8: Comparative Infrastructure Quality

Country	Railroad Infrastructure Development		Port Infrastructure Quality	
	Int. Rank*	Reg. Rank**	Int. Rank*	Reg. Rank**
Algeria	58	5	72	8
<i>Egypt</i>	46	3	49	5
Jordan	68	7	31	3
Malta	78	8	23	2
Morocco	48	4	51	7
Singapore	8	1	1	1
Tunisia	36	2	37	4
Turkey	61	6	50	6

**Source:** World Economic Forum, The Global Competitiveness Report 2003-2004

\*international Ranking : Based on source ranking

\*\*regional ranking: Based on author's calculations . Note: No. 1 is the best and no. 8 is the worst

**Source:** Ghoneim (2004) unpublished report for the World Bank

Importing in Egypt was considered to be a complex and costly affair till a very recent time when a number of new initiatives concerned with trade facilitation were adopted in 2005. A study undertaken in 1999 has suggested that the process of importing a cargo (20 ft containers) of tuna fish from Thailand, required 88 signatures, 37 seals, took 17 days to clear, while miscellaneous customs charges (tea monies and broker fees) and port handling charges amounted to 27% of the invoice price, in addition to the duties that had to be paid (World Bank, 2000). Several improvements have taken place recently including upgrading of ports infrastructure and improving the customs valuation by reducing the number of tariff bands from 27 to 6, allowing more engagement of private sector in provision of port services, etc, however such improvements remain short of fully addressing the problem.

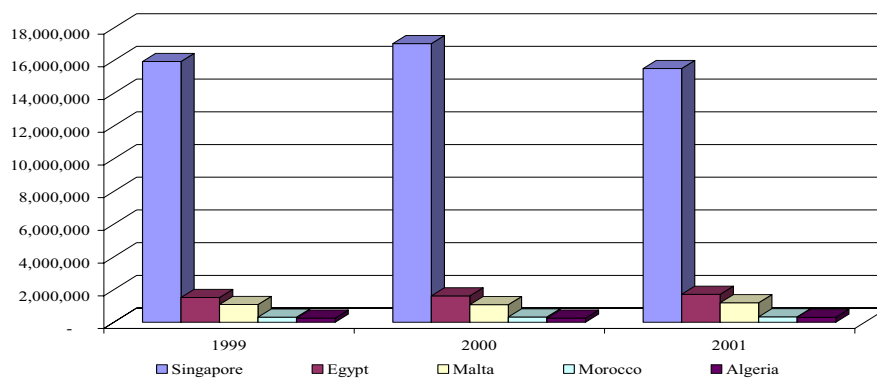
Below we review some of the indicators applied to measure the efficiency of the maritime sector and compare Egypt with its competitors.

In terms of quantity, there have been several improvements in infrastructure related to port operations which includes, in addition to ports, number of paved roads and railways. However, in terms of quality, Infrastructure Quality Efficiency Indicators show infrastructure quality in Egypt to be moderate as revealed by its average ranking when compared to Egypt's competitors in the Mediterranean basin and Singapore (see Table 8). The East Port-Said has a new facility that has never been introduced before in Egypt. It allows large vessels and has the deepest depth of berth. This is expected to have positive impact on the transshipment and normal traffic in Egyptian ports.

Egypt has made great improvement in its Information and Communication Technology (ICT) infrastructure however its usage is severely limited in all ports with the exception of Sokhna port. To date there are automation projects in the ports of Alexandria and Damietta (Port Authority and Container Handling Companies), where new software and Electronic Data Interchange (EDI) are being introduced. The port of Port-Said was the first port to acquire an automated system. There are many factors that hinder the use of technology and adoption of automation.

**Although Egypt is at the low end of the ranking, according to the data in the UNCTAD “World Maritime Review, 2003”, the volumes of TEUs handled by Egyptian Ports in 1999, 2000 and 2001 are higher than the volumes handled by Malta, Morocco and Algeria (see Figure 2). According to different sources, Malta is witnessing major developments in its port “Free Port Malta” and volumes have increased tremendously to a point where Port Authorities are contemplating renting out ports in neighboring countries. Nevertheless due to the lack of data, it is impossible to access the most recent developments in the volumes handled and to validate those claims (Essawy and Ghoneim, 2004).**

Figure 2: Volumes (in TEUs) Handled in Different Ports



Source: UNCTAD, *World Maritime Review*, 2003

A study (USAID cited in Muller et al. 2002) on the Egyptian port sector (before recent reforms undertaken in 1998) estimated that the direct and indirect economic costs imposed by port inefficiencies rise up to US\$ 2 billion per year, divided into the following components: higher freight rates (US\$ 100 million); excess cargo handling costs (US\$ 200 million); investments costs that could be saved through improved container handling productivity (US\$ 50 million); customs clearance delays (US\$ 60 million of costs to shippers); higher handling and modal transfer costs due to low containerization rates and subsidies to loss-making transport companies. Table 9. shows the clearance time in Egypt compared with several countries. The table indicates that Egypt still lags behind. However, it should be noted that due to the efforts undertaken

by GOE in 2005 to facilitate trade the clearance time has been heavily cut down to an average of 4-7 days<sup>187</sup>.

Table 9: Clearance Time Comparison (2004)

Country	Sea LCL* (days)	Sea FCL** (days)
Belgium	30 min.	30 min.
<i>Egypt</i>	<i>12</i>	<i>14</i>
Germany	1	1
Greece	1	1
Israel	14	7
Lebanon	6	6
Netherlands	2	2
Singapore	3	2-3
Spain	2	2
Turkey	2	2
United Arab Emirates	2	2

\* Less Container Load

\*\* Full Container Load

**Source:** International Exhibition Logistics Associates (IELA) at [www.iela.org](http://www.iela.org)

On the one hand, competition between ports of the same country can induce efficiency improvements whereas on the other hand vertical integration of port management and service provision is needed for operational efficiency. To ensure a competitive environment, concessions given to private operators must be provided on the basis of a transparent tender and regulation to prevent extraction of monopoly rents. The situation in Egypt is the opposite, where, five ports (Alexandria, Dekheila, Port-Said, Damietta and Adabeya Port) are owned by the government and do not operate on a commercial basis. This is mainly due to the fact that port dues are not only set by decree but are also at the same level for all ports, regardless of actual costs and ports are not able to set their own charges which is an essential prerequisite for competition. This situation is clearly reflected when looking at the average clearing time for shipments in Egypt as depicted in Table 8 and at the ports efficiency revealed in Table 10. The clearance time for shipments (air, LCL or FCL) in Egypt is higher than in most Mediterranean countries, the same applies for port efficiency that is among the lowest.

The inefficient port operations result in high transaction costs for Egyptian traders. According to some reports the costs of handling a container in Alexandria port are higher 30% than the similar ports in the Mediterranean (Ghoneim, 2002) and this situation is still prevailing, where freight costs declined but costs of handling cargo and transaction costs related to goods' clearance remain high. Putting Egypt in a regional context reveals that it ranks far from being efficient (see Table 10) Freight rates have decreased as a proportion of the value of goods transported—they represented 6.64% of value in 1980 and 5.27% in 1997. These costs are comparable to other developing countries (8.3%) but higher than the corresponding share for developed countries (4.2%). More importantly is the implicit added cost of the red tape and lack of transparency. These costs do not even appear in the cost of freight (Tohamy, 2000).

<sup>187</sup> Interviews with private sector representatives.

Table 10: Port Efficiency Comparison

Country	Port Efficiency Index Port facilities and inland waterways are extensive and efficient (1=strongly disagree, 7=strongly agree)
Belgium	6.17
<b><i>Egypt</i></b>	<b>3.72</b>
Germany	6.38
Greece	4.28
Israel	n.a.
Lebanon	n.a.
Netherlands	6.64
Singapore	6.76
Spain	4.88
Turkey	3.81
United Arab Emirates	n.a.

**Source:** World Economic Forum, *The Global Competitiveness Report*, various years (1996-2000)

A major feature of transshipment is that it is an internationally mobile economic activity, which a country can attract through adequate policies - or deter through an antiquated sector framework and inadequate infrastructure. Succeeding in turning a port(s) into transshipment hub(s) can attract significant investments, related value-added activities, and employment to a country. The potential of transshipment in the Mediterranean area is not only created from traffic within Mediterranean basin, but also from East-West traffic between Asia and Europe crossing the Suez Canal as well as for Black Sea traffic via the strait of Bosphorus (Muller, 2002).

## 2. DESCRIPTIVE ANALYSIS OF THE REGULATORY FRAMEWORK

The maritime service sector has been exposed to many changes throughout the 1990s where the main objective behind the regulatory and policy changes was to enhance the role of the private sector. The main regulatory body of the maritime service sector is the Ministry of Transport – Maritime Sector. This regulatory body is not fully independent as its affiliation reveals that it belongs to a ministry which questions its independency.

Regarding laws and regulations governing the maritime service, we divide them into three classes, namely:

1. **International maritime transport**<sup>188</sup> (freight and passengers), i.e. the actual transportation service performed once the commodity is on board of a ship in a country until the moment when the vessel reaches the destination port of a different state;
2. **Maritime auxiliary services**<sup>189</sup>, i.e. any activities related to cargo manipulation in ports and on ships; and
3. **Port services**<sup>190</sup>, i.e. any activities related to ship management in ports.

### *Laws governing maritime transport*

Regarding restrictions on cross-border supply imposed on foreign shipping companies (international shipping and cabotage, both liner and tramp) there are no restrictions on application of the principle of reciprocity, on the number of foreign suppliers, and on bilateral agreements including cargo-sharing clauses. Egypt has been a member of different UN maritime conventions including the UN Liner Code of 1974 which entered into force in 1983, the UN Concession on Carriage of Goods by Sea of 1987 (Hamburg Rules) which entered into force in 1992, and the UN Concession on Conditions for Registration of Ships of 1986, which still did not enter into force as it requires 40 signatory which are still not completed (UNCTAD, 2004).

Concerning licensing requirements for the cross-border service provision (international shipping and cabotage) by foreign suppliers, no license is required yet the foreign supplier is to nominate a local agent.

### *Laws governing auxiliary services*

There are no restrictions on private sector's participation in a large number of such services including the cargo handling, warehousing, and maritime freight forwarding,

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<sup>188</sup> International transport as defined by GATS, excludes cabotage, which refers to transportation of commodities between ports of the same country.

<sup>189</sup> In the GATS classification, maritime auxiliary services include maritime cargo handling, storage and warehousing, customs clearance, container station and depot, maritime agency, and maritime freight forwarding.

<sup>190</sup> In the GATS classification, port services include pilotage, towing and tug assistance, provisioning, fuelling and watering, garbage collecting and disposal, port captain's services, navigation aids, shore-based operational services, emergency repair facilities etc.

maritime agency, however they require a license offered by the Ministry of Transport<sup>191</sup>. Other services as warehousing, customs clearance, and port authority are still run by the government, with the exception of Ain-Sokhna port where the port authority is private following a BOT contract that has been signed between the government and a private firm. The customs clearance in this model is still undertaken by government officials.

Law no.22 /1998, in amendment to Law no. 1/1996 with regards to specialized ports permitted Egyptian private sector to establish and operate private ports. Law 22/1998 allowed concessions to local and foreign investors, at home or abroad, for the establishment of general or specified ports or platforms in existing ports. This law also governs the management, exploitation and maintenance of these ports and regulates fees levied by the GOE for their use.

Moreover, Ministerial Decree no. 3/1993, permitted private sector companies to participate in the cargo handling (loading and unloading) of dry bulk, mostly grain shipments in Dekheila Port. In addition, Ministerial Decree no. 19/1995, permitted private sector companies to participate in the cargo handling (loading and unloading) of dry bulk, mostly grain shipments in Damietta, Port-Said and Adabeya Ports. Finally, Ministerial Decree no. 30/1996, permitted private sector companies to participate in the cargo handling in Alexandria Port.

There are some additional rules and regulations that regulate the functioning of the auxiliary services. For example, cargo handling companies are subject to a license from the Minister of Transportation as per article 1 of Law no. 1/1998 in addition to the Ministerial Decrees number 30 and 31 /1998 of The Minister of Transport. Also companies registered under Investment Incentive Law no. 8/1997 must obtain a shipping license from the General Authority for Investment and Free Zones (GAFI).

Concerning prices of auxiliary services, there is a price floor determined by the GOE following the Ministerial Decree No. 74/2003 (excluding Sokhna and East Port) for the warehousing and storage services, Ministerial Decree No. 72/2003 (excluding El Sokhna and East Port) for the cargo handling services, followed by the Ministerial Decree no. 393/2003 which set a fixed price for such services instead of determining floor prices.

Since Law no. 1/ 1998 was enacted a number of projects have been launched by private investments, a new container port in East Port-Said was offered through a BOT model, the second was at the southern end of the Suez Canal "El Sokhna Port" and a third 30-year concession for the construction of a bulk terminal was to be given to two petroleum companies, who built an oil products pier for their own use in the port of Alexandria.

#### *Laws governing port services*

Different types of port services including pilotage, towing and tug assistance, provisioning, fuelling and watering, garbage collecting and disposal, port captain's services, navigation aids, shore-based operational services, emergency repair facilities etc are allowed to be undertaken by the private sector.

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<sup>191</sup> Cargo handling is limited or determined upon a discretionary decision (Subject to Ministerial Decree number 21 / 1996) and Storage and warehousing service is subject to Ministerial Decree number 30 & 31 / 1998. In addition, once the licenses are allocated they can not be sold subject to Ministerial Decrees number 21/1996 and 30 & 31 / 1998.

In general, the chairman of the port authority is delegated by the Minister of Transport to negotiate any agreement with the private sector and can sign agreements that cover up to 30 years; any agreement covering a longer period falls within the responsibility of the minister.

Concerning fees for port services the port authorities (excluding Sokhna and East Port) set a fixed price for port services following Ministerial Decree no. 420/2003.

In addition, the port authority has administrative control over the other agencies operating within the port, it oversees the administrative side where it can supervise the performance and the flow of processes but cannot change processes.

As for terminal operations, the agreement can take several shapes:

- The company rents the terminal from port authority against a set fee and undertakes all works necessary to make the terminal operative
- The company can agree with port authorities that they divide the burden, where port authority can undertake the construction of the infrastructure (covers the basic works such as docks, rails either for train or rail mounted gantry cranes, roads, yards, telecommunication and electricity) and the company the super structure (covers all what is used in operations such as handling equipments –gantry cranes- and any other construction and equipment the company sees necessary for its operations

Law no.1 /1998 permitted the private sector to participate in the maritime transport activities, agencies, ship maintenance and fueling<sup>192</sup>. There are other decrees that regulate the port services including Ministerial Decree no. 31/1994 which set a “standard charge” policy for both national and foreign ships, and Ministerial Decree no. 40/1990 which reduced the tariffs for transit containers for Alexandria, Damietta and Port-Said ports.

The regular services are mandatory for ships entering any of the ports. Access to services is discriminatory for foreign carriers as opposed to domestic ones in regards to pilotage, towing, navigation aids and anchorages. According to Ministerial Decree number 86/1997 foreign ships are allowed a 50% discount on the towing fees. National companies are allowed up to 75 % discount for pilotage, navigation aids and anchorage as per Ministerial Decrees number 40/1995 and 73/1995 by the Minister of Transport.

Regarding ownership, there are no restrictions on foreign ownership, at least as Egypt’s GATS commitments reveal. Private and foreign ownership in the provision of services through commercial establishment is allowed, with a 100% maximum private equity permitted.

### 3. QUANTIFICATION OF BARRIERS TO TRADE IN THE SECTOR

As for Egypt’s commitments under the GATS agreement it included two main activities, namely (see Annex 1.):

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<sup>192</sup> Article 6 of Law no. 12/1964: required all public agencies and state-owned companies to use only public service providers. Article 7 of Law no. 12/1964: prohibited private service provision for a range of maritime activities.



- Ships construction industry
- Vessels maintenance

This was based on the fact that the sector suffers no constraints on entry, however commitments were reconsidered to read as follows:

- Joint establishment of companies – yet foreign participation is not to exceed 49% so that it can raise the Egyptian flag - and 95% of the crew to be Egyptians with their wages representing 90% of the paid wages.
- Joint establishment of companies for the purpose of deepening and cleaning of ports with foreign equity not to exceed 75% with Egyptian labor not less than 25% and also Egyptians represented in the board of directors (BOD) not less than 25%.

This reconsideration was due to the fact that the largest portion of the sector is still state owned and was not privatized. In general, Egypt's commitments in the maritime and maritime related services sector are modest when compared to the liberalization undertaken domestically as stated by the latest laws and regulations, especially Law no. 1/1998 and Law no. 1/1996. However, the developments of the sector as stipulated in Section 1 show that the liberalization undertaken domestically is heavily restricted in many services which creates a great challenge for the Egyptian Government in undertaking such reforms.

In this section we aim at measuring the tariff equivalent of real practice in the maritime sector in Egypt according to currently applied laws and regulations and as revealed by interview results based on the questionnaire used for this study. Hence, the tariff equivalent estimated is likely to be more liberal than the one based on GATS commitments and more restrictive than what the law postulates due to restrictive practices that take place and are not revealed by law. We calculate first the restrictiveness index following the methodology adopted in McGuire et. al. (2000), Dee (2003), and Kimura et. al (2004). We utilize collected information from the questionnaire on the regulatory environment. Restrictions against foreign services suppliers are listed in sector-specific restriction tables, and weights are assigned for listed restrictions. In order to keep comparability with previous studies, we apply the restriction table for maritime services developed by Kimura et. al. Based on the questionnaire survey and interviews, scoring sheets are filled out to obtain the overall restrictiveness of financial services in Egypt. We obtain the foreign restrictiveness index (FR index) and the foreign discriminatory restrictiveness index (FDR index), the latter is a subset of the former and covers discriminatory restrictions imposed only on foreign services providers (see Annex 3). Then, based on the estimated restrictiveness indexes, ad valorem equivalents of barriers are estimated. Based on the methodology adopted by McGuire et. al (2000), Kang (2000), and Kimura et. al (2004) we convert our estimated restrictiveness indexes into ad valorem equivalent of barriers to the maritime sector in Egypt.

The method to obtain the index is as follows: first, possible restrictions are classified into restriction categories with weights. The weights are determined, based on the importance of the category in terms of how significantly the restriction of the category would limit service suppliers from entering or operating in the market, and the sum of weights for all categories is 1. Second, a score with a range from 0 (least restrictive) to 1 (most restrictive) is assigned for each category, according to the degree of restrictiveness, so that the score reflects the type of restriction imposed by an economy. Third, the estimated score for each category is obtained by multiplying the selected score by a weight that is assigned to each restriction category. Finally, a restrictiveness index is calculated by summing up the estimated scores.

Our study estimates the FR index, based on the information observed in the questionnaire filled out after reviewing the relevant maritime laws and regulations and other relevant recent literature and undertaking interviews with experts in the field (both academic and policy makers). We estimate also the FDR index, which captures restrictions imposed specifically on foreign services suppliers and not on domestic services suppliers. In order to estimate this index, lower weights than those in the calculation of the FR index are assigned for some restriction categories that apply to both domestic and foreign services suppliers, that is, possible non-discriminatory restriction categories. Since such restrictions could still affect foreign suppliers more seriously, one half of the weight is assigned for these restriction categories to reflect the degree of possible and partial discriminatory restrictions. The FR index calculated is 0.3698 and the FDR index is 0.3473 which represents 90% of the FR index.

To convert FR indexes estimated into tariff equivalents, our study uses coefficients utilized in Kimura et. al (2004) based on McGuire et. al (2000), and Kang (2000) that quantify the impact of restrictions on trade in the maritime services.

We follow the methodology adopted by Kimura et. al (2004) where they first calculate the shipping margins with restrictions, without restrictions, and with least restrictions (based on Singapore margins following the results of McGuire et. al (2000), and Kang (2000)). For calculating the shipping margins in the three cases the following procedures were used:

Setting shipping margins with existing restrictions as  $M_{Egypt}$ , shipping margins without restrictions (case a) as  $M_{Egypt}^a$ , and shipping margins with least restrictions (case b of Singapore) as  $M_{Egypt}^b \cdot R_{average}$  is the average FR of developing countries and  $R_{Egypt}$  is the FR calculated for Egypt. The three margins were calculated as follows:

$$\ln(M_{Egypt}) = \ln(M_{average}) - 0.1416[(\ln R_{average} - \ln R_{Egypt})]$$

where  $M_{average}$  and  $R_{average}$  are obtained from Kang (2000).

$$M_{Egypt}^a = M_{Egypt}(1 - 0.1416) \text{ and } M_{Egypt}^b = M_{Egypt}(1 - 0.1416)[(R_{Egypt} - 0.207) / R_{Egypt}]$$

After the margins were calculated they were transformed into tariff equivalents (TE) based on the following equations.

$$\text{Case a: } TE = \pi [(M_{Egypt} - 1) - (M_{Egypt}^a - 1)] / (M_{Egypt}^a - 1) \phi .100$$

$$\text{Case b: } TE = \pi [(M_{Egypt} - 1) - (M_{Egypt}^b - 1)] / (M_{Egypt}^b - 1) \phi .100$$

The results obtained are in Table 11.

**Table 11: Shipping Margins and Ad Valorem Equivalents of Tariffs**

	Shipping margin with restrictions	Shipping margin without restrictions	Shipping margin with least restriction	Ad valorem equivalent of tariffs (general case) using the FR index	Ad valorem equivalent of tariffs (Singapore or least restriction case) using the FR index
Egypt	1.14	0.979	1.069	785%	102%

**Source:** Authors' calculations

#### 4. ECONOMY-WIDE EFFECTS OF LIBERALIZATION OF THE MARITIME AND TELECOMMUNICATIONS SECTOR USING INPUT-OUTPUT TABLE<sup>193</sup>

The maritime and telecommunications sector is represented under the transport and telecommunications sector in the latest available Egyptian input-output (IO) table for 2003/2004, using constant prices. According to the IO table, this sector (which includes maritime) is among those with highest productivity (measured by dividing value added by production) among the 32 sectors.

<sup>193</sup> We adopt here the methodology applied by Akdemir, Erkan Erdem Başçı and Sübidey Togan (2005), "EU Integration and the Telecommunications Sector: The Case of Turkey".

To analyze the effect of the change in the price of maritime services on the prices of other commodities we consider the 2003/2004 IO Table of the Egyptian economy that comprises 32 sectors. Maritime transport and telecommunications. are included as sub-sectors of sector 28. Let A be the 32x32 matrix of input coefficients. Given A, form the 32x32 input matrix B by deleting the 28th column and 28th row referring to the maritime sector. Denote the 28th row, where the 28th column element has been deleted, by e. Let p be the 1x31 price vector of the 32 commodities excluding the maritime sector and via the corresponding 1x31 unit gross value added vector. The price equation can be written as

$$p = p B + p_t e + va.$$

where  $p_t$  denotes the price of the maritime services. Hence we have

$$p = p_t e (I-B)^{-1} + va (I-B)^{-1}$$

Thus, given the price of maritime and telecommunications that will prevail in Egypt after it adopts and implements the EU rules and regulations,  $p_t$  (which we adopt after estimating the tariff equivalent that would have prevailed based on our estimation in Section 3 in the study related to telecommunications), we determine the equilibrium prices of the other 31 commodities from the above equation assuming that there is no change in the unit gross value added vector  $va$ . Given the equilibrium price vector  $p$ , form the 1x31 price vector as  $\pi = (p \ p_t)$ . Let CON be the 31x1 consumption expenditure vector obtained from the 2003/2004 IO table by deleting the value of consumption of maritime and telecommunications sectors and  $con_t$  the value of consumption of maritime services. Form the 32x1 consumption vector as

$$CONS = \begin{bmatrix} CON \\ con_t \end{bmatrix}.$$

Noting that initially all base year prices equal unity we can express the value of total consumption expenditure evaluated at base prices as

$$C = u \text{ CONS}$$

where  $u$  denotes the 1x32 unit vector. The value of total consumption expenditure evaluated at the prices that will prevail after Egypt adopts and implements the EU rules and regulations in the telecommunications and maritime sectors is then given by:

$$C^* = \pi \text{ CONS}$$

However, it should be noted that we are undertaking a numerical exercise where it is impossible to dissociate the effect of telecommunications liberalization from that of maritime liberalization in reality as there are no data that identify the weight of each of them in the aggregated sector. Moreover, even if such weights were available, it would be impossible to trace the effect of price changes due to tariff reductions on total welfare, as we are unable to capture the impact of price reduction on other sectors since separate input coefficients cannot be identified. Hence we undertake two different exercises, one that assumes undertaking the tariff reduction adopted in the telecommunications sector (non-weighted average of fixed phone, mobile, and internet) that is 8.7% and one that assumes undertaking the tariff reduction in the maritime sector which is equal to 100%.

The effect on consumer welfare can now be calculated as

$$(C - C^*) \times 100 / C^* \text{.}^{194}$$

The results we get based on such methodology are expressed below.

The value of total consumption expenditure evaluated at base prices

$$C = u \text{ CONS} = 530827633 \text{ Egyptian pounds}$$

The value of total consumption expenditure after adopting the EU regulations and reducing tariffs by 8.7%, which is the non-weighted average of the telecommunications sector, as stated above.

$$C^* = \pi \text{ CONS} = 536160000 \text{ Egyptian pounds}$$

<sup>194</sup> This approach determines the equivalent variation in consumer's income.

The effect on consumer welfare is calculated by  $(C - C^*) \times 100 / C^* = 0.89\%$

or in other words the reduction of prices in the telecommunications sector by 8.7% to be in line with the EU will result in increasing the welfare of the Egyptian population by 0.89%. The percentage of total consumption to GDP was estimated at 83.7% in 2003/2004, bringing the increase in welfare to GDP to a percentage of 0.74%.

It is worth noting that a similar exercise by adopting a 100% price reduction was undertaken to reflect the price reduction effect following the liberalization of maritime sector to be equal to the liberal status of Singapore (which is highly similar to Germany). In this case we obtained:

$$C^* = \pi CONS = 477180000 \text{ Egyptian pounds}$$

and the welfare increase in consumption is calculated as 11.2% or 9.37% of GDP.

Note that this measure of the change in consumer welfare gives a downward biased estimate of the welfare effect as we do not consider the increases in consumer demands for the different commodities with the decreases in the prices of these commodities. But such an estimate would require the use of price elasticities of demand for the 32 commodities of the IO, which we did not have at our disposal. Moreover, maritime transport is included in the transport and telecommunications sector which can affect the precise estimate of our results, but we neglect this issue in our calculations. In fact this issue is likely to result in an upward bias that is likely to surpass the downward bias aforementioned. In the end we believe that our estimates are upward biased.

## 5. CONCLUSION

The maritime sector is among the sectors that remain relatively restricted when compared to banking and telecommunications. The tariff equivalents are relatively high, however it is comparable with other countries as shown in McGuire et. al (2000), Kang (2000), and Kimura et. al (2004). In fact the FR index of Egypt is less than that of United States and highly comparable with Germany. The major problem related to the maritime sector is the non-transparency where the laws stipulate certain liberal issues however reality shows restrictive practices.

Despite the reforms undertaken in the 1990s that have helped to liberalize the sector, it still remains highly protected. This has been confirmed by Egypt's GATS commitments that showed highly restrictive commitments.

The liberalization of maritime and telecommunications sectors following the EU norms will result in welfare increase of 11.2% and 0.89% respectively in terms of consumption or successively 5.47% and 0.74% of GDP. In fact welfare effect is likely to be lower than shown here, as the calculations are assuming that liberalization applies to the whole sector that includes telecommunications, maritime as well as other modes of transport. In reality the welfare effect of liberalizing each sub-sector is likely to be far less than the figures mentioned.

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# **LIBERALIZATION OF TRADE OF SERVICES: THE CASE OF MARITIME TRANSPORTATION IN TUNISIA**

**Mongi BOUGHZALA**

## **1. INTRODUCTION**

Maritime transportation is an important factor for the competitiveness of Tunisian exports. About 95 percent of international trade of goods from and to Tunisia is shipped, and the volume of its trade (exports and imports) is worth close to 80 percent of its GDP; the country is expected to liberalize its trade even further. Hence, an efficient transportation system, primarily the maritime component, is an essential pillar for its future growth. What matters is not only the price of maritime services but also, and maybe mostly, the quality of the services. It is true that Tunisia has already invested a great deal in this field and has a relatively modern infrastructure, but in terms of relative cost and future needs there is a lot to be done, and the legacy of the decades of state monopoly and rigid administration is quite persistent. More reforms and more investments are needed. Given the huge size of the additional required investments, the public sector is unable to provide the necessary resources, and the Tunisian government expressed its readiness to explore new solutions and to offer a much wider access to private investors, especially to foreign investors.

In this paper, we first give a rapid overview of the recent reforms and evolution of the sector and then provide an assessment of the gain for Tunisia from liberalizing its maritime transportation sector to the point it would become comparable in terms of openness to the EU countries. This assessment is based on a simple methodology. This methodology is a short cut to calculating a tariff equivalent to the sum of current restrictive regulations that deter investors and the potential service providers who are likely to be attracted into the sector if it were less restricted. The methodology consists, first, in measuring an index of restrictiveness of the current regulations of the sector and its corresponding tariff equivalent rate, and then in converting it into a tariff equivalent. Liberalization of maritime transportations does not mean removing all regulations and all restrictions but adopting the EU regulations. This assumption is reasonable in the Tunisian context, given that more than 75% of Tunisian trade is with the EU and that in the future, it is expected that the current free trade agreement on manufacturing goods will be extended to services. An agreement on services, covering maritime transportation, is seriously considered by both sides.

## **2. REFORMS AND EVOLUTION OF THE MARITIME TRANSPORTATION SECTOR IN TUNISIA**

Up until the early nineteen nineties, the maritime transport sector was almost entirely under few state monopolies both on the shipping side and on the port service side. No other shipping firm may be called on unless the national shipping firm called CTN (Compagnie Nationale de Navigation) cannot supply the service, given that it did not have the means to supply all the transportation services demanded. The Tunisian fleet has always been small, and has never been able to cover more than 75 percent of the country needs. Yet an authorization was required every time a transport transaction was contracted with a foreign firm. Access to the Tunisian market was moreover governed according to a set of conference agreements attributing privileged access mainly to French and Italian firms. At the same time, all ports and port facilities were public and were administered by a state monopoly, acting as the single port authority and a provider of various port services; while the basic port services (cargo handling, pilotage, towing and tying...) were under the STAM (Société Tunisienne d'Acconage et de Mautention).

The growing openness of the Tunisian economy and the continuous dismantling of trade barriers, starting in the late eighties, and the more pressing need to face international competition led the policy makers in Tunisia to ease this monopoly situation and to start



liberalizing the maritime sector. Several steps have already been made and real progress has been achieved but there is a great deal of hesitation as to other major actions and options.

## Recent reforms

Starting in 1992, three steps have been made in terms of liberalization of maritime transportation in Tunisia.

**The first step** consisted in asserting the need for liberalization it was started in 1992 when some port activities were opened to the Tunisian private sector. This set of activities opened to competition was later broadened and more clearly defined by the law passed in 1995 (Law 95-33/14 April 1995). This law defines and classifies the various maritime activities in accordance with international classifications and determines the specific preconditions to be fulfilled by persons or firms (private or public) wishing to supply them.

**The second step** consisted in explicitly declaring that the sector should be open to competition and that no monopoly would be allowed any longer. This was asserted by the law passed in 1998 (law 98-22 16/03/98) amending the 1995 law. As a result, all monopoly powers previously held by the national shipping firm were abolished, and new national firms as well as foreign firms were more freely allowed to enter the market.

**The third step**, completed in 1999, consisted in abolishing the administrative and regulatory barriers against free access of competing firms both in the international shipping activities and in the rest of the port and other maritime transportation activities. As a result, the conference agreements were abolished, and no prior authorization is required to ship exported or imported commodities through foreign shipping firms.

Thus, at least on paper, many segments of the maritime sector are already liberalized. Shipping has been opened to competition and the national shipping company, CTN has to face domestic and international competition. As to the other port services, access has been ever since offered mainly to national firms, even though the doors are not fully closed against foreigners and further liberalization measures are to be taken.

## Current challenges and perspectives

In practice, local private investment has been unable or unwilling to undertake the large amounts of investment required for controlling a significant share of the Tunisian shipping market and for highly improving the quality of the current services. And, in many activities, competition remains very limited.

In particular, it has not been easy to design and implement action plans to restructure the port service company STAM partly because of the social resistance to privatization and competition and in spite of the dismantling of its old monopoly status.

Port management is still mainly the responsibility of a national state enterprise, ONPM, which has been reshaped since 1998 but still continues to cumulate regulatory and operational functions.

The main state enterprises (CTN, STAM, ONPM) remain the predominant services suppliers of maritime services, and they still employ more than 90 percent of the labor force (more than 3000 people) of the maritime transport sector. Consequently, the incentive for increasing efficiency and reducing costs has not yet been developed, and there is a real need for deeper restructuring of the system and for a more coherent overall strategy. Comparing with other countries and competitors, maritime transport services remain rather costly as indicated in the following table. Given the same type of shipment, the price is much lower from Alexandria Egypt than from Tunis Tunisia to any of the selected representative European ports. However, compared to Casablanca, maritime transportation in Tunisia seems more competitive.

**Table 1: Comparative shipping cost from Tunis, Casablanca and Alexandria to European ports in 2003 (for a 40' container including freight and port services) (costs in euros)**

	Marseilles	Genoa	Barcelona	Antwerp
Tunis	1117	999	1154	1148
Casablanca	1212	1193	1149	1351
Alexandria	836	778	833	779

Source: Republic of Tunisia, Ministry of Transportation, "Les statistiques du secteur maritime et portuaire en Tunisie" 2002-2003.

Nevertheless, ambitious projects aiming at providing better services based on private investments are either in the implementation phase or being considered. A major concession is already granted to a private investor for the construction of a new terminal in the Tunis area (in Rades); and more ambitious schemes and measures are in the planning phase. For instance, in a completely new site in the Central East coast of the country (in the Enfida region), a new large deep water port widely open to private and foreign investments is being planned along with a set of multi-sectoral projects.

### 3. MEASURING THE RESTRICTIVENESS INDEX AND THE TARIFF EQUIVALENT

#### 3.1. The methodology

Our methodology for the study of the level of protection of the maritime transportation sector and of the impact of the adoption of the EU regulation is again based on the work of McGuire and Schuele (2000) allowing for the calculation of restrictiveness indices. The information needed for this calculation is from the available data which is partly summarized in the questionnaire on the maritime transportation we filled for the purpose of this study and annexed below. Afterwards, the restrictiveness index is converted into a tariff equivalent rate.

The restrictiveness index is obtained by first classifying possible restrictions into various categories with weights corresponding to them and reflecting the importance of the restrictiveness. The weights indicate how significantly each category of restriction would limit service suppliers from competing in the market. The sum of weights has to equal one.

Once these categories and weights are defined, a score is assigned to each category, according to its actual degree of restrictiveness. The conventional scores are between 0 and 1: zero is assigned if there is no restriction at all, and one if the regulation is so restrictive that no access or competition is possible. The scores reflect our perception of the regulation and the functioning of the system. The restrictiveness index is calculated as the sum of weighted scores.

To convert the restrictiveness index obtained into a tariff equivalent, we use a procedure based on the following specification:

$$p_r = p_T e^{bRI} \quad (1)$$

Where  $p_T$  is the average price level for maritime transportations when all restrictions are removed and  $RI$  indicates the restrictiveness index.  $b$  is a coefficient indicating the price elasticity with respect to the restrictiveness index. For our calculation, we take  $b=1$ , that is, we assume unit elasticity.

The tariff equivalent rate may then be given by:

$$TER = (p_t - p_T) / p_t \text{ or, in percentage, by: } 100 * (p_t - p_T) / p_t \quad (2)$$

$$TER = 100 * (e^{b*RI} - 1). \quad (3)$$

### 3.2. Estimation of the restrictiveness index and the tariff equivalent

The following table summarizes the estimation results for the restrictiveness index in Tunisian maritime transportation.

Weight	Scoring	category	
		<b>Restriction on commercial presence and cross border trade</b>	
0,15	0,1	Conditions on the right to fly the national flag	0,015
0,1	0,25	Form of commercial presence	0,025
0,1	0,25	Direct investment in shipping service suppliers	0,05
0,1	0,75	Direct investment in onshore maritime service suppliers	0,075
0,02	0	Permanent movement of people	0,01
0,1	1	cabotage	0,1
0,1	0	Transportation of non-commercial cargoes	0
		<b>Other restrictions</b>	
0,1	0,75	Port services	0,075
0,05	0,5	Discretionary imposition of restrictions, including for rotationary purposes	0,025
0,05	0,5	United Nations liner code	0,025
0,05	0	Government permit conference	0
0,05	0,5	Bilateral maritime services agreements on cargo sharing	0,025
0,02	1	Composition of the board of directors	0,02
0,01	0	Temporary movement of people	0
<b>1</b>		<b>total =TRI</b>	<b>0,4</b>

**TER= 50%**

Thus, the maritime transportation restrictiveness index obtained is equal to 40 percent, and it is equivalent to a 50% tariff. Given the measures already taken to liberalize the sector, this rate is not so high compared to other countries in and outside the region, but it remains rather restrictive compared to the rates obtained for more developed countries, including the EU countries. Warrens tables, for 2000, give for instance for France 33%, and 50 for Turkey... Tunisia seems in the same range as Turkey. However, this comparison should be interpreted with particular care, given that this result depends on the assessment of the various restrictions and that the Warrens data is based on old data, and also because there is in Tunisia a wide discrepancy between the legal and written regulation and the way business is practically and actually conducted.

If liberalization consists in adopting the EU regulations, then the restrictiveness index would have to be reduced to about 30%, which is approximately the rate obtained in the EU countries, and the tariff equivalent rate by about as much. Maritime transport prices would therefore be significantly lowered. In terms of the indirect impact on commodity prices, and on welfare measured by the equivalent variation, the result may seem weak, but the numbers do not really capture all the gain. Even if reducing the cost of maritime transportation services does not lead to major price and welfare changes, it remains a determinant factor and a major piece in the big puzzle of development because it the existence of a reliable transport sector is a precondition for investors and especially for exporters. We know at least that with an inefficient maritime transportation system, progress in terms of investment and growth would be very hard to achieve.

## Conclusion and perspectives

For the Tunisian government, the issue is perceived as a dilemma. On the one hand, there is enough awareness that efficiency gains in the maritime transportation sector are crucial for the competitiveness of the Tunisian economy and that these gains should be in terms of both lower prices and better services (on time, secure...). It is quite clear for all that the strategic objective should be to supply good services at reasonable prices, be it by national or by foreign suppliers. On the other hand, the fear of job losses and of forcing national firms out of the market is hard to overcome. Resistance is coming from various interest groups. Consequently, future reforms are likely to be slow.

However, some initiatives have already been taken. One large concession was already attributed to a foreign firm and there is willingness to open up for more. There is more readiness for creating joint firms allowing up to 49 or 50 percent of ownership to foreigners, depending on the type of activity. The problem is that such a middle solution may not be attractive enough for foreign investors while Tunisian investors may not have the capacities to cover the required investments. This half open door may look too narrow for foreign capital and too wide for domestic capital

Annex 1 : Maritime Transport Questionnaire

Within this section of the questionnaire, we consider two alternative modes of supply: cross-border supply and commercial presence.

**I. Policy Section**

A. Market Access

***Commercial presence & Cross-border supply***

<b>1. Are there policy restrictions to new entry?</b>				
In Tunisia, international shipping is open to competition with no restriction on the number of firms. Foreign firms are allowed in the market with no restriction on their number. Since 1999, foreign firm entry and licensing are not conditioned by any special authorization any longer. However commercial presence of the foreign firm is restricted, in the sense that it is can be secured only by a delegated local firm partially owned and managed by the foreign firm (up to 49% of the capital). No full commercial presence is legally allowed. However, this condition is likely to be lifted, and the current arrangement allows foreign firms, in practice, to behave as if they were commercially present. For cabotage and cargo handling, although no explicit restrictions are imposed as to the number of national or foreign firms, competition is limited and remains strictly regulated.				
Service	Entry by any Firm	If yes, total number of firms allowed	Entry by Firms with foreign participation <sup>195</sup>	If yes, number of firms with foreign participation allowed
International shipping	<input type="checkbox"/> Yes	No restriction	<input type="checkbox"/> Yes	No restriction
Cabotage	<input type="checkbox"/> Yes	No restriction as to the number of firms.	<input type="checkbox"/> Yes	No restriction, but few have been allowed in the market
Cargo handling	<input type="checkbox"/> Yes	Licensing is required, and concessions may be granted by the government agency	<input type="checkbox"/> Yes, in principle	
Source: Law 95-33/14 April 1995 AND LAW 97-69 27/10/97 modifying and completing it; Decree 95-1471/ 14 July 1995; Law 98-22/16 March 1998; law 2001-67 10/07/2001 simplifying licensing procedures...				
<b>2. If entry is restricted, what are the reasons provided by the government? Entry is restricted as</b>				

<sup>195</sup> This category also includes branches and subsidiaries of foreign suppliers.

**defined above**

1. To give the incumbent(s) time to prepare for competition. The time given for this is not given. However, clear indications with this respect are to be provided to the WTO.
2. There is fear that local firms and jobs would be lost as a result of free access to these services.

Service	Reasons		
	1	2	3
International shipping			Other (describe in brief)
Cabotage	➤		
Cargo handling			

5. Please fill in the following table with information referring to the main international port (in terms of traffic):

Port service	Are the following services mandatory for ships entering the port?	Is access to service discriminatory for foreign carriers as opposed to domestic ones?
Pilotage	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Towing	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Tug assistance	<input type="checkbox"/> Yes according to needs	<input type="checkbox"/> No
Navigation aids	<input type="checkbox"/> Yes according to needs	<input type="checkbox"/> No
Berthing	<input type="checkbox"/> Yes according to needs	<input type="checkbox"/> No
Waste disposal	<input type="checkbox"/> Yes according to needs	<input type="checkbox"/> No
Anchorage	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other (please specify)		

**B. Ownership**

6. Is private ownership in the provision of services through commercial establishment allowed?				
Service	Existing operators	Maximum private Equity permitted (%)	New entrants	Maximum private equity permitted (%)
International shipping	<input type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input type="checkbox"/> Yes	100%
Cabotage	<input type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input type="checkbox"/> Yes	100%
Cargo handling	<input type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input type="checkbox"/> Yes	100%

<b>7. Is foreign ownership in the provision of services through commercial establishment allowed?</b>				
Service	Existing operators	Maximum foreign equity permitted (%)	New entrants	Maximum foreign equity permitted (%)
International shipping	<input type="checkbox"/> Yes	100%	<input type="checkbox"/> Yes	100% (1)
Cabotage	<input type="checkbox"/> No	0	<input type="checkbox"/> Yes	49%
Cargo handling	<input type="checkbox"/> No	0	<input type="checkbox"/> Yes	
(1) for ship ownership; for the firm in charge of commercial representation foreign ownership is restricted to 49%.				
<b>8. Please fill in the table below, for the 5 most important international maritime ports with respect to the amount of traffic</b>				
Port	Port authority	Port type <sup>196</sup>		
Tunis- LaGoulette- Rades	<input type="checkbox"/> Public	<input type="checkbox"/> Landlord		
Skhira	<input type="checkbox"/> Public	<input type="checkbox"/> Landlord		
Bizerte-Menzel Bourguiba	<input type="checkbox"/> Public	<input type="checkbox"/> Landlord		
Sfax-Sidi Youssef	<input type="checkbox"/> Public	<input type="checkbox"/> Landlord		
	<input type="checkbox"/> Public	<input type="checkbox"/> Landlord		

### C. Regulation

<b>9. Characteristics of the sector regulator</b>		
Institutional status of sector regulator	For carriers <input type="checkbox"/> Yes	For ports <input type="checkbox"/> Yes
When was the regulator established?	Restructured in 2002, previously was acting as a direct manager and supplier of port services, under a service ports regime.	
Is the regulator an institutionally independent agency? <sup>197</sup>	<input type="checkbox"/> No	
How many technical and economic professionals are employed?	1557 ( In 2003) total number of employees	

<sup>196</sup> In the case of landlord ports, the port authority typically owns and manages infrastructure, private firms are able to own superstructure, and provide port services as well as rent port assets by concessions or licenses. In the case of tool ports, port authority owns infrastructure and superstructure; private firms provide services by renting port assets through concessions and licenses. In the case of service ports, the port authority owns assets and supplies services by directly hiring employees.

<sup>197</sup> "Institutionally independent" means that the regulator is not part of the ministry and is not linked to the operating entity (national carriers/port authorities)

**10. Regulation of carrier agreements**

a) Do agreements between transport carriers (such as conferences) benefit from exemptions to competition Law?

No; the previous conference system, mainly with France, was abolished

b) What types of conference agreements are allowed?

None

c) Are tariffs established by carrier agreements required be filing or notifying?

Not applicable

d) Does the government enforce tariffs agreed upon within carrier agreements?

Not applicable

f) Does the regulatory agency monitor conferences' activities?

Not applicable

14. How are licenses for commercially-based operators providing maritime services allocated? If the number of providers is limited by policy, through what mechanism are licenses allocated?

Service	Competitive tender	First come, first served	Discretionary decision	Other (describe in brief)
International shipping	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	One single firm operating in the market
Cabotage	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/>	
Cargo handling	<input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/>	
Storage and warehousing	Yes <input type="checkbox"/>	<input type="checkbox"/>	Yes <input type="checkbox"/>	

c) Can the licenses be sold, once allocated?

No

**15. What are the licensing requirements for the cross-border service provision by foreign suppliers?**

Services	License requirements
International shipping	Free access
Cabotage	Invest in infrastructure

**16. Public consultation and transparency**

Which of the following are consulted in advance of regulatory decisions?

Yes  Service providers

Yes  User industries

Yes  Other: Official Authority (regulating body)

#### E. Past and Future Changes in Policy

18. Please indicate major changes in market access policies, ownership rules, and regulation since 1990, as well as the changes that are anticipated (e.g., elimination of cargo sharing, UN Liner Code implementation and phasing out, privatization of state-owned shipping companies, elimination of restrictions applied to foreign service suppliers etc.)



Area of policy change (market access, ownership or regulation)	Year of change	Description of change
Before 1992, state monopolies used to fully control the system and to supply all types services. However, the Tunisian fleet had never been able to satisfy all the shipping demand.		
Market access	1992	First initiative in terms of allowing private operators to enter the market but not in the basic activities.
Market access and ownership	1997	Free competition is adopted as the main principle ruling the shipping activity. National and foreign carriers are allowed to compete with CTN, free access is granted.
Regulation	1998	Suppression of the prior authorization requirement for dealing with foreign carriers.
Regulation	1999	The conference system was dismantled
Market access	2004	A BOT concession granted to a foreign firm as a major port service provider in the port of Rades
Various fields	2005	Further liberalization changes are considered with respect to all types of activities.

#### F. Subsidies

<p>20. Does the government subsidize domestic shipping companies?  <input type="checkbox"/> Yes by covering losses and by guaranteeing loans.</p>
<p>21. Has the government covered operational losses of shipping companies in the past five years?  <input checked="" type="checkbox"/> Yes      Amount in 1995 and in 2000 not available.</p>

## II. Market Structure Section

<p><b>22. Please list the characteristics of the 6 most important shipping lines</b> in terms of market share in the total maritime traffic (include foreign cross-border suppliers as well as commercially-established companies).</p>			
Company	Year of service commencement	Residency (domestic/foreign)	Market share
International shipping			
CTN	1960	Domestic Public	

Hannibal Marine Tankers	1992	Domestic Private	
Gabes Marine Tankers	1992	Domestic Private	
Petronav	1992	Domestic Private	5.4%
Foreign carriers		Foreign Private	88%
Cabotage			
La Société Nouvelle de Transport Kerkennah	1960	Domestic	100%
<b>23. Please indicate the total number of commercially established operators providing the following services in the main international port (in terms of traffic)<sup>198</sup>:</b>			
International shipping	___2_		
Cabotage	___0___		
Cargo handling	___1___		
<b>25. How many conferences exist in the maritime services market?</b>			
None			
<b>26. What is the market share of conferences?</b> ___0 %			
<b>27. Apart from conferences, are global alliances present in the market?</b> No			
If so what is their market share?			

28. Please fill in the following indicators.

Indicator	Value	Date <sup>199</sup>
Share of liner shipping, by quantity and/or value, which is containerized	80%	2003

### III. Performance Indicators Section

#### A. Employment

##### 29. Main employment indicators (for the year 2003)

How many people are employed in the provision of maritime transport services? 3193 in the public sector and only 236 in the private sector, that is 3429 in total, which represents a very small fraction of the labor force.

What share of the total labor force is employed in this sector? about 0.1%

What share of workers is employed by state-owned operators? more than 90%

What share of workers is employed by foreign-owned operators? NA (but very small share)

How many workers are employed at the main international port? about 3000

What share of workers employed in port services are unionized? about 1000

What is the annual average wage in this sector? NA

#### B. Investment

30. Investment indicators (for the year 2003? In million TND\*)

<sup>198</sup> Exclude from port ranking the ports that are fully specialized on tanker or other bulk shipping services.

<sup>199</sup> Use the following format for Date: mmdyyy

Services	Total amount of investment	Total amount of foreign direct investment
International shipping	1	0
Cabotage	0.3	0
Cargo handling	36.119	22
TOTAL	45.414	22

\*One TND is approximately 0.6 Euro

### C. Prices

31. Please fill in the table below. For a comprehensive assessment of maritime transport performance, it would be extremely useful to have historical data on prices or price indices for the various services. If time series data are available, please attach them separately (preferably electronically).

Indicator	Value in euros for 2003		
	20' CONTAINER	SEMI TRUCK	IN BULK per ton
Liner freight rate from Tunis to Marseilles	252	840	24

### D. Quality and Access to Services

32. Please fill in the following indicators of quality and access to services.

Indicator	Value	Date <sup>200</sup>
Average duration of cargo turnover at La Goulette port (in hours) <sup>201</sup>	30	2003

## Annex 2

### Historical data on prices or price indices for the Liner freight services

Year	2003		2002		2000	
	20'	Semi-truck	20'	Semi-truck	20'	Semi-truck
Marseilles	252	840	234	768	270	540
Genoa	210	756	195	546	240	480

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<sup>201</sup> Measured from the moment the goods reach the port until the departure of the vessel

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# The Impact of Liberalizing the Maritime transport Sector in Morocco

Lahcen ACHY<sup>202</sup> & Driss ABBADI

## Introduction

Maritime transport is the main mode of international transport of goods and has played a key role in international trade expansion. At the global level, freight rates have declined on most major trade routes offering opportunities for expanding exchanges of goods and commodities among regions and countries. Maritime transport services usually intervene as inputs into other productive activities and may affect significantly both production and trade patterns. In particular the competitiveness of a country's merchandise exports as well as the final cost of its imports can be substantially influenced by the degree of economic performance in Maritime transport services.

For a long time, economists have not incorporated explicitly transportation costs in their model. However, more recently various papers have shown that an inefficient transportation system can be detrimental for trade and may even offset the likely positive effects of liberalizing international trade by reducing or removing tariffs on goods. Limao and Venables (2000) show that an increase in transportation costs by 10 percent reduces trade volumes by more than 20 percent. Radelet and Sachs (1998) show that shipping costs reduce the rate of growth of both manufactured exports and GDP per capita.

For geographical as well as historical factors, Morocco's foreign trade and maritime transport are strongly connected. Morocco is geographically located in a strategic position, at the crossing point of the Mediterranean Sea and the Atlantic Ocean. Historically, Morocco has for several centuries, served as one of the main trading channels between Europe and Africa. Available statistics show that more than 98 percent of the country's international trade is carried by sea, which is the equivalent of more than 60 million metric tons in 2004.

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Figure 1



For a small open economy like Morocco, which heavily depends on international markets as its foreign trade is estimated to more than 53 percent of its GDP, efficient maritime transport sector that facilitates the movement of commodities and products and ensures that cargoes get to their destination on time, in good and safe conditions, and at the least possible cost can be one of the key pillars of international trade competitiveness.

The implementation of a free trade area with the European Union and regional integration with Maghreb countries, and other states in region under Agadir Agreement are expected to boost foreign trade in the Mediterranean and generate more demand on international maritime services. Maritime transport companies, port infrastructure and management need to be restructured and prepared to operate in a highly competitive and demanding environment.

The purpose of this research is to assess the degree of restrictiveness of the current regulations and policies in the maritime transport sector with respect to their EU counterparts. The objective is to estimate the economic impact of those restrictions on consumers' welfare. The rest of the paper is organized as follows. The first section presents the major developments in the maritime sector in Morocco. It also provides the basic figures on the contribution of maritime sector to the national economy. The second section focuses on the regulatory framework that governs maritime transport services in



Morocco. On the basis of the available literature, the third section assesses the extent of barriers to trade in maritime transport services. The fourth section provides a rough estimate of consumers' surplus that could be generated by harmonizing regulations and policies in the maritime sector in Morocco with those implemented in the European Union. The final section concludes.

## **1. Major developments in the Maritime sector in Morocco**

According to GATS classification, maritime transport services consist of three types of activities. First, *International maritime transport* (freight and passengers), defined as the actual transportation service performed once the commodity is on board of a ship in a country until the vessel reaches the destination port of a different country. Due to differences in commodity types as well as technological progress in the shipping industry, international maritime freight transport has developed into specialized branches. An obvious distinction is made between *liner shipping* (LS) and *bulk shipping* (BS). *Liner shipping* refers to maritime transport of commodities by *regular lines* that have fixed sailing schedules and frequency published in advance in different harbors while *tramp shipping* or *bulk shipping* refers to operations undertaken by *vessels* that carry *homogeneous unpacked dry carriages* or *liquid cargoes* on *non-scheduled* routes. Bulk shipping services are hired on a contractual basis by shippers under mutually agreed terms. Second, *Port services*, which cover any activity related solely to ship management in ports. Third, *Maritime auxiliary services*, which include any activity related to cargo manipulation in ports and on ships.

### *1.1. Overview of the maritime shipping market*

The direct contribution of maritime transport activity as measured by the share of its value added in total GDP is estimated to 0.3 percent in 2002. This share declined on average by 4.9 percent per year over the nineties as it represented 0.52 percent in 1990. Maritime transport activity in Morocco contributes also modestly to the whole transport sector. Its share did not exceed 6.2 percent in 2002 compared to 44.7 percent for road transport, and 18.2 for air transport. However, these figures don't reflect the real economic importance of maritime transport services since a significant share of road and rail demand is driven by maritime activity in connection with international trade. The value added of auxiliary transport services represents around one quarter of transport sector value added, and more than 1 percent of GDP. The maritime activity also generates direct and indirect effects on the hinterland as well as on other activities related to port services, maintenance and repair of vessels, logistics management, information technology, banking and insurance.

**Table 1**  
**Maritime transport services in GDP (US \$ million)**

Year	Maritime transport value added	Share in transport sector	Share in total GDP
1990	134.5	9.8	0.52
1991	124.5	9.4	0.45
1992	125.2	8.4	0.44
1993	118.6	8.4	0.44
1994	126.2	8.8	0.42
1995	142.6	8.9	0.43
1996	126.1	7.7	0.34
1997	114.9	7.6	0.34
1998	112.3	7.1	0.31
1999	117.0	7.0	0.33
2000	119.9	7.5	0.36
2001	91.7	6.0	0.27
2002	107.4	6.2	0.30

*Source:* Department National Accounts: National accounts and aggregates (1980-2002)

The total volume of cargo carried (loading and unloading) through Moroccan ports went up from 37.8 million metric tons in 1990 to more than 61.5 million metric tons in 2004, which is equivalent to an annual growth rate of 3.5 percent over the whole period. Roughly 57 percent of the traffic is due to imports, the rest, 43 percent, is generated by export activities.

**Table 2**  
**Maritime transport traffic (in 1000 metric tons or 1000 of passengers)**

Year	Movement of commercial vessels	Total fret traffic	Imports Total unloaded	Exports Total loaded	Fishing	Passengers
1990		37801	17607	20194		1 147
1991	19769	36218	17913	18305		1 076
1992	21578	40307	21855	18452	482	1 416
1993	22436	40494	22012	18482	565	1 622
1994	22633	40789	21081	19708	701	1 719
1995	24034	43985	24104	19882	727	1 591
1996	26271	42606	22147	20459	583	1 788
1997	27309	45793	23461	22332	778	1 600
1998	26531	48212	25527	22686	702	2 165
1999	29918	52872	28756	24115	705	2 258
2000	30156	53444	29560	23884	964	2 684
2001	30750	57550	32591	24959	1 096	3 031
2002	32362	56988	32097	24891	937	3 208
2003	36210	56114	31759	24355	918	3 367
2004		61503	34149	27355		

*Source:* Port Office (ODEP), Morocco.

Bulk cargo services, although slightly declining, continue to dominate shipping traffic in Morocco. In 2003, 78 percent of total traffic is carried through bulk shipping. Liquid cargoes carried in chemical tankers and crude oil tankers hold one third on the market for bulk shipping, the rest is held by non-liquid cargoes carried dry bulk carriers (mainly exports of phosphates and imports of cereals). The bulk shipping activity, which does not operate on scheduled services but on specific voyages in fulfillment of short or long term contracts and where the entire cargo shipped on a particular voyage belongs to the same owner (OECD 2001<sup>203</sup>), is free and open to foreign competition. Asymmetric trade with the European Union, the main trade partner of Morocco, generates extra costs of empties borne by domestic companies when returning empty vessels from their journeys (Kostianis 2004); which made bulk shipping activity highly dominated by foreign carriers.

**Table 3**  
**Structure of maritime traffic by category of vessels (in percent)**

Year	Liquid bulk shipping	Dry bulk shipping	Containers	Ro-Ro	Other	Total traffic
1992	31.2	50.8	4.0	3.6	10.3	100
1993	31.6	51.4	4.1	4.0	8.9	100
1994	33.2	48.1	4.5	4.5	9.8	100
1995	44.1	41.8	3.8	3.2	7.1	100
1996	26.7	54.5	4.8	4.4	9.5	100
1997	27.4	55.0	4.9	4.9	7.8	100
1998	26.3	55.7	5.4	5.4	7.3	100
1999	29.3	52.4	5.6	5.3	7.5	100
2000	27.5	53.7	6.1	5.4	7.2	100
2001	28.3	53.7	6.4	5.2	6.4	100
2002	25.9	54.0	7.3	5.2	7.6	100
2003	26.4	51.6	8.3	5.5	8.2	100

*Source:* Ministry of Equipment and Transport, Morocco.

Liner shipping, which transports non-bulk commodities and involves cargo services that operate on tightly predetermined schedules, retains 22 percent of the shipping traffic in Morocco. Containerized trade represents less than 10 percent of the total shipping traffic or roughly 45 percent of the liner shipping activity. This share is still low, as in many developed countries container traffic accounts for over 75 percent of liner trades by volume. However, the share of containerized trade in Morocco has almost doubled since 1997. The rest of the liner traffic is carried by general cargoes. In value terms, containerized traffic represents about 66 percent of Morocco's foreign trade (Abeille & Pleindoux 2002). It operates for the most part from Casablanca and Tangier, while other ports such as Agadir and Nador play only a marginal role. Similarly to bulk shipping, trade imbalances in containerized traffic between Morocco and its partners generate a significant proportion of empty containers and increase shipping and port costs.

Recent available figures indicate that the domestic shipping fleet is made of 16 companies and around 45 vessels in 2005. Since 1990, the domestic fleet has recorded a substantial decline in the number of vessels as well as transport capacity. The number of Moroccan companies was 22 and the number of vessels 61 in 1990. The total capacity of

<sup>203</sup> Regulatory issues in international maritime transport (OECD).

the Moroccan fleet deteriorated from half million DWT to around 0.3 million DWT. A significant share of vessels (three quarter of the fleet) run by domestic companies are second hand vessels. The average age of the entire fleet is above 22 years according to our estimates<sup>204</sup>. This average is higher than in Egypt (18 years) or Tunisia (20 years) but compares favorably with Turkey (23 years)<sup>205</sup>. This situation is to a large extent justified by the limited financial capacity of domestic companies and the lack of adequate support from the banking sector (Euro Med Transport Project 2005).

Morocco is member of the International Maritime Organization (IMO) and has adopted the basic IMO conventions. However, their effective implementation still needs to be improved. The 2004 report of MoU put Morocco in the “grey list”, a medium position between black list in which Egypt and Turkey are being listed and the white list. According to the same report, out of 58 inspections of the Moroccan vessels, 51 showed the presence of deficiencies. The rate of detention of Moroccan vessels stood at 10.3 percent in 2004, which is higher than Tunisia (7.1) and Turkey (8.6) and lower than Egypt (13.5) percent.

The market share of the domestic fleet, in terms of total transported volume, declined from 17 percent in 1990 to around 11 percent in 2000. Some progress, however, has been recorded more recently as its market share is estimated to almost 14 percent by the end of 2003. On the basis of the balance of payment data, the total maritime transport bill in Morocco amounted to almost DH 700 billion in 2003. Around 28 percent of this bill is generated by resident shippers while the rest is earned by non-residents operators.

**Table 4**  
**Maritime transport services on the basis of Balance of Payment data**  
**(US \$ million)**

Year	Total freight cost	Share of freight earned by the domestic fleet
1998	795.6	28.6
1999	712.0	32.1
2000	655.4	31.9
2001	692.7	31.8
2002		29.6
2003		27.7

*Source:* Balance of Payment, Foreign Exchange Office (various issues)

The shipping market in Morocco is open to foreign carriers, and domestic private sector is allowed to engage in maritime shipping activities. However, domestic companies play an extremely marginal role in the bulk shipping market due to their inability to face competitive pressure from international carriers. The main domestic shipping operator in the bulk activity is the state-owned company *Marphocean*, created in 1973 by OCP Group<sup>206</sup> to serve primarily to export its chemical products. It holds four chemical carriers but controls less than 2 percent of the bulk shipping market.

<sup>204</sup> The average age of vessels run by state owned companies (COMANAV and MARPHOCEAN) is much lower and estimated to 17 years.

<sup>205</sup> CIA World Fact Book

<sup>206</sup> OCP Group: Groupe Office Chérifien des Phosphates.

As far as liner shipping is concerned, around 50 percent of traffic is carried by the 11 Moroccan companies operating on this market. The four largest among them (Comanav, IMTC, Limadet, Exmaris) control over 82 percent of the turnover earned by domestic companies. For a long time, the Moroccan public company, COMANAV with 8 vessels, has dominated the market both in terms of volume transported and turnover. However, it has been losing ground over the last few years in terms of volume. A private company, IMTC with 10 vessels, is rapidly growing and currently leads the market with 26.2 percent of total volume carried by the Moroccan fleet, compared to 19.3 percent for COMANAV. But COMANAV continues to lead the market in terms of turnover with 39.5 percent of total revenues generated by the Moroccan fleet compared to 15.5 percent for IMTC. The public company COMANAV is under a restructuring program and its privatization is scheduled for 2006.

Domestic companies also control 64 percent of the maritime passenger traffic, which is a very dynamic market that grows by more than 10 percent per year on average. In 2003, around 3 367 000 travelers used maritime transportation to enter or leave Morocco. COMARIT and COMANAV are the two main operators in this market, followed by IMTC, and LIMADET.

**Table 5**  
**Main indicators of the domestic fleet**

Year	Number of companies	Number of vessels	Transport capacity GRT	Market share of domestic fleet in total traffic	Number of jobs provided
1990	22	61	540 000	17	4300
1991	15	60	511 700	20	4000
1992	15	58	494 867	16	4000
1993	14	50	286 738	16	4200
1994	13	44	250 467	14	4000
1995	14	43	248 156	12	4000
1996	14	45	257 709	13	4000
1997	14	46	245 882	12	4000
1998	14	44	250 467	12	4000
1999	15	42	256 000	11	4000
2002			289 148	12	4000
2003				13,8	4000

Source: Ministry of Equipment and Transport, Morocco.

Despite the strategic position of Morocco on the Mediterranean Sea, which is an established maritime route, transshipment activity through Moroccan ports is very limited as the European ports are used instead. However, the project of *Tangier Med port* under construction and to be delivered in 2007 is expected to reinforce significantly transshipment activity. Finally, cabotage is not very developed in Morocco and reserved to national flag carriers.

The administrative authority in charge of the maritime shipping in Morocco is the “*Merchant Marine Department*”<sup>207</sup> within the Ministry of Basic Infrastructure and

<sup>207</sup> Direction de la Marine Marchande

Transport<sup>208</sup>. This department is responsible for implementing the maritime policy, ensures that carriers comply with the legal framework in place and regulates issues related to maritime security, prevention of pollution, and technical control of vessels.

The market for liner shipping is expected to open to foreign competition in the near future (by 2007), which is likely to reduce significantly shipping costs for exports as well as imports, and possibly consumers. However, openness to foreign competition may seriously threaten the survival of most domestic companies. According to Drewly Shipping report (2005), Moroccan companies lag behind when compared to international standards due to their operating costs such as high maintenance costs of old vessels, overstaffing and lack of qualification, substantial fixed cost combined with seasonal and volatile activity. The inability of domestic companies to acquire their insurance on the international market, translate into an extra premium estimated by Drewly Shipping (2005) to roughly 30 percent. Access to international funding is restricted and limits the capacity of domestic companies to modernize and upgrade their vessels<sup>209</sup>.

## 2.2. Overview of port infrastructure and organization

Ports are the gateway through which goods are exchanged with the rest of the world, and serve as the connecting points between water and land transportation. Because 98 percent of the Moroccan foreign trade is shipped by water, quality of ports' infrastructure and their management are very critical for the country. Port infrastructure includes the channels, wharfs, berthing areas, warehouses, cranes and other cargo handling equipment, storage yards, on-site roads and rails, administrative buildings, and security structures.

Morocco has almost 3500 km of natural coastline served by some 26 ports among which 11 are devoted to international trade operations. The port of Casablanca stands as the major port in Morocco with almost 50 percent of total traffic. Some of the other commercial ports are allocated to specific type of traffic (Mohamedia for petrol, Safi and Laayoune for phosphates).

Ports in Morocco are publicly owned and operate under the effective monopoly of either the *National Port Operations Office (ODEP<sup>210</sup>)*, or directly administered by "the *Ports and Maritime Public domain Department*" (DPCM) or by the "*Department of Casablanca and Mohamedia Ports*" (DPCM). These last two departments are within the Ministry of Basic Infrastructure and Transport, which acts as the public authority within ports. Moroccan authorities are aware that the current organization of ports is characterized by its high level of centralization and is no longer sustainable. A new law on port reform which intends to decentralize port management authority and reinforce private sector participation has just been adopted in 2005 and its effective implementation is expected to start in 2006.

As far as port services are concerned, private operators are present in on some services such as towing and tug assistance or pilotage. However, in most other services ODEP maintains a monopoly situation. Moreover, private sector participation in providing port and auxiliary services varies from one port to the other as shown in table 6.

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<sup>208</sup> Ministère d'Équipement et du Transport

<sup>209</sup> Restrictiveness to international trade in banking and insurance (in particular under mode 2) exerts negative effects of the performance of domestic shipping companies. This example reveals the existing linkages among various categories of services and the necessity for a global approach to their liberalization.

<sup>210</sup> Office d'Exploitation des Ports

**Table 6****Port services provisions in the main Moroccan ports**

Category of service	Casablanca	Tangier	Agadir
Pilotage	Private	ODEP	ODEP
Towing and Tug assistance	Private	ODEP	ODEP
Provisioning, fuelling and watering	ODEP	ODEP	ODEP
Garbage collecting and ballast waste disposal	ODEP	ODEP	ODEP
Port Captain's services	ODEP	ODEP	ODEP
Navigation aids			
Anchorage, berth and berthing services	ODEP	ODEP	ODEP
On board handling	Private	Private	Private
Ground handling	ODEP	ODEP	ODEP
Warehousing	ODEP +Private	ODEP	ODEP

Pricing structure of port services in Morocco seems to be complex and lacks transparency with a set of tonnage charges, cargo charges and charges for specific services such as pilotage, towage, and storage. In addition, the real cost of port services unpredictable due to the frequency of waiting for port access and interruption of operations due to non-availability of handling equipment, and strikes.

Various studies drew attention to the various inefficiencies prevailing in Morocco's port sector, among which:

- Long pre-berthing delays
- High average ship turn around time
- Inefficient handling services broken down into badly coordinated activities (onboard handling by stevedores and quay handling by ODEP).
- Poor management of the workforce, overstaffing in some activities (dock workers) and strong unionization and frequent strikes which makes downsizing extremely difficult
- High operating costs, lack of flexibility and multiplicity of port procedures and formalities.
- Congestion and unnecessary crowding of the port areas used for storage

Morocco has recently engaged in a reform process in order to modernize its ports and improve their performance.

The objective of port reform is to separate the tasks of port regulation and port management by creating two entities to replace the current *National Port Operations Office* (ODEP).

The first entity, National Agency for Ports (ANP)<sup>211</sup>, will be in charge of port regulation. The second entity, National Port Operations Company (SODEP), will be in charge on port management and service supply in a competitive environment. In the same vein, competition in the provision of various port services, as to improve port efficiency, will be allowed.

In order to boost Moroccan exports, and reinforce the attractiveness of Morocco for foreign investors, especially from the US following the FTA, a mega project aiming at constructing the Tangier Mediterranean port has been launched. In 2004, the first container terminal of this new port, located at less than 14 km from Europe, has been conceded following an international call for tender. It has been awarded to a consortium lead by the Danish group “Maersk”. The period of concession is for 30 years conditional on an investment of 120 million euros before 2007 and an extra investment of 150 millions before 2010. The consortium has also committed to pay monthly fees estimated to a discounted value of 100 millions euros over the 30-year period of concession<sup>212</sup>.

## **2. Regulatory framework in the maritime transport sector**

For strategic reasons, the maritime transport sector has been highly regulated by the national authorities. But because maritime transport is very often international by its nature, most operations tend to be subjected to the regulatory requirements of many jurisdictions. In addition to national legislation, there are aspects of maritime transport activity governed by bilateral agreements, regional and international conventions.

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<sup>211</sup> ANP : Agence Nationale des Ports

<sup>212</sup> Emerging Morocco (2005)



## 2.1. *International Regulatory framework of the maritime transport sector*

The shipping industry is subjected to a number of regulations. These regulations and practices can be classified under two broad heading:

- **Regulations related to rights and obligations of states and to safety and environment regulations:** these regulations include the law of the sea -rights and obligations of flag states, International safety and environment regulations, National safety and environment regulations, Flag state and port state inspections, International labor regulations. This first category of regulations is generally *based on international conventions* that carry the authority and force of the United Nations.
- **Regulations related to commercial operations and practices:** these regulations include Shipping specific economic policy regulations, Ship registration conditions, Cargo reservation and cargo sharing provisions, Cabotage laws, Cargo liability regimes, National security measures and Competition legislation. This second category of regulations reflect a more pragmatic approach that seeks to achieve economic or national objectives by ensuring national participation (even if this entails substantial cost) or simply regulating commercial activities. Some of these regulations such as competition or anti-trust laws are intended to free up the market, but the majority are likely to distort or interfere to some extent with the market forces.

This study is primarily concerned with the second category of regulations. For that reason, they are presented with more detail below.

As has been mentioned earlier, the international maritime freight transport has developed into two specialized branches: *bulk shipping* (BS) and *liner shipping* (LS). *BS* operates in a substantially open environment. Services and freight rates generally respond to market developments and supply and demand pressures. For *liner shipping*, the basic regulatory framework consists of: the Code of Liberalization of Current Invisible Operations (CLIO), and the Common Shipping Principles (CSP)

**a. *The Code of Liberalization of Current Invisible Operations (CLIO):*** The code contains specific provisions stipulating that the basis for Member countries' *shipping policies* should be the *principle of free circulation of shipping* in free and fair competition. The code is binding and constitutes the major barrier to the introduction and maintenance of discriminatory or preferential legislation in favor of national flag vessels.

**b. *The Common Shipping Principles (CSP):*** The CSP complement the provisions of the code, and lay down a common approach to international shipping policy and practices between OECD members. The CSP cover the following principles:

- The maintenance of open trades and free competitive access to international shipping operations, coordinated response to external pressure by opposing any imposition of regimes which restrict access by commercially operated shipping companies to cargoes which move internationally.
- The role and recognition of governmental involvement by Member countries to preserve free competitive access and the provision of choice to the shippers.

- A common approach to the application of competition policy to the liner shipping sector. Member countries agreed to prevent anti-competitive agreements and abuse of a dominant position by any commercial party.
- Non-discriminatory treatment as regards the access to and use of maritime auxiliary services.
- Non-discriminatory treatment as regards the access to and use of services involving a sea-leg in international maritime transport, as well as a free and fair competitive environment in regards to their provision.
- Measures relating to the promotion of safety, the protection of the environment and the prevention of substandard shipping.

***c. The UN Convention on a Code of Conduct for Liner Conferences (UN Liner Code):***

Under Article 2, national lines of the countries at either end of a given trade are entitled to equal rights of participation in the carriage of cargoes generated by their mutual trade. Cross-traders are entitled to “a significant part such as 20%.” From these provisions has been derived the so called “**40:40:20 formula**” (*Exporter: Importer: the third flag*). Most EU Member States, plus Norway, are parties to the UN Convention on a Code of Conduct for Liner Conferences in a manner that safeguards the conditions of competition among lines from EC and other OECD countries, so as to accord a preferential treatment to national lines of developing countries, in accordance with an EC Council Regulation of 15 May 1979 (the “*Brussels Package*”). However, the United States and some industrialized countries have not yet ratified the code (Kang and Findlay 2000). Countries opposing the Convention do so for a variety of reasons. Those that are most often cited are: cargo sharing would lead to inefficiencies and reduced competition, reduction of shipper choice, and ultimately to higher freight rates.

**2.2. *Regulatory framework of the maritime transport sector in Morocco***

The main piece of the legal framework, to which maritime transport activity is subjected, is the “*Maritime Trade Code*” introduced during the French colonial rule in 1919. Implementation decrees of the maritime code have been issued in 1962. Other provisions of law and regulations are applied to the maritime transport operations depending on the specific issue dealt with (customs’ code, private law, labor code, legal framework governing ports...). In addition to national legislation, there are aspects of maritime transport activity governed by bilateral agreements, regional and international conventions.

Most of this legal framework is outdated. A comprehensive reform of the legal and organizational framework under which maritime transport services are conducted is under preparation. The objective of the Moroccan authorities is to realign their maritime legislation toward international conventions, and bring them closer to the European Union legislation. A new maritime code has been prepared but is still in the adoption stage.

Various bilateral agreements govern sharing of international sea traffic between Morocco and its partners. The main provisions of these agreements are presented in table 7. The objective is to replace these bilateral agreements by a multilateral framework.

**Table 7**

**Traffic sharing-related bilateral Agreement signed by the Moroccan Authorities**

<b>Country</b>	<b>Date of signature</b>	<b>Date of ratification by Morocco</b>	<b>Date of ratification by the partner</b>	<b>Effective implementation date</b>	<b>Traffic sharing provisions</b>
Germany	24/11/1996	Not required	Not required	24/11/1996	None
Croatia	07/07/1999	30/08/2001	23/12/1999	09/10/2001	Balanced sharing
Spain	29/12/1979	18/01/1983	1984	01/06/1984	40/40/20
France	05/11/1979	03/05/1990	03/01/1985	01/08/1990	Balanced sharing
Italy	15/04/1982	14/11/1986	17/07/1985	01/04/1987	40/40/20
Poland	20/05/1999	09/06/2003	Ratified	27/04/2004	None
Portugal	10/10/1984	28/05/1993			40/40/20
Romania	22/12/1979	14/11/1986	14/11/1980	11/02/1987	
Turkey	26/03/1987	28/05/1993	01/03/1996	03/04/1996	40/40/20
Luxembourg	26/06/2002	Required		12/07/2002	None
Egypt	23/03/1989	12/05/1997	22/07/1989	22/06/1997	50/50
Libya	22/07/1998	13/05/1999	Ratified	01/07/1999	Balanced sharing
Mauritania	31/01/2002	Required		31/01/2002	50/50

Tunisia	05/02/1987	Required		17/03/1987	Balanced sharing
Sudan	20/01/1977	03/05/1978	Ratified	24/06/1978	None
Ivory Coast	01/06/1999	01/08/2001			None
Gabon	18/04/1980	15/01/1983			40/20/40
Democratic Republic of Congo	08/03/1985	03/05/1990		03/05/1990	Balanced sharing
Senegal	03/05/1999	Required		04/08/1999	None
Saudi Arabia	02/11//2001	Required	10/03/2003	28/12/2001	None
Bahrain	13/06/2001	Required		04/09/2002	Balanced sharing
Iraq	07/10/1981	23/11/1992	1982	23/11/1992	40/40/20
Jordan	25/10/2001	Required	13/11/2001	27/11/2001	Balanced sharing
Lebanon	24/12/2001	Required	05/06/2002	24/09/2002	None

Source: Ministry of Transport and Equipment, Morocco

Regarding ports, the law n° 15-2002 adopted in 2005 intends to transform the state port authority (ODEP) into two separate entities. The first is a commercial public company (SODEP). The second is an independent regulatory agency (ANP). The capital of the public company SODEP will be open to private participation in a later stage according to the port reform agenda. The ultimate stage of the process is the introduction of competition by allowing other companies to provide port services.

### **3. Methodology for measuring restrictiveness in the maritime transport services**

Measurement of barriers to trade in services is very challenging and much more complex than measuring barriers to trade in goods. Yet, it is very crucial to policy makers in their bilateral, regional and multilateral negotiations. The main objective of this section is to provide a first assessment on the potential impact of regulating the maritime transport services in Morocco along the European Union lines. The basic assumption that lies behind this exercise is that by removing barriers to trade, liberalization will increase competition in the domestic market, and reduce the price of maritime transport services.

Since maritime transport services are inputs for other activities, any reduction of their cost will improve foreign trade competitiveness and generate wider economic effects. Hence to study welfare effects of adopting the EU regulation in the area of maritime services; we shall consider not only the direct effect due to the change in their prices but also those effects owed to changes in the price of other commodities.

#### *3.3 Methodology of computing the restrictiveness index*

In order to measure the degree of restrictiveness in the maritime transport services in Morocco, we apply a methodology similar to that developed by McGuire, Schuele and Smith (2000). The primary source of information used by these authors is a 1994 questionnaire distributed by the WTO's Negotiating Group on Maritime Transport Services (NGMTS 1994). It has been complemented by other sources among which the GATS schedules of 35 WTO country members considered in the study, and their WTO Trade Policy Reviews. A consolidated database has been compiled from these sources. The maritime services covered are bulk, liner and inland waterways shipping services, and port facilities. An index that uses the available information on regulation has been constructed to assess the degree of trade restrictiveness in maritime transport services.

Restrictions have been divided into two categories. First, those affecting commercial presence and that can be assimilated to restrictions on foreign direct investment. Second, other restrictions impeding trade in maritime services.

Restrictions on commercial presence cover the following items: restrictions on maritime service suppliers flying the national flag, the form that commercial presence can take, direct investment in shipping service suppliers, direct investment in onshore maritime service suppliers, and the permanent movements of people.

The other restrictions category covers cabotage, the transportation of non-commercial cargoes, port services, the discretionary imposition of restrictions including for retaliatory purposes, membership of United Nations Liner Code, government permitting the operation of conferences, bilateral maritime agreements on cargo sharing, the composition of board of directors and the temporary movements of people.

**Table 8****Examples of restrictions on maritime services**

<b>Restriction</b>	<b>Description of restriction</b>
Right to fly the national flag	Requires ships to be registered or licensed to provide maritime services on domestic and international routes. The conditions on registration may include having a commercial presence in the domestic economy, the ship being built and owned domestically, and meeting seaworthiness and safety requirements.
Cabotage	Restricts shipping services on domestic or coastal routes to licensed vessels that meet certain conditions. Shipping services between domestic ports may be required to be carried out by domestically owned, operated and crewed ships.
Cargo sharing	Stipulates the allocation of cargo on particular routes between parties to bilateral and multilateral agreements.
Bilateral agreements	Agreements between two economies that primarily restrict the supply of shipping services and the allocation of cargo. Some bilateral agreements also restrict the use of port facilities.
UN convention on a code of conduct for Liner Conferences	Stipulates that conference trade between two economies can allocate cargo according to 40/40/20 principle. Forty per cent of tonnage is reserved for the national flag lines of each economy and the remaining 20 per cent is to be allocated to liner ships from a third economy. The Code also entitles any national flag shipping line to be a member of a conference and to fix freight rates.
Conferences	Restricts the free and open participation of maritime service suppliers. Conference members set freight rates and schedules. Conferences may be open or closed. Open conferences have unrestricted entry and exit, and freight rates are set on a route. Closed conferences set freight rates, allocate cargo and restrict membership. Governments usually permit the existence of conferences though exemptions from price setting and collusion provisions of domestic competition legislation.

Port services	Requires ships to use a designated supply of port services. These services include pilotage, towing, tug assistance, navigation aids, berthing, waste disposal, anchorage and casting off.
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Source: McGuire, Schuele and Smith (2000) from the original source Kang et al. (1998); White 1999 and WTO (1998).

The greater the restriction, the higher the score the corresponding item receives. Scores vary from 0 (least restrictive) to 1 (most restrictive). For port services, which cover a number of restrictions that are mutually exclusive, the assigned score is the addition of separate restrictions.

On the basis of an a priori assessment of the cost of restrictions to economic efficiency, weights are assigned to restrictions categories. An index score is computed separately for domestic and foreign maritime service suppliers in order to measure the degree of restrictiveness of regulation for domestic and international competition.

On the basis of our computation, the overall restrictiveness index for the Moroccan maritime transport services is 0.5425.

**Table 9**  
**Maritime Transport Services restrictiveness index for Morocco**

Restriction category	Restrictiveness index for Morocco
<b>1. Restrictions on Commercial Presence</b>	
1.1. Conditions on the right to fly the national flag	0.06
1.2. Form of commercial presence	0.05
1.3. Direct investment in shipping service suppliers	0.00
1.4. Direct investment in onshore maritime service suppliers	0.00
1.5. Permanent movement of executives, senior managers and/or specialists	0.02
<b>2. Other Restrictions</b>	
2.1. Cabotage	0.10
2.2. Transportation of non-commercial cargoes	0.05
2.3. Port services	0.1
2.4. Discretionary restrictions, including for retaliation	0.05
2.5. United Nations Liner Code	0.0375
2.6. Government permits conferences	0.05
2.7. Bilateral maritime services agreements on cargo sharing	0.025
2.8. Composition of the board of directors	0.00
2.9. Temporary movement of executives, senior managers and/or specialists	0.00
<b>Restrictiveness index for Morocco</b>	<b>0.5425</b>

Source: the author's computation on the basis of interviews and the regulatory framework of the maritime transport services in Morocco

Restrictiveness indexes computed by McGuire, Schuele and Smith (2000) for 35 countries vary between 0.2071 for Singapore and 0.6440 for Philippines. These two Asian countries stand, respectively, as the most open and the most restricted markets for maritime services in the whole sample of countries investigated. Other countries such as India, South Korea, and Indonesia are also highly restricted as their indexes are higher compared to our restrictiveness index for Morocco.

**Table 10**  
**Maritime Transport Services restrictiveness indexes from McGuire et al. (2000)**

*Countries are ranked from less restrictive to more restrictive*

Country	Index
Singapore	0.2071
United Kingdom	0.2394
Luxembourg	0.2451
Portugal	0.2569
Greece	0.2750
Denmark	0.2836
Finland	0.3154
Canada	0.3199
France	0.3297
<b>Turkey</b>	<b>0.4944</b>
Chile	0.5027
Malaysia	0.5198
Brazil	0.5206
<b>Morocco</b>	<b>0.5425<sup>213</sup></b>
Indonesia	0.5577
South Korea	0.5816
United States	0.6001
Thailand	0.6007
India	0.6052
Philippines	0.6440

*Source: McGuire, Schuele and Smith (2000)*

The most open market for maritime services in Europe according to McGuire, Schuele and Smith (2000) is UK (0.24), followed by Luxembourg (0.25), Portugal (0.26), Greece (0.28), and Denmark (0.28). Maritime transport services in other European countries such as Italy, Spain and Germany appear to be relatively more restricted with restrictiveness indexes around 0.40. Finally, restrictiveness index for Turkey amounts to 0.49, which is less than some emerging Asian countries but also Latin American countries such as Chile (0.50) and Brazil (0.52). Overall, it appears that maritime transport services are highly protected in Morocco in comparison to most emerging countries. It has to be noticed, however, that indexes computed by McGuire, Schuele and Smith are based on data prior to 1998 and don't take into account recent developments of liberalizing maritime transport services in most countries.

<sup>213</sup> From our own calculation



### 5.2. *Tariff equivalent of impediments to trade in maritime transport services*

The tariff equivalent is the additional price paid by consumers due to the existence of various restrictions. Theoretically, the presence of restrictions affects access, quality and price. Under liberalization and full competition, maritime services would be of better quality, and cheaper than under restrictions. The focus of this paper is on *price-based measure of the impact*. Other dynamic effects are also highly important but they require more data and specific approaches to assess their potential effects.

The tariff-equivalent approach derives estimates of barriers to trade from the difference between current prices and prices that would prevail once all restrictions were abolished.

By extending the findings of Warren (2000) in converting the overall restrictiveness index for maritime transport services in Morocco, estimated to (0.5425), we obtain a tariff-equivalent of (72 percent). In other words, existing restrictions generate an extra cost of maritime transport services of 72 percent compared to what would prevail under full liberalization. This substantial cost affects the economy as a whole and undermines seriously the capacity of the Moroccan operators to compete effectively on foreign markets. It also represents a serious handicap for attracting foreign investors willing to use Morocco as an export platform.

An attempt is made in next section to provide a first assessment of expected welfare effects using an input-output methodology.

## **6. Welfare effects of liberalizing maritime transport services in Morocco**

The purpose of this paper is to measure the magnitude of restrictions in maritime transport services in order to provide an approximation of the impact of these restrictions on the rest of the economy. The same exercise has already been done in the area of removing barriers on goods using econometric, as well as partial and general equilibrium methodologies. The objective arises from the need to understand how the removal of barriers to trade in services will affect conditions of competition, productivity, allocation of resources, and economic welfare within and between sectors and countries (Deardorff and Stern 2004).

As explained earlier, maritime transport services are among key cost components in the final price of imports as well as exports of goods, and any lack of efficiency in their provision has wider effects on the economy as a whole. Therefore, it is expected that prices of other commodities in the economy will change as a result of supplying maritime transport services in an open and more competitive environment.

In order to assess the hypothetical effect a 72 percent decrease in the price of maritime services derived from our previous calculations on the economy, the 1998 *Input-Output table* of the Moroccan economy has been used<sup>214</sup>. This exercise assumes the absence of any significant changes in the structure of the Moroccan economy over the period 1998-

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<sup>214</sup> This is the most recent input-output table available in Morocco.

2005. We suppose in particular that the maritime sector plays roughly the same role in 2005 compared to 1998. This assumption is to some extent defensible with regard to the role of maritime transport statistics, and the current state of reforms covering various components of the logistic chain. The effective implementation of port reform as well as liner shipping privatization (the case of COMANAV) and liberalization are expected for 2006 and 2007.

However, the serious limitation of welfare assessment of liberalizing maritime transport services in Morocco emerges from the fact that the 1998 *Input-Output table* neither separates transport from telecommunications, nor does it break down the transport in its various modes (road, railway, air, and maritime)<sup>215</sup>. The other limitation is that Input-Output methodology only accounts for static effects. It does not capture any likely increase in consumer demands for various commodities following their price reduction, which would require information on *price elasticities of demand* for the 36 commodities covered in the input-output table. On the basis of value added data, the share of maritime transport in the transport sector is around 7 percent and reaches 34 percent if auxiliary transport services are taken into account.<sup>216</sup>

On the basis of our computations, it seems that by aligning Moroccan regulations in Maritime transport services with their European counterparts and ensuring that various services are provided in a competitive environment, would lead to an improvement of consumers' welfare captured through total consumption by 3.254 percent. Since in 1998 consumption represented 86.12 percent of GDP<sup>217</sup>, this welfare gain would translate into an increase of 2.84 percent in GDP.

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<sup>215</sup> As we overlooked this issue at this stage, our results should be interpreted cautiously.

<sup>216</sup> Comptes et Agrégats de la nation (1980-2002)

<sup>217</sup> Haut Commissariat au Plan (2003), « Comptes et Agrégats de la nation 1980-2002 »

## 7. Conclusion

The purpose of this paper is to assess welfare effects of liberalizing maritime transport services in Morocco. For a long time, economists have not incorporated explicitly transportation costs in their model. However, more recently various papers have shown that an inefficient transportation system can be detrimental for trade and may even offset the likely positive effects of liberalizing international trade by reducing or removing tariffs on goods. Limao and Venables (2000) show that an increase in transportation costs by 10 percent reduces trade volumes by more than 20 percent. Radelet and Sachs (1998) show that shipping costs reduce the rate of growth of both manufactured exports and GDP per capita.

For a small open economy like Morocco, which heavily depends on international markets as its foreign trade is estimated to more than 53 percent of its GDP, efficient maritime transport sector that facilitates the movement of commodities and products and ensures that cargoes get to their destination on time, in good and safe conditions, and at the least possible cost can be one of the key pillars of international trade competitiveness.

The presence of impediments to free provision of maritime transport services affects quality and price of these services. This paper follows a methodology similar to that of the Australian team. It has been developed by by McGuire, Schuele and Smith (2000).

According to our computation, the overall restrictiveness index for the Moroccan maritime transport services is 0.5425. Restrictiveness indexes computed by McGuire, Schuele and Smith (2000) for 35 countries vary between 0.2071 for Singapore and 0.6440 for Philippines. The most open market for maritime transport services in Europe is UK (0.24), followed by Luxembourg (0.25), Portugal (0.26), Greece (0.28), and Denmark (0.28). Maritime transport services in other European countries such as Italy, Spain and Germany appear to be relatively more restricted with restrictiveness indexes around 0.40. Finally, restrictiveness index for Turkey amounts to 0.49, which is less than some emerging Asian countries but also Latin American countries such as Chile (0.50) and Brazil (0.52). Overall, it appears that maritime transport services are highly protected in Morocco in comparison to most emerging countries. It has to be noticed, however, that indexes computed by McGuire, Schuele and Smith are based on data prior to 1998 and don't take into account recent developments of liberalizing maritime transport services in most countries.

By extending the findings of Warren (2000) in converting the overall restrictiveness index for maritime transport services in Morocco, we obtain a tariff-equivalent of 72 percent. In other words, existing restrictions generate an extra cost for foreign trade operators of 72 percent compared to what would prevail under full liberalization. This substantial cost affects the economy as a whole and undermines seriously the capacity of the Moroccan operators to compete effectively on foreign markets.

In order to assess the effect of aligning Moroccan regulations in Maritime transport services with their European counterparts and ensuring that various services are provided in competitive environment, the 1998 *Input-Output table* of the Moroccan economy has been used assuming that there are no significant changes in the structure of the Moroccan

economy over the period 1998-2005. On the basis of our computation, the expected improvement of consumers' welfare captured through total consumption is estimated to 3.254 percent. Since in 1998 consumption represented 86.12 percent of GDP<sup>218</sup>, this welfare gain would translate into an increase of 2.84 percent in GDP. This is a substantial amount and reveals the magnitude of the economic cost for Morocco due to lack of efficiency in the maritime transport services. This amount also indicates that potential gain that could be generated once maritime sector reforms are fully and effectively implemented.

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<sup>218</sup> Haut Commissariat au Plan (2003), « Comptes et Agrégats de la nation 1980-2002 »

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## II. Market Structure Section

20. Please list the characteristics of all facilities-based operators providing local services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Market share	Owners of capital and their respective shares (domestic/foreign)
Tunisie Telecom	1995 ( law N°65-36)	100% as off 2005	100% Tunisian government
<b>Tunisiana</b>	2002		<b>ORASCOM TELECOM and WATANYA</b>

Please list the characteristics of all facilities-based operators providing long distance services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Market share	Owners of capital and their respective shares (domestic/foreign)
Tunisie Telecom	1995 ( law N°65-36)	100% as off 2005	100% Tunisian government

Please list the characteristics of all facilities-based operators providing international services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Market share	Owners of capital and their respective shares (domestic/foreign)
Tunisie Telecom	1995 ( law N°65-36)	100% as off 2005	100% Tunisian government

Please list the characteristics of all facilities-based operators providing leased line services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Market share	Owners of capital and their respective shares (domestic/foreign)