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Liberalization of Services in Poland and Turkey: A Comparative Analysis

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Libéralisation des Services en Pologne et en Turquie: Une Analyse Comparative

Résumé Exécutif

Ce projet concerne la libéralisation des services. Bien que les propositions concernant les gains issus d'un commerce plus libre s'appliquent à la fois aux biens et services, la libéralisation des services diffère de la libéralisation du commerce des marchandises. Dans le commerce des biens, la plupart des discussions sur la libéralisation se focalise sur l'élimination de tarifs et de barrières non-tarifaires. D'autre part, les barrières au commerce des services sont typiquement de nature réglementaire, et les pays montrent souvent peu d'intérêt aux régimes réglementaires des autres pays ou ont peu de confiance dans leur qualité. Ainsi, la libéralisation des services dans un pays spécifique requiert l'alignement de régimes réglementaires dans différents secteurs de services.

En principe, les pays peuvent choisir de libéraliser les marchés de services unilatéralement en adoptant et implémentant des normes internationales tels « le Traité de la Charte d'Energie », «les Principes Fondamentaux de Bâle », « l'Accord de Base sur les Télécommunications », et « les Normes Comptables Internationales ». Ainsi, les pays espèrent de profiter de gains d'efficacité. Mais malheureusement un pays ne peut à lui seul obtenir un meilleur accès auprès des larges marchés étrangers tel le marché des services de l'Union Européenne (UE). Dans ce contexte, des engagements multilatéraux à travers des négociations sous l'égide de l'Accord Général sur le Commerce des Services (AGCS) de l'Organisme Mondial du Commerce (OMC) pourraient s'avérer utiles. Mais pour que les négociations multilatérales puissent porter leurs fruits, les différents pays doivent faire part de reconnaissance de leurs intérêts mutuels dans un processus de libéralisation réciproque. Reconnaitre ces gains mutuels potentiels permettra de faire des « concessions » réciproques qui profiteront à toutes les parties. Dans un tel cas, l'adoption des règles de l'OMC pourrait mener non seulement à des gains d'efficacité mais aussi à un meilleur accès aux larges marchés étrangers.

L'accomplissement de la libéralisation multilatérale de services semble être possible à long-terme. Mais la libéralisation des services à travers des accords régionaux pourrait pour l'essentiel se faire même à court terme. La Politique de Voisinage de l'Union Européenne (PVE) se pose comme exemple d'un accord commercial régional. La PVE se présente comme une opportunité d'approfondissement de l'intégration des marchés des pays voisins du Sud et de l'Est de l'UE avec l'UE et comme une opportunité d'augmentation de leur participation dans les réseaux globaux de production. La perspective de participation progressive dans le Marché Interne et l'aspect le plus étendu de la PEV. Pour obtenir le libre commerce des services les pays voisins de l'UE sont attendus à adopter et implémenter les règles et réglementations de la Communauté Européenne (CE) dans les secteurs de services spécifiques. Notons que dans l'UE les services sont généralement classifiés en tant que commercialisables et non-commercialisables. Les services commercialisables sont divisés davantage entre « réglementés » et « non-réglementés ». Parmi les services réglementés nous avons les « secteurs clé » d'infrastructure tels les services de réseaux, financiers et de transport maritime.
Ceux-ci sont tous des secteurs réglementés par des directives spécifiques de la CE. D'autre part les services professionnels tels la comptabilité, les services juridiques et d'ingénierie sont réglementés mais ne sont pas couverts par la Directive sur les Services de la Commission Européenne (DS) 2006/123/EC. Enfin, les services tels le tourisme et le commerce en gros sont des secteurs non-réglementés également couverts par la DS.

Les considérations ci-dessus révèlent que la libéralisation des services dans n'importe quel pays constitue une tache difficile. Elle implique la réduction de barrières réglementaires à l'accès aux marchés et au traitement national discriminatoire à travers les quatre modes de fourniture. L'objectif de la libéralisation des services est de s'assurer que les réglementations existantes ne discriminent pas envers la participation étrangère dans les marchés des pays domestiques et étrangers. Le transfert vers un régime réglementaire non-discriminatoire peut nécessiter des changements significatifs dans la réglementation de secteurs de services spécifiques dans certains pays.

Afin de mieux souligner les difficultés dans la libéralisation des services prenons le cas d'une firme Turque de camionnage qui a l'intention de faire du transport de fret vers l'UE, ainsi que le cas d'une firme Allemande de camionnage qui souhaite faire de même vers la Turquie. Ces services seront libéralisés si (i) il n'y a pas de restrictions sur les camions Turcs et Allemands pour le transport de fret entre les deux pays, (ii) il n'y a aucune restriction sur les camions Turcs et Allemands pour le transport de fret entre n'importe quels deux points à l'intérieur de l'UE et la Turquie respectivement, (iii) il n'y a pas de restrictions sur l'implantation et l'opération de firmes de camionnage Turques et Allemandes à l'intérieur de l'UE et de la Turquie respectivement, (iv) il n'y a pas de restrictions sur des fournisseurs Turcs et Allemands de services de transport de fret routier ou des employés des firmes respectives à la libre circulation, pour des périodes relativement courtes (mouvement temporaire) à l'intérieur de l'UE et de la Turquie respectivement. Ainsi, en contexte de libéralisation la Turquie et l'Allemagne pourront tous deux adopter des lois qui ne discriminent pas entre firmes domestiques (ou intra-EU dans le cas de l'Allemagne) et étrangères (ou extra-EU) qui opèrent dans des pays respectifs et qui reconnaissent mutuellement toutes les licences et certificats nécessaires. Une telle situation permettrait une concurrence efficace, une meilleure exploitation des économies d'échelle, une augmentation des bénéfices issus des externalités de réseau et des prix à la consommation plus bas. Notons ici que l'Allemagne et la Turquie ont introduit dans le temps toute sorte de règles et réglementations sur l'accès au marché, la concurrence, les prix, les conditions fiscales, sociales et techniques ainsi que la sécurité dans leurs secteurs de transport routier de fret. Les règles et réglementations Allemandes sont généralement plus strictes que celles qui prévalent en Turquie. L'Allemagne n'est globalement pas intéressée par la perspective de relâcher ses règles et réglementations. Cette dernière attend de la part des firmes Turques de camionnage de se plier aux règles strictes qui sont présentes en Allemagne. De ce fait la libéralisation des services de transport routier entre les deux pays peut s'achever uniquement si la Turquie adopte les règles et réglementations Allemandes dans le secteur de transport routier, et applique ces règles à l'intérieur de la Turquie.

Cette étude prend en compte cinq types de services, il s'agit de la comptabilité, la santé, le transport aérien, le transport ferroviaire et les services de transport de fret routier. L'étude analyse la libéralisation de chaque secteur de service dans un chapitre distinct, et chaque chapitre commence en prenant en considération les principales caractéristiques du secteur de service particulier. Nous étudions comment la libéralisation des services dans les secteurs en question peut s'exécuter en poursuivant une approche unilatérale ainsi qu'une approche régionale.
Dans le cas de l'approche régionale nous nous concentrons sur les cas de la Pologne, Etat Membre de l'UE, et de la Turquie, pays candidat à l'accession de l'UE. Nous espérons que les expériences de la Pologne et de la Turquie et l'approche à la libéralisation des services adoptée par ces pays pourrait servir comme un model utile à d'autres pays de l'UE, ou la

libéralisation des biens et services est à l'ordre du jour. Ainsi, nous étudions dans une deuxième section de chaque chapitre les règles et réglementations internationales et en troisième section le régime réglementaire de l'UE dans le secteur de service respectif. Les quatrièmes et cinquièmes sections de chaque chapitre analysent le cadre réglementaire en Turquie et en Pologne respectivement. Enfin, âpres ces cinq chapitres sur la libéralisation des différents secteurs de services nous estimons les effets de la libéralisation des services dans le sixième et dernier chapitre de cette étude. Dans ce sixième chapitre nous tentons en premier lieu de déterminer les équivalents tarifaires des barrières au commerce dans les secteurs de service spécifiques en Pologne et en Turquie respectivement, et par ailleurs utilisant des équivalents tarifaires nous estimons quant cela est possible les effets de la libéralisation dans les secteurs de services respectifs.

Dans le **secteur de comptabilité**, une comparaison entre les normes de comptabilité dans un grand nombre de pays révèle que des différences entre normes subsistent toujours. Tandis que le commerce, l'investissement et les capitaux affluent librement de pays en pays, les différences en principes comptables constituent des obstacles à ces flux et contribuent à une allocation des ressources sous-optimale étant donné que les décisions d'allocation des ressources se basent en grande partie sur l'information comptable. Une caractéristique de base du secteur comptable est attribuée au fait que le secteur est l'un des plus réglementés mondialement. Comme le souligne la littérature, les objectifs principaux des régulateurs dans le secteur comptable sont la protection du public et la promotion de la qualité de service, et ces objectifs ont été poursuivis à travers des réglementations de plus en plus détaillées ou des normes sur la majorité des aspects de la profession comptable et de son exercice. Etant donné que la plupart de ces réglementations et normes restent nationales et ne différent pas significativement à travers les pays, cette variabilité n'est pas créatrice d'un contexte favorable à la mobilité accrue des services et des personnes à travers les frontières. Une analyse comparative des indices de restriction en comptabilité révèle que les marchés les plus libéraux sont la Finlande et les Pays-Bas. Ces économies maintiennent peu de mesures restrictives qui affectent les fournisseurs étrangers de services professionnels. Tandis que la Pologne maintient un niveau de barrières intermédiaire, la Turquie fait partie des marchés les plus restreints pour les services de comptabilité. Le pays impose un certain nombre de barrières, notamment des exigences en matière de nationalité et de résidence, et des barrières sur le type de présence commerciale et des investissements directs étrangers.

Les services de santé ont longuement été considérés comme non commercialisables à travers les frontières. Le niveau de libéralisation des services de santé dans l'AGCS est minime. Mais l'ampleur de la libéralisation des services médicaux parmi les membres de l'UE reste très faible également. La libéralisation immédiate jointe à des réglementations plus homogènes semble peu probable étant donné que les services médicaux sont exclus de la Directive sur les Services. De façon similaire, l'ampleur de la discrimination envers les fournisseurs étrangers de services médicaux reste élevée. Avec le principe de subsidiarité, l'UE vise uniquement à améliorer la sécurité sanitaire de ses citoyens, à promouvoir la santé ainsi qu'à générer et disséminer les connaissances et informations sur le sujet. Pour comparer les politiques de santé, les services aux consommateurs et les résultats de qualité des pays membres de l'UE nous avons utilisé « l'Index du Consommateur de Santé Européen » (EHCI). Le EHCI saisi les propriétés de différents systèmes de santé perçues du point de vue du consommateur, représentant ainsi une mesure pour l'estimation des différences d'efficacité des systèmes nationaux. La Pologne, parmi les pays de l'UE, a l'un des résultats EHCI les plus bas. D'âpres notre analyse économétrique la variable principale expliquant le niveau de l'indice EHCI est le niveau et pourcentage des dépenses de santé par rapport au

PIB du pays. Etant donné que autant la Pologne que la Turquie dépensent une très petite fraction de leurs revenus (6,2 et 5,7 pourcent respectivement, avec 8,9 pourcent de moyenne parmi les pays de l'OCDE) sur des services de santé, la qualité de ces services relativement protectionnistes et non-commercialisables reste faible dans les deux pays.

Le secteur de **transport aérien**, dû à la complexité du réseau global de services interconnectés, a longuement été perçu comme un monopole naturel et a été lourdement réglementé et protégé. Le processus de libéralisation des marchés de transport aérien a commencé en Europe vers la fin des années 1980 avec les trois paquets de libéralisation de l'UE. Le marché de services de transport aérien en Europe a été complètement remodelé afin d'offrir une concurrence plus serré, une utilisation plus efficace de l'infrastructure et plus de bénéfices aux consommateurs. La Pologne, en implémentant des directives de l'UE appropriées, a significativement libéralisé son marché de transport aérien. Selon l'Index de Libéralisation Aérienne utilisé dans cette étude la Pologne est classée parmi vingt des marchés de transport aérien les plus libéraux, sur les 184 pays étudiés. La Turquie, en dépit d'une libéralisation significative, se retrouve en retard, se trouvant quelque part au milieu de l'échelle de classement. L'analyse économétrique qui a été accomplie dans le dernier chapitre montre que les premier et troisièmes paquets de libéralisation de l'UE ont causé l'augmentation du trafic passager de 18,7% et 20,6% respectivement.

L'industrie **ferroviaire** dans un grand nombre de pays se trouvait historiquement entre les mains d'operateurs verticalement intégrés, généralement appartenant au secteur public. Le déclin de la part du transport ferroviaire de biens et passagers, aux dépens du transport routier est visible, au moins depuis les années 1970. Des inquiétudes quant à la performance du secteur ont conduit à un nombre de reformes pendant la fin des années 1990 dans l'Union Européenne (trios parquets de libéralisation jusqu'a 2007). Le progrès global de libéralisation d'accès au marché dans les pays de l'UE est mesuré par l'indice LIB élaboré à travers une collaboration entre l'Université de Humboldt et les Services de Consulting d'IBM. Après l'implantation de toutes les directives de l'UE, la Pologne a selon l'indice LIB[1] un régime relativement libéral d'accès au marché aux services ferroviaires en termes de frais et autres barrières. L'analyse empirique dans le dernier chapitre montre un impact positif du développement de l'infrastructure ferroviaire sur le niveau des importations de trafic ferroviaire de cargaison et similairement une corrélation positive entre le niveau de commerce de biens et la demande de services ferroviaires. De plus, l'analyse indique que deux des trois paquets de libéralisation ferroviaire de l'UE, ont eu un impact statistiquement significatif et positif sur les services de cargaison en Europe. Cependant, en Pologne les effets sur le niveau de la fourniture de service ne ce sont pas encore réalisés.

La provision de **services de transport routier** se base considérablement sur l'inter-connectivité du réseau national routier, sur le droit d'opérer dans différents pays, et sur des réglementations uniformes. Une telle situation permet de tirer profit des externalités de réseau positives tout en permettant une concurrence internationale qui assure des politiques de tarification efficaces. Les gouvernements ont réalisé il y a longtemps que les organismes internationaux tels la Conférence Européenne des Ministères de Transport offrent des cadres réglementaires pour la provision de services de réseau. L'UE a mis en place des réglementations qui couvrent l'ensemble de l'UE et qui offrent des règles de commerce intra-UE de services de transport routier. La recherche de convergence active avec les règles et réglementation dans le secteur de transport routier de fret de l'UE est une nécessité pour la

[1] Données non-disponibles pour la Turquie

Pologne. Actuellement, la Turquie est dans le processus d'adoption et implémentation du cadre législatif, réglementaire et institutionnel de l'UE dans le secteur de transport routier de fret. En changeant son régime réglementaire le pays cherche à augmenter la concurrence dans le secteur, améliorer l'infrastructure et baisser le prix des services offerts. Il est démontré que la Turquie a un marché de transport routier relativement compétitif comparé à l'UE et la Pologne, cependant le degré de discrimination envers la présence étrangère reste élevé.

Liberalization of Services in Poland and Turkey: A Comparative Analysis

Executive Summary

The project is on liberalization of services. Although the propositions regarding the gains from freer trade apply to both goods and services, the liberalization of services is quite different from that of liberalization of merchandise trade. For goods trade, most discussion of liberalization focuses on the elimination of tariffs and non-tariff barriers. On the other hand, barriers to trade in services are typically regulatory in nature, and countries often have little interest in other country's regulatory regimes or have little confidence in their quality. Hence, liberalization of services in a particular country requires the alignment of regulatory regimes in different service sectors.

In principle, countries can choose to liberalize the markets for services unilaterally by adopting and implementing the international norms such as the 'Energy Charter Treaty', 'Basel Core Principles', "Basic Agreement on Telecommunications", and "International Accounting Standards". Thereby the countries hope to derive efficiency gains. But unfortunately a country cannot on its own gain improved access to larger foreign markets such as the services market of the European Union (EU). In this context, multilateral engagement through negotiations under World Trade Organization's (WTO) General Agreement on Trade in Services (GATS) could help. But for the multilateral negotiations to be fruitful, the different countries have to recognize mutual interests in reciprocal liberalization. Recognizing these potential mutual gains will allow reciprocal "concessions" that would benefit all. In such a case adoption of WTO rules may lead not only to efficiency gains but also to improved access to larger foreign markets.

The achievement of multilateral liberalization of services seems to be possible in the long run. But liberalization of services through regional trade agreements may in essence be feasible even in the short run. As an example of regional trade agreement consider the EU's European Neighborhood Policy (ENP). The ENP presents an opportunity to deepen the market integration of the Southern and Eastern neighboring countries of the EU with the EU and increase their participation in global production networks. The perspective of progressively participating in the Internal Market is the most far-reaching aspect of the ENP. To have free trade in services the neighboring countries of the EU are expected to adopt and implement the European Community's (EC) rules and regulations in the specific service sectors. Here, we note that in the EU services are generally classified into traded and non-traded services. The traded services are further divided into regulated and non-regulated traded services. Among the regulated services we have the key backbone services such as network, financial and maritime transport services. These are all sectors regulated by specific EC Directives. On the other hand professional services such as accounting, legal and engineering services are regulated but are covered by the European Commission's Services Directive (SD) 2006/123/EC. Finally, services such as tourism and wholesale trade are non-regulated sectors also covered by the SD.

The above considerations reveal that liberalization of services in any country is a challenging task. It involves the reduction of regulatory barriers to market access and discriminatory national treatment across all four modes of supply. The focus of trade liberalization in services is to

ensure that existing regulations do not discriminate against foreign participation in the markets of domestic and foreign countries. Moving to a nondiscriminatory regulatory regime can require significant changes in how some service sectors are regulated in a particular country.

To emphasize the difficulties in the liberalization of services consider the case of a Turkish trucking company intending to carry freight to the EU, and the case of a German trucking company intending to carry freight to Turkey. These services will be liberalized if (i) there are no restrictions on Turkish and German trucks to carry freight between the two countries, (ii) no restrictions on Turkish and German trucks to carry freight between any two points within the EU and Turkey respectively, (iii) no restrictions on the establishment and operation of Turkish and German trucking companies within the EU and Turkey respectively, and (iv) no restrictions on Turkish and German road freight transportation service providers or employees of the respective companies to move freely for relatively short periods (temporarily) within the EU and Turkey respectively. Thus, under liberalization both Turkey and Germany would have to adopt laws that do not differentiate between domestic (or intra-EU in the case of Germany) versus foreign (or extra-EU) companies operating in respective countries and mutually recognize all required licenses and certificates. Such situation would allow for effective competition, better exploitation of economies of scale, increase in benefits stemming from network externalities and lower consumer prices. Here we note that Germany and Turkey over time have introduced all kinds of rules and regulations on market access, competition, prices, fiscal conditions, social conditions, technical conditions and safety in their road freight transportation sectors. The German rules and regulations are in general much stricter than the corresponding rules and regulations prevailing in Turkey. Germany in general is not interested in relaxing its rules and regulations. It expects Turkish trucking companies to observe the much stricter rules and regulations prevailing in Germany. As a result liberalization of road freight transportation services between the two countries can only be achieved if Turkey would adopt the German rules and regulations prevailing in the road freight transportation sector, and would enforce these rules and regulations within Turkey.

In this study we consider five types of services, namely accounting, health, air transportation, railway, and road freight services. The study analyzes the liberalization of each service sector in a separate chapter, and each chapter begins with consideration of the basic characteristics of the particular service sector. We study how liberalization of services in those sectors can be carried out by following the unilateral approach as well as the regional approach. When considering the regional approach we concentrate on the cases of Poland, a Member State of the EU, and Turkey, a candidate country for EU accession. We hope that the experiences of Poland and Turkey and the approach to liberalization of services adopted by these countries could serve as a useful model for other neighboring countries of the EU, where liberalization of goods and services is high on the agenda. Thus, we study in the second section of each chapter the international rules and regulations and in the third section the regulatory regime in the EU in the respective service sector. The fourth and fifth sections in each chapter analyzes the regulatory framework in Turkey and Poland respectively. Finally, after these five chapters on liberalization in different service sectors we assess the effects of liberalization of services in the final and sixth chapter of the study. In this sixth chapter we first try to determine the tariff equivalents of barriers to trade in the relevant service sectors in Poland and Turkey respectively, and thereafter using the tariff

equivalents we assess whenever possible the effects of liberalization in the respective service sectors.

In the **accounting sector,** a comparison of the accounting standards in a large number of countries reveals that differences between standards continue to exist. As trade, investment and capital start to flow freely from country to country, differences in accounting principles impede this flow leading to sub-optimal allocation of resources since resource allocation decisions are based to a great extent on accounting information. A basic characteristic of the accountancy sector is the fact that it is among the most regulated sectors in the world. As emphasized by the literature, the main objectives of regulators of the accountancy sector has been the protection of the public and the promotion of the quality of the service, and these objectives have been pursued through increasingly detailed regulations or standards on most aspects of the accountancy profession and its practice. Since most of these regulations and standards remain national and differ significantly among countries, this variability does not create a context favorable to greater mobility of services and professionals across borders. A comparative analysis of restrictiveness indices in accounting reveals that the most liberal markets for accountancy services are Finland and the Netherlands. These economies maintain few restrictive measures affecting foreign providers of professional services. While Poland maintains an intermediate level of barriers, Turkey is among the most restricted markets for accountancy services. It imposes a number of barriers, notably comprehensive nationality and residency requirements, and barriers on form of establishment and foreign direct investment.

Health services have long been considered not to be tradable across borders. The level of liberalization of health care services within GATS is minimal. But the scope of liberalization of medical services among EU members remains very low as well. The immediate liberalization along with more homogenous regulations seem to be unlikely given the fact that medical services are excluded from Services Directive. Similarly, the scope of discrimination against foreign suppliers of medical services remains high. Given the principle of subsidiarity, the EU aims only to improve citizens' health security, promote health as well as generate and disseminate knowledge and information on the subject. In order to compare health policies, consumer services and quality outcomes of the EU member countries we used the 'Euro Health Consumer Index' (EHCI). The EHCI captures properties of different health care system as seen from the consumer's point of view, and thus representing a measurement for assessing the differences in efficiency of national systems. Poland, among EU countries, has one of the lowest EHCI score. According to our econometric analysis the main variable explaining the level of EHCI index is the level and percentage of expenditure on health in a country's GDP. Given the fact that both Poland and Turkey spend very small fraction of their incomes (6.2 and 5.7 percent respectively, with 8.9 on average among OECD countries) on health care services, the quality of these fairly protectionist and non-tradable services remains low in both countries.

The **airline** sector, due to the complexity of the whole network of interrelated services for a long time, was believed to be a natural monopoly and has been heavily regulated and protected. The process of air services markets liberalization started in Europe in late 1980s with the three EU liberalization packages. The air services market in Europe has been completely reshaped to provide tighter competition, more efficient use of infrastructure and more benefits to consumers. Poland, by implementing relevant EU Directives, has significantly liberalized her air services

market. According to Air Liberalization Index used in the study Poland ranked among twenty most liberal air services markets, among all 184 analyzed countries. Turkey, despite significant liberalization, is lagging behind, and was somewhere in the middle of the same ranking scale. The econometric analysis performed in the last chapter demonstrates that the first and the third EU liberalization packages caused the increase in passenger traffic by 18.7 percent and 20.6 percent respectively.

The **railway** industry in a large number of countries was historically in the hands of vertically integrated operators owned usually by the public sector. The declining share of rail transport of goods and passengers, at the expense of road transportation is visible, at least since the 1970s. Concern about the performance of rail in turn led to a number of railway reforms during late 1990s in the European Union (three liberalization packages till 2007). The overall progress in market access liberalization in the EU countries is measured by the LIB index elaborated jointly by Humboldt University and IBM Consulting Services. After implementing all EU Directives Poland, according to LIB[1] index, has a fairly liberal regime of market access to rail services in terms of fees and other barriers. The empirical analysis in the last chapter shows a positive impact of the development of rail infrastructure on the level of imports of cargo rail traffic and similarly a positive correlation between the level of merchandise trade and the demand for rail services. Furthermore, the analysis indicates that two, out of the three EU rail liberalization packages, had statistically significant and positive impact on cargo services in Europe. In Poland, however, the effects on the level of service provision are yet to be realized.

The provision of **road transportation services** relies heavily on the interconnectability of the national road network, the right to operate in different countries, and on uniform regulations. Such situation allows to benefit from the positive network externalities while allowing for international competition assuring effective pricing policies. Governments have realized long ago that international organizations such as the European Conference of Ministers of Transport provide regulatory framework for provision of network services. The EU has put in place EU-wide regulations providing rules to intra-EU trade in road transport services. Aiming for active convergence with the rules and regulations in the road freight sector of the EU is a must for Poland. Currently Turkey is in the process of adopting and implementing the legislative, regulatory and institutional framework of the EU road freight transport sector. The country by changing the regulatory regime aims to increase competition in the sector, improve the infrastructure and lower the price of road freight transport services. It is shown that Turkey has a fairly competitive road transport market as compared to the EU and Poland, however the degree of foreign discrimination is on the high side.

[1] Data unavailable for Turkey.

Chapter 1

Liberalization of Accountancy Services

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When nations emerged as distinct political units because of divergent factors such as culture, language, and political and economic systems, the conditions encouraged each nation to establish accounting standards which tended to mirror a nation's diverse characteristics. A comparison of the accounting standards in a large number of countries reveals that differences continue to exist. As trade, investment and capital start to flow freely from country to country, differences in accounting principles impede this flow leading to sub-optimal allocation of resources since resource allocation decisions are based to a great extent on accounting information.

This paper, on the liberalization of accounting services, is structured as follows. While section 1 considers the characteristics of accounting services, section 2 discusses the international standards in the sector, and section 3 is about the liberalization efforts at the World Trade Organization. Section 4 studies the accounting framework in the European Union (EU), section 5 the accountancy framework in Turkey, and section 6 the accountancy framework in Poland. Section 7 quantifies the barriers to trade in accountancy services, and finally, section 8 concludes.

1. ACCOUNTANCY SERVICES

"Accountancy services" is a general term which covers a number of services. Although the range of services accountants can offer is very wide, it is fair to state that the core activity of accountants remains centered on financial report preparation and disclosure which in this paper we will call accounting services for ease of terminology. Accounting includes the production of financial information which involves the analysis of economic transactions, the selection of a relevant accounting treatment and some data processing or computing, and eventually preparation of periodic financial statements. On the other hand, auditing consists of the expression of an objective opinion on a given set of financial information, according to a given set of auditing standards, in order to improve the reliability of that information. Since it is not possible to prepare financial statements without having properly addressed the fiscal liabilities of the enterprise, accountants have developed an expertise also in the tax area. Furthermore, accounting or auditing activities require a sound knowledge of the enterprise, its activities, its structures, etc. On that basis, it has been logical to develop management consultancy activities, and many accountants do. As a result, the range of services provided by accountants include accounting and auditing such activities as merger audits, contribution audit, insolvency services, expert witness, tax advice, investment services, and management consulting.[1] As emphasized by

[1] -While merger audits consists of the expression of an objective opinion on a merger in order to guarantee fair treatment of the shareholders of all merging companies, contribution audits consist of the expression of an objective opinion on the value attributed to assets (property, inventories, trade mark...) contributed by a shareholder to the

the WTO document S/WPPS/W/2 this large range of services varies from country to country, according to local rules and regulations. In some countries accountants are prevented by law from offering some of these services, and in other countries they are leading providers of such services.

The demand for accountancy services arises from three sources. Certain services may be required by law, with accountancy firms being the only providers authorized to supply them such as the statutory audit. Other services are associated with the fulfillment of legal obligations by clients, who voluntarily request professional assistance in meeting them such as advice on compliance with taxation requirements. Finally, clients may request professional advice and assistance on issues which are not the subject of any legal requirements such as management consultancy. On the supply side, we note that the majority of firms are very small practices, which consist of one to five persons. A significant proportion of the sector is accounted for by medium-sized firms, and there is a limited group of very large "firms".

According to US Census almost 1.8 million Americans were employed as accountants and auditors in the US during 2006. Professional, scientific, and technical services accounted for some 7 percent of American GDP in 2006, with accounting, tax preparation, bookkeeping and payroll services constituting some 10 percent of revenues in this group of services in the US. Table 1 shows the revenues of taxable accounting firms in the US during 1998-2004. During 2004 54.6 percent of the accounting revenues was provided by the offices of certified public accountants, 5.3 percent through tax preparations, 27.3 percent through payroll services, and 12.8 percent through other accounting services. Table 2, showing the domestic revenues of the largest US accounting firms during 2008, reveals that almost 16 percent of revenues of the hundred largest U.S. accounting firms was generated in management consulting, 26 percent in tax services and 53 percent in auditing services. Companies with revenues over $100 million are more involved in management consulting (21 percent of their revenues), and total domestic revenues of the top 100 US accounting companies exceeded $40 billion in 2008.

{Insert Table 1 and Table 2}

The accountancy market is dominated by the Big Four global accountancy firms (Deloitte Touche Tohmatsu, Ernst & Young, KPMG, PriceWaterhouseCoopers). Their total revenues in 2007 were almost $90bn. These four firms currently audit over 78 percent of all US public companies and 99 percent of all public company sales.[2] They do not have any competitors, neither in terms of revenues, partners, nor staff resources.

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capital of a company, in order to guarantee a fair treatment of the other shareholders of the company. On the other hand insolvency services consist of acting as liquidator, receiver or administrator, and it may even cover advising clients on strategy before a critical or irredeemable stage is reached in its financial position. In the case of expert witness accountants can act as experts in accounting matters before most courts. Tax advice includes tax planning or tax compliance. While the former consists of advice on the application of taxation law, tax compliance relates to the preparation and presentation of the various returns and declarations required by law, and assistance to clients in their dealings with the relevant authorities. Investment services include advising clients on potential investments, performing financing studies, or even acting as trustee. Finally, management consulting includes, inter alia, IT consulting, internal control and procedures review, organizational review, etc.

[2] See Government Accountability Office (2003).

Lately accountancy market in developed countries has grown very rapidly. In the United Kingdom (UK) the market grew by some 45 percent between 2002 and 2006 to reach £20bn. The revenues of the Big Four accounting firms rose in double-digit pace in 2006 and 2005. KPMG had the highest annual growth rate among the four firms with 17.4 percent, followed by Deloitte at 15.5 percent, Ernst & Young at 15 percent and PricewaterhouseCoopers at 14.4 percent. According to the Accountancy Market Report 2007 the rise in demand for accountancy services has been caused by the growth in the economy, the boom in the financial services sector, the increasing complexity of tax legislations and the need that many organizations have for business advice.

Beyond the Big Four there are many so-called mid-tier firms, among which there are some very significant accountancy firms. Although they are reporting increased growth, the gap between the Big Four and the rest of firms appears to be widening. Smaller accounting firms face significant barriers to entry the market - lack of staff, industry and technical expertise, capital formation, global reach, and reputation. The process of mergers is changing the structure of the accountancy market. The Big Four used to be called the Big Eight for most of the 20th century. The companies either merged or ended the operations (the case of Arthur Andersen, as a result of the Enron scandal in 2001). The process of mergers is also popular among small and medium sized accountancy companies. It is driven by the desire to gain larger clients, offer more services and to expand internationally. However, increased concentration may have adverse implications for competition and choice. It also raises the problem of moral hazard, as big companies might think as emphasized by Cunningham (2006) that they are too big to fail.

A basic characteristic of the accountancy sector is the fact that it is among the most regulated sectors in the world. As emphasized by Trolliet and Hegarty (2003) the main objectives of regulators of the accountancy sector has been the protection of the public and the promotion of the quality of the service, and these objectives have been pursued through increasingly detailed regulations or standards on most aspects of the accountancy profession and its practice. Since most of these regulations and standards remain national and differ significantly among countries, this variability does not create a context favorable to greater mobility of services and professionals across borders. According to WTO (1995) the regulation of the accountancy sector takes place at two different levels. First the provider of the service should have appropriate qualifications, be approved by the competent authorities of the country, adhere to a professional body, comply with a code of conduct, etc. Second, the service itself has to comply with a number of rules or standards which define its content, the procedures to be followed, the frequency of the service, the final product, etc.

In most countries, regulatory powers are shared between public and private authorities typically professional associations, but the balance between them differs widely between nations. Professional associations range from strictly government bodies to completely private organizations. Their activities may encompass any or all of a wide range of functions, including examinations and authorizations, education and training, professional standards, disciplinary measures, quality control, providing various membership services and representing the profession.

According to WTO (1997), a synthesis report on responses to the questionnaire on the accountancy sector, the restrictions on accountancy services in the domestic economy can be studied under six headings: qualification requirements and procedures, licensing requirements and procedures, regulations governing the establishment of a commercial presence, nationality/citizenship/residency requirements, ethics, and regulations governing entry and temporary stay of natural persons for the purpose of supplying accountancy services.

The process of qualifying as a professional accountant is a complicated one, and its length varies substantially according to countries. It usually takes less time to be educated as an accounting technician or a book-keeper than as a licensed first-tier accountant. On the other hand the licensing requirements include proof of education and training, proof that the applicant does not have a criminal record, etc. and, in the majority of cases, proof of membership in the relevant professional organization. Other common requirements included residency and citizenship requirements. In addition many countries impose quite stringent requirements in terms of ownership and control of management with the consequence that very few foreign professionals or professional firms will have the possibility of holding a local license. WTO (1997) notes that licensing of firms in a number of cases was not possible as the practice of regulated accountancy activities was not permitted by firms or partnerships, but restricted to individual practitioners. In other cases managers of accountancy firms were required to be nationals of the country concerned; and in the majority of cases all managers, or at least a majority of them, were required to be locally qualified and licensed. Regarding documentation requirements it notes that, in the absence of a recognition agreement, foreign documentation was typically not accepted when applying for a license. In few cases, hiring of local professionals by foreign firms was directly restricted or prohibited, and in a large number of other cases, ethical requirements frequently have the same effect, stating that, when practising regulated activities, accountants be either self-employed or employed by another licensed professional or professional firm. Furthermore, in a large number of cases professional examination was required as a final step.

Turning to issues related with international trade in accounting services we note that cross-border trade of these services between producers and consumers located in different countries is very limited. Accounting service producers of one country can generally sell their services to consumers in another country only through the establishment of a production facility; the establishment of a commercial office performing tasks that fall short of production but without which the provision of the service would be impossible; the temporary movement of service-production personnel; or the temporary movement of foreign consumer's to the producer's country. Hence, according to WTO (1995) major general obstacles limiting the development of trade in accounting services include: restrictions on international payments; restrictions on the mobility of personnel; impediments to technology and information transfer; 'buy national' public procurement practices; differential taxation treatment/double taxation; monopolies; and subsidies.[3] In addition, there are specific impediments limiting the development of trade in

[3] Note that 'restrictions on international payments' arise when countries prohibit or ration different categories of international payments, both inward and outward, or oblige the conversion to or from foreign currencies at disadvantageous exchange rates. 'Restrictions on the mobility of personnel' refers to cases where visa, work-permit and immigration provisions prohibit or restrict the ability to move persons with specific skills to the location where they could be deployed most effectively. 'Impediments to technology and information transfer' refers to cases where accounting firms may be reluctant to transfer firm's propriety know-how in documentary or software form to

accounting services and they include nationality requirements; residence/establishment requirements; professional certification/entry requirements; compartmentalization/scope of practice limitations/ incompatibilities; restrictions on advertising, solicitation and fee-setting; quantitative restrictions on the provision of services; differences in accounting, auditing and other standards; restrictions on business structures; and restrictions on international relationships/use of firm names.[4]

The primary goal of the restrictions is, as emphasized by White (2001), to ensure that only qualified individuals provide the service, that the integrity and quality (independence, objectivity) of the service and the service provider are maintained, that conflicts of interest are minimized, and that aggrieved consumers have the opportunity for obtaining redress. But the goal of consumer protection has been easily subverted. As a result the restrictions turn out to be barriers to entry. If enforced perfectly, the restrictions would exclude only the charlatans and quacks. But incumbent providers will always realize that the restrictions can also be used to exclude competitors more broadly. Further, as technologies change and improve and as customer competence and capabilities improve, regulatory restrictions that might have been necessary or at

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jurisdictions without adequate copyright and other intellectual property protection provisions. 'Buy national public procurement practices' refers to cases when national and sub-national governmental authorities and public sector organizations purchase goods and services from local providers only. 'Differential taxation treatment/double taxation' refers to cases when discriminatory taxation provisions disadvantage foreign or foreign-associated services providers in favor of local competitors, and the absence of sufficient reliefs lead to the double taxation in different jurisdictions of the same revenues, profits or interest and royalty payments. While under 'monopolies' certain accounting services are provided by a single monopoly, and access to that market is not possible by foreign providers, under 'subsidies' governments may award selective or for-nationals-only subsidies, which place foreign services providers at an insurmountable or substantial disadvantage.

[4] While the 'nationality requirements' refer to cases when many accountancy services are regulated in different jurisdictions in a manner whereby only certain authorized persons may provide them, 'residence/establishment requirements' refer to the obligation to be established or resident in the jurisdiction where the service is provided excludes the possibility of serving a market on a cross-border basis. 'Professional certification/entry requirements' referring to the obligation to hold a specific authorization to provide certain services can be operated in a manner which discriminates against foreign services providers who in fact possess all or most of the competence and ability required. 'Compartmentalization/scope of practice limitations/incompatibilities' refers to cases when because of differences in regulatory approach between countries an accountant or accountancy firm may not be able to provide in other jurisdictions the entire range of services they provide in their home country. 'Restrictions on advertising, solicitation and fee-setting' arise when seeking to enter new markets, foreign service providers may consider themselves handicapped if they cannot advertise and otherwise attract new clients, or if they are prohibited from competing on the basis of price. 'Quantitative restrictions on the provision of services' refers to cases when some countries place limitations on the volume of services which may be provided by professional firms, usually by reference to the number of partners or professional staff in the firm. 'Differences in accounting, auditing and other standards' impede the transfer of personnel and know-how, and lead to services "produced" in one jurisdiction not being accepted for "consumption" in another. The different accounting frameworks and standards that are in force in different countries are a major barrier to the liberalization of trade in accounting services. They place extra burdens on international firms and make the movement of personnel more costly, incumbent domestic firms thereby gain a modest advantage vis-a-vis foreign firms. Under 'restrictions on business structures' accountants are constrained as to the business structures through which they provide their services, and they may be prohibited from using certain legal forms of firm and, even when permitted to use certain types of legal entities, they may be subject to special restrictions e.g. number of partners, unlimited liability in certain or all circumstances, ownership, management, control, etc. Under 'restrictions on international relationships/use of firm name' firms are not permitted to call themselves by the name of the international network with which they are associated, and this can prevent the operation of the reputation effect and restrict the firm's marketing capacity.

worst harmless in one era may become inappropriate and seriously distortionary in a later era. But the forces of inertia, buttressed by the vested interests of protected incumbents, are more powerful when regulatory institutions and procedures are in place.

The widespread use of local regulatory restrictions that firms face force them into inefficient compromises that restrict the freer flow of personnel and information as well as restricting organizational forms and structures that would allow greater efficiency. The inevitable consequence is higher costs, poorer service to their clients, and reduced efficiency. Thus, liberalization of accountancy services requires the removal of all the above mentioned restrictions.

Consider first the elimination of qualification and licensing requirements and procedures. In the context of regional trade agreements the commonly used technique for eliminating these requirements is the mutual recognition of professional qualifications or licenses to practice. There are differences in education and examination standards, experience requirements, regulatory influence and various other matters, all of which make implementing recognition on a multilateral basis extremely difficult. Bilateral negotiations will enable those involved to focus on the key issues related to their two environments. Once bilateral agreements have been achieved, this can lead to other bilateral agreements, which will ultimately extend mutual recognition more broadly. Such agreements if based on recognition of qualifications should state the minimum level of education required (entry requirements, length of study, subjects studied); the minimum level of experience required (location, length and conditions of practical training or supervised professional practice prior to licensing, framework of ethical and disciplinary standards); examinations passed (esp. examinations of professional competence); the extent to which home country qualifications are recognized in the host country; the qualifications which the parties are prepared to recognize, for instance, by listing particular diplomas or certificates issued by certain institutions, or by reference to particular minimum requirements to be certified by the authorities of the country of origin, including whether the possession of a certain level of qualification would allow recognition for some activities but not others. On the other hand, if the mutual recognition agreement is based on recognition of the licensing or registration decision made by regulators in the country of origin, it should specify the mechanism by which eligibility for such recognition may be established. Thus, such agreements facilitate the integration of foreign professionals into the profession of the host country, and the objective is to place the foreigner under the control of the competent authorities in the host country, authorities which consequently keep intact their sovereignty over the jurisdiction falling within their remit. In summary, we note that the lack of mutual recognition agreements or other recognition procedures act also as a major barrier to international trade.

2. INTERNATIONAL STANDARDS

Accounting practices differ between countries.[5] According to Nobes (1998) it is possible to divide national accounting systems into two ‘dominant’ groups, those with significant equity

[5] Here we assume that all companies in a given country use the same definitions and rules in their financial reports, and that this result on a national level has been achieved by means of company law or the regulatory activities of professional or other bodies.

markets and outside shareholders and those with weak equity markets and few outside shareholders.[6] While the U.K. and U.S.A. have the former type of system, France, Japan and Germany have the latter type. In financial systems with important equity markets and with large number of outsider shareholders there will be demand for public disclosure and for external audit because most providers of finance have no involvement in management and no private access to financial information. On the other hand, credit-based countries with dominant insiders will be more concerned with the protection of creditors and therefore with the prudent calculation of distributable profits. Their financiers will not need externally audited, published reports. These differences in purpose will thus lead to differences in accounting practices. Thus, in the United States the prime objective of financial reporting is to provide information for participants in capital markets and for the general public. On the other hand, in continental European countries (for example Germany and France) accounting serves primarily as a verifiable basis for contractual arrangements and especially as a mechanism for determining distributions to equity investors and tax authorities.

To the extent that an enterprise operates in different jurisdictions and must prepare financial reports for the different jurisdictions according to different accounting frameworks, its costs will increase. This applies for large multinationals as well as for small and medium sized enterprises that are suppliers of components or specialized services to the giant multinational companies. Furthermore, providers and users of capital around the globe are increasingly being brought into transactions with each other. Foreign listings are not new to multinationals being traded at home as well as on other major stock exchanges abroad, and investors emerged who follow global investment strategies in order to gain the benefits from international portfolio diversification. To the extent that the borrowers and users employ different accounting frameworks among themselves, the task of the lenders and investors in comparing and assessing risks and prospects are made more difficult.

As long as markets remain fragmented investors will tend to favour, as emphasized by Leblond (2005), companies of the same nationality, whose economic performance is easier to assess because of their use of national accounting standards with which investors are familiar. In such a case, investors do not have to incur the cost of familiarizing themselves with financial reporting standards in other states as well as the cost of translating financial results from one standard to the other in order to make them comparable. Because these informational (transaction) costs will force investors to put most, if not all, their capital in their country of residence, capital will not be allocated optimally across the different countries. In other words, investors will prefer investing in national companies rather than in companies located in other countries, depriving themselves of investment opportunities as well as opportunities to diversify country risk. This national investment bias makes it hard to create integrated financial markets and reduce the cost of capital across different countries. If investors could more easily compare companies' performance across different countries because of common accounting standards for financial reporting, then they could feel confident that their decisions would be more accurate. As a result, investors would spend less time and money on analyzing and comparing companies' performance.

[6] While insiders are economics units such as governments, banks, families and other companies that have close and long-term relationships with their investees, outsiders are those units which are not members of the board of directors and do not have privileged relationship with the company.

When harmonizing the accounting rules, some of the economic units might gain and others loose. But the overall effect will be positive. First, investors, investment analysts and stock exchanges are interested in comparing the investment strategies in different countries for making appropriate buy/sell/hold decisions. Hence, harmonization of accounting rules will affect them favourably. Second, international credit granting institutions examining and comparing the financial statements of companies from different countries will benefit from harmonization. Third, large number of multinational firms facing problems related to keeping up to date with different countries' accounting laws and standards, and to training the staff will also benefit from harmonization. Fourth, governments are in general in favour of harmonization as their work gets complicated when dealing with companies which have foreign branches or subsidiaries with different profit measurements. Finally, international organizations like the World Bank and the OECD are concerned with harmonization for the purpose of protection and encouragement of international investors. On the other hand smaller companies with no significant multinational activities or connections might be affected adversely from harmonization. Asking a small private family company to follow international accounting standards might just increase the cost for the company without yielding any substantial benefits. But overall, integrated financial markets will ensure that capital will be allocated to the most productive investment projects. It will also reduce the cost of capital as transaction costs to move capital across different countries will be significantly reduced. In return, a lower cost of capital will make more investment projects economically feasible, which will boost economic growth and employment. Thus, harmonization of accounting practices to a common standard will reduce the transaction costs in the economy, and capital markets will operate efficiently when investors have access to high quality financial information.

High quality accounting standards consist of a set of neutral principles that require consistent, comparable, relevant and reliable information that is useful for investors, lenders and creditors, and others who make capital allocation decisions. However, high quality accounting standards has to be supported by auditors having the responsibility to test and opine on whether the financial statements are fairly presented in accordance with those accounting standards. If these responsibilities are not met, accounting standards may not be properly applied, resulting in a lack of transparent, comparable, consistent financial information. Thus, the high quality accounting standards must be supported by an infrastructure that ensures that the standards are rigorously interpreted and applied, and that issues and problematic practices are identified and resolved in a timely fashion. Elements of this infrastructure, according to U.S. Securities and Exchange Commission, include effective, independent and high quality accounting and auditing standard setters; high quality auditing standards; audit firms with effective quality controls worldwide; profession-wide quality assurance; and active regulatory oversight.

The International Accounting Standards Committee (IASC), created in 1973, has been the main body that has focused on developing "international accounting standards" (IAS) that would be commonly adopted internationally and thus would be the harmonized standard.[7] IASC develops IAS through an international due process that involves the world-wide accountancy profession, the preparers and users of financial statements, and national standard setting bodies. It represents

[7] On IASC see Nair and Frank (1981) and Donnelly (2007).

a project to harmonize financial reporting requirements that illuminate resources and other information of interest to investors, employees, tax authorities, public regulators and law makers concerned with corporate governance issues. The objectives of IASC are: (a) to formulate and publish in the public interest accounting standards to be observed in the presentation of financial statements and to promote their world-wide acceptance and observance; and (b) to work generally for the improvement and harmonization of regulations, accounting standards and procedures relating to the presentation of financial statements. The members of IASC are the professional accountancy bodies, and IASC is funded by the professional accountancy bodies and other organizations on its Board, and by contributions from multinational companies, financial institutions, accounting firms, and other organizations.

There is an impressive body of literature comparing the accounting rules of individual countries with international accounting standards. According to Gebhardt (2000) major differences in accounting rules are to be found in capitalization of borrowing costs, (fair) valuation of derivative and financial instruments, accounting for long term construction contracts, and business combinations. Furthermore, differences comprise the areas of recognition of deferred taxes on prior period losses, recognition of research and development expenses, revaluations of non-current assets, recognition of liabilities, provisions for restructuring, provisions for pensions and post retirement benefits, and accounting for foreign currency transactions. There are also differences in the scope of full consolidations, of partial consolidations of joint ventures, and of the equity method as well as differences in the procedures of consolidation.

Until recently the use of the standards produced by IASC has been purely voluntary, even for the national professional bodies that are their members. That voluntary nature has been one of the main weaknesses of the standardization process in the sector, and one of the major concerns of IASC, which has worked to remedy it. In 1995 the International Organization of Securities Commissions (IOSCO) and IASC agreed that the latter should make a concerted effort to develop a set of core standards that the IOSCO could endorse and that its member countries could adopt for cross-border securities offerings and other foreign listings. Already, a number of stock exchanges require or allow foreign issuers to present financial statements in accordance with IASs. As a result a growing number of companies disclose the fact that their financial statements conform with IASs

In 2001 the IASC underwent a very significant reorganization that transformed it into International Accounting Standards Board (IASB) and made it much more independent from the accountancy profession through the involvement of all other parties interested in the production and use of financial statements. It is a functionally organised setter of accounting standard principles, staffed by accountants and auditors from various countries and with links to national standard setters who are responsible for bringing national rules in line with principles. The IASB is a private organization of professional accountants that sets IAS and newer accounting rules known as International Financial Reporting Standards (IFRS).[8] By now the EU, South Africa, Australia, and Russia require listed companies to use them, while over 90 further countries allow their use. In addition to the use of IFRS by listed companies, many countries adopt international

[8] IFRSs and IASs are published and copyrighted by the IASB. Summaries of each standard are available on the website http://www.iasplus.com/standard/standard.htm. A listing of the IFRSs and IASs is included in Appendix I.

standards for unlisted companies or model their domestic standards on international standards. For example, the Australian government has decided to adopt international standards for the statutory accounts of all domestic companies from 2005 onwards, and New Zealand has indicated that it will follow. The IASB therefore has a great responsibility for ensuring transparency and usefulness of information about companies, and the role that their governance plays in ensuring the stability of financial systems through transparent corporate governance IFAC is currently reflecting on a reorganization of its own that, among other things, would raise the profile and recognition of the standards it produces.

The IASB has, as emphasized by Whittington (2005), three broad objectives underlying its work: improvement, convergence and leadership. By 'improvement' the IASB means specifically the improvement of existing standards, which are those which it inherited from the IASC and formally adopted at its first meeting in April 2001. 'Convergence' means reducing international differences in accounting standards by selecting the best practice currently available, or, if none is available, by developing new standards in partnership with national standard setters. The convergence process applies to all national regimes and is intended to lead to the adoption of the best practice currently available. Finally, 'leadership' means developing new accounting standards to deal with problems not yet addressed adequately by the international standard-setting community. Thus, the IASB should lead the world in partnership with other standard setters, in developing new initiatives and solutions, for problems where there is no national standard with which it is appropriate to converge.

There are a number of reasons why IAS have made such headway since 2000. Corporate governance scandals worldwide such as Enron collapse have increased the demand of investors and public officials for standardized, transparent information based on a 'fair and true representation' of the current market value of company assets, liabilities and income. A second reason is EU's adoption of IAS as the basis of offering comparable company financial information to attract investors, promoting a single European financial market and combating financial crime by managers, auditors and financial analysts. A third reason is that securities exchange regulators collectively demand that the Board develop more comprehensive and detailed standards. IOSCO promotes internationally standardized listing rules, including universal acceptance of IAS company accounts alongside national standards, so that companies may be listed on stock exchanges worldwide. A final, if limited reason for the growing influence of IAS standards is the IASB's coordination with the American standard setter, the Financial Accounting Standards Board (FASB). In 2002 at a meeting at Norwalk, Connecticut, the IASB and FASB agreed to harmonize their agenda and work towards reducing differences between IFRS and US generally accepted accounting principles (GAAP).[9] Lately, it was decided to permit foreign private issuers to file financial statements in accordance with IFRS as issued by the IASB without reconciliation to US GAAP. It is expected that FASB and IASB standards will converge by 2011 or 2012.

Finally, it should be emphasized that besides IASB the International Federation of Accountants (IFAC) has been active in the harmonization of accounting practices. The mission of IFAC

[9] For a discussion of the differences between IASB standards and US GAAP see Securities and Exchange Commission study "International Accounting Standards".

established in 1977 is the development and enhancement of an accountancy profession able to provide services of consistently high quality in the public interest. IFAC, through a number of technical committees, pronounces on a wide range of professional issues, including especially auditing practices, education and ethics which are the most relevant to international transactions in accountancy services. It has produced a significant body of standards on various subjects, including the International Standards on Auditing (ISA), the Code of Ethics for Professional Accountants, and International Education Standards and Guidelines. IFAC is a non-profit, non-governmental, international organization of accountancy bodies. Through cooperation with member bodies, regional organizations of accountancy bodies and other world organizations, IFAC initiates, coordinates and guides efforts to achieve international technical, ethical and education guidelines for the accountancy profession. Membership in IFAC is open to accountancy bodies recognized by law or general consensus within their countries as substantial national organizations of good standing within the accountancy profession. There are currently 117 Member Bodies in 84 countries, representing over 1,2 million accountants in public practice, industry and commerce, education and government service.

3. NEGOTIATIONS UNDER WORLD TRADE ORGANIZATION

The Uruguay Round was the first attempt at a multilateral level to liberalize trade in accountancy services, when the accountancy sector was included under the scope of the General Agreement on Trade in Services (GATS). In the course of the negotiations, accountancy services received, as emphasized by Troliet and Hegarty (2003), significant attention and served as a useful case study on how liberalizing trade in services requires attention to "behind-the-border" issues in that the main barriers to trade derive from provisions of domestic regulation governing the sector.

GATS's objective is to open the borders of the WTO Member nations to trade in all types of services, including accounting and auditing. It distinguishes between four modes of supplying services trade, namely cross-border delivery, consumption abroad, commercial presence, and movement of natural persons. Following Arnold (2005) the following examples for each mode can be given in the case of accountancy services:

- Mode 1: Cross-boarder delivery — professional accountants (or accounting firms) located in one country deliver services to clients located in another country. Mode 1 covers work performed via the Internet or other telecommunications technologies.
- Mode 2: Consumption abroad — clients located in one country travel to another country to purchase the accounting or auditing services.
- Mode 3: Commercial presences — accounting firms incorporated in one country establish a commercial presence in another country. Mode 3 covers direct foreign investment in accounting firms.
- Mode 4: Movement of natural persons — individuals from one country move temporarily to another country to deliver accounting or auditing services.

With respect to accountancy the GATS' defines ''trade in services'' broadly to encompass accounting and audit services. In fact, in the WTO Services Sectoral Classification List (MTN.GNS/W/120) accounting, auditing and bookkeeping services are part of subsector "Business Services". The corresponding classification number under the United Nations'

"Central Product Classification ver. 1.1" (CPC) is 822. Although there are no further sub-categories provided for under W/120, under the Provisional CPC, however, the category CPC 822 is further sub-divided, as follows: accounting and financial services (CPC 8221) and bookkeeping services, except tax returns (CPC 8222). CPC 8221 is further divided into sub-classes: financial auditing services (CPC 82211), accounting review services (CPC 82212), compilation of financial statements services (CPC 82213), and other accounting services (CPC 82219).[10]

GATS has the potential to restructure the market for professional accounting services by facilitating cross border trade, consumption abroad, direct foreign investment and mobility of professional labor in accountancy services. While many of GATS obligations including the provisions on most-favored nation treatment are general obligations that apply to all WTO Members, each WTO Member is able to decide, in the course of negotiations, whether and the extent to which it will commit accounting and auditing services in any of the four modes to the GATS requirements for market access (Article XVI) and national treatment (Article XVII).[11] [12] [13] All WTO member countries are free to decide in which service sectors they make specific commitments and what level of liberalization (if any) they bind. Accordingly, different countries have made varying levels of commitments to liberalize trade in the accounting and auditing services.

The latest available data concerning the level of commitments undertaken by WTO members dates back to 1998. According to WTO Secretariat (2001) at the end of November 1998, 56 Members (counting the European Community 12 as one) have made commitments in the sector. The commitments were also made in other areas related to accountancy, such as computer and related services, management consulting and taxation services. Most of the Members used the CPC classification in their schedules, and made commitments in all three sub-categories (accounting, auditing, bookkeeping). As shown in Table 3 the greatest level of non-restricted market access was granted for consumption abroad (by 41 percent of Members), the biggest

[10] Note that many services offered by big accountancy companies are not covered by 822 group of CPC classification. These are for example advisory and consulting services, taxation, insolvency, liquidation, IT consultancy, risk management services, etc. It seems that the CPC system presents an outdated perspective of the professional accountant work as emphasized by Loft and Aggestam-Pontoppidan (2003).

[11] Most-favored nation (MFN) is a trading status accorded to a nation wherein the terms and conditions of trade with that nation are as favorable as those with any other nation. However, countries can specifically exempt a sector from MFN treatment.

[12] GATS Article XVI applies to market access and prohibits specific limitations (e.g., quotas) on the number of suppliers; on the total value of service transactions or assets, including needs tests; on the total number of service operations or total quantity of service output; on the total number of people that may be employed; on the types of legal entity or joint venture through which a service can be supplied; and on the participation of foreign capital. Thus, in sectors where liberal market access commitments are undertaken, WTO Members may not maintain or adopt laws that (1) limit the number of services suppliers via quotas, monopolies, or exclusive service suppliers, (2) limit the total value of services transactions, (3) limit the total number of services operations or the total quantity of service output, (4) limit the total number of natural persons that may be employed in a particular service sector, (5) restrict or require specific types of legal entity or joint venture through which a service supplier may supply a service, and (6) limit the participation of foreign capital in terms of maximum percentage limits on foreign shareholding or the total value of individual or aggregate foreign investment.

[13] GATS Article XVII requires "national treatment"; i.e., members should accord to foreign services and service suppliers treatment that is no less favorable than is applied to domestic services and suppliers. Specific treatment can be different, so long as the resultant conditions of competition do not favor domestic services or service suppliers

number of unbound mode of supply is found in cross-border trade (30 percent). Commitments for partial market access are very high for commercial presence (89 percent) and the presence of natural persons (86 percent). Similar level of commitments was achieved with regard to national treatment, with the exception of commercial presence, where the level of full access was much higher than in the case of market access. In addition, 7 members have kept MFN exemptions, all requiring reciprocal treatment for the exercise of the profession.

{Insert Table 3}

The Uruguay Round did foresee a future, post Round work program to explore how the liberalizing potential of Articles VI and VII could be enhanced. Just prior to the conclusion of the Uruguay Round negotiations on December 15, 1993, members also adopted a Decision on Professional Services.[14] The objective was to ensure continuation of work on the liberalization of professional services, and of accountancy services in particular. The decision foresaw creation of a Working Party on Professional Services (WPPS) and defined its mandate. The primary focus of that mandate was related to domestic regulation. As a matter of priority the WPPS was requested to make recommendations for multilateral disciplines in the accountancy sector so as to give operational effect to specific commitments.[15] In making its recommendations, the WPPS was instructed to concentrate on developing multilateral disciplines relating to market access so as to ensure that domestic regulatory requirements are based on objective and transparent criteria, using international standards and encouraging cooperation with the relevant international organizations, and establishing guidelines for recognizing qualifications. The WPPS was established by the Council for Trade in Services in March 1995.

In May 1997 the Council for Trade in Services (CTS) endorsed the Guidelines for Mutual Recognition Agreements or Arrangements in the Accountancy Sector (S/L/38), which had been developed by the WPPS.[16] The Guidelines amplify the provisions of Article VIII of GATS. They are non-binding; intended to simplify the process of negotiations of agreements on the mutual recognition of professional qualifications and help the governments structure their MRAs in transparent and accessible way. Thus, they can be used as a practical guide how to negotiate MRAs. According to the Guidelines the most common means to achieve recognition had been through bilateral agreements, which enable those involved to focus on the key issues and differences of their two environments. When a bilateral agreement has been achieved members have an obligation to afford adequate opportunity for other interested members to negotiate their accession to that agreement. Ultimately, this obligation would extend mutual recognition more broadly. The Guidelines acknowledge that there are differences in education and examination standards, experience requirements, regulatory influence, and various other matters, all of which make implementing recognition of foreign professional qualifications and licenses on a multilateral basis very difficult. But the guidelines are non-binding and are intended to be used by members of the WTO on a voluntary basis.

Noting that domestic regulations regarding licensing and qualification requirements and technical standards form the main barriers to trade in accountancy services, the WTO decided to

[14] See WTO (1995).
[15] See Loft and Aggestam-Pontoppidan (2003).
[16] See WTO (1997).

implement one of the most controversial provisions of the agreement, GATS Article VI:4. This article empowers the WTO to develop so called ‘‘disciplines’’ to ensure that the domestic laws and regulations of WTO Members do not constitute unnecessary barriers to trade in services. The Disciplines on Domestic Regulation in the Accountancy Sector (S/L/64) were adopted in December 1998 by a decision of the CTS scheduled to become effective upon completion of the GATS 2000 negotiating round.[17]

The Disciplines contain provisions with respect to transparency, licensing requirements, licensing procedures, qualification requirements, qualification procedures, and technical standards.[18] They are applicable to all WTO members who have scheduled specific commitments for accountancy, and will take effect at the end of the current trade round (Doha Round). In the interim, all WTO Members agreed not to take new measures inconsistent with the accountancy disciplines. According to the Disciplines:

- accountancy measures not subject to scheduling under Articles XVI or XVII of the GATS may not be more trade-restrictive than necessary to fulfill a legitimate objective; legitimate objectives are, inter alia, the protection of consumers, the quality of the service, professional competence, and the integrity of the profession;
- with respect to transparency: members should make publicly available the names and addresses of competent authorities (i.e. entities responsible for the licensing of professionals). Publicly available should also be made information describing the activities and professional titles which are regulated or which must comply with specific technical standards, requirements and procedures to obtain, renew or retain any licenses or professional qualifications and the competent authorities' monitoring arrangements for ensuring compliance, information on technical standards, and confirmation that a particular professional or firm is licensed to practice within their jurisdiction;
- with respect to licensing: alternatives to residency requirements should be considered, reasonable terms of membership in professional organizations should be ensured, the use of firm names cannot be restricted, fees charged by the competent authorities should reflect costs involved, and not represent an impediment in themselves to practicing the relevant activity; licensing procedures should be transparent and cannot be unnecessarily burdensome;
- with respect to qualifications: members are required to take account of qualifications acquired in the territory of another member, the scope of examinations/qualification requirements (education, examinations, practical training, experience and language skills) should be linked to the activities for which authorization is sought, the role which mutual recognition agreements can play in facilitating the process of verification of qualifications and/or in establishing equivalency of education is underlined, the procedures regarding examinations and other qualifications should be transparent and reasonable;
- with respect to technical standards: members should ensure that they are prepared, adopted and applied only to fulfill legitimate objectives.

[17] See WTO (1998).
[18] See White (2001).

Thus, the Disciplines states that Members shall insure that measures relating to licensing requirements and procedures, qualification requirements and procedures, and technical standards are not prepared, adopted or applied with a view to or with the effect of creating unnecessary barriers to trade in accounting services. For this purpose, Members shall ensure that such measures are not more trade-restrictive than necessary to fulfill a legitimate objective. Legitimate objectives are the protection of consumers, the quality of service, professional competence, and the integrity of the profession. But the question of what criteria the WTO will use to determine whether domestic laws and regulations are ‘‘more trade-restrictive than necessary’’ is less clear. According to Arnold (2005) two criteria have been suggested. These are international standards, and the doctrine of proportionality.

According to paragraph VII:26 of the Disciplines international standards shall be taken into accounting in determining necessity. Although the Disciplines do not define accounting standards or name the organizations responsible for standard setting, the WTO Working Party on Professional Services recognized the International Federation of Accountants (IFAC), which sets international auditing, educational and ethics standards, and the International Accounting Standards Committee (IASC), which sets financial reporting standards, as the standard setters for the accountancy sector.[19] The use of international accounting standards as criteria for determining whether regulations are unnecessarily trade-restrictive means that international standards become criteria for determining whether domestic rules are unnecessarily trade-restrictive. On the other hand the concept of proportionality was introduced by the EU into the WTO discussions as a criterion for assessing the necessity of domestic regulations subject to disciplines under Article VI:4. proportionality involves a subjective cost–benefit analysis in which the costs of a regulatory trade barrier are assessed in proportion to the regulatory objectives pursued.[20] Thus, under proportionality, accountancy laws can be justified only if no less trade restrictive alternative is available.

Once the Disciplines on Domestic Regulation in the Accountancy Sector will become effective upon successful completion of the GATS 2000 negotiating round governments will retain the right to regulate, but only to the extent that the regulations they adopt are compatible with the GATS. This means that the choices of domestic regulators will be limited to rules that are non-trade-restrictive, or in the worst case to the least trade-restrictive measure available to achieve any given policy objective.

Following its adoption of the Disciplines the CTS decided to replace the WPPS with a Working Party on Domestic Regulation (WPDR) in April 1999. The WPDR was charged with expanding the work program to services in general, including an assessment of the extent to which the accountancy Disciplines might be applied to other professions. The WPDR was asked to report back with recommendations no later than the conclusion of the current negotiations.

Currently, accountancy, like all services are included in the new services negotiations which began in January 2000. The negotiations are also known as GATS 2000, as they started in 2000 (in accordance with the article XIX of GATS). The current Doha negotiations have brought

[19] See WTO (1995)
[20] See WTO (2001)

detailed specific demands to individual countries to liberalize their markets for services. In the case of accountancy, so far only two countries submitted negotiating proposals: USA and Australia. Four other members (EU, Canada, Switzerland and Colombia) presented proposals in the area of professional services. It seems that the movement of natural persons and foreign ownership will be among the issues of most relevance to the accountancy sector and they have to be addressed during the negotiations on specific commitments currently under way in the WTO.

The above considerations reveal that the most important GATS obligations under general obligations include the MFN clause (Article II), transparency (Article III), domestic regulations (Article VI) and Mutual Recognition Agreements (Article VII), and under specific commitments the commitments on market access (Article XVI), national treatment (Article XVII) and additional commitments (Article XVIII).

According to MFN clause accountancy firms or accountants from two different countries cannot be discriminated between each other. Article III on transparency requires that laws, regulations, administrative guidelines have to be transparent and the opportunities for inquires and notification of significant changes have to be assured. On the other hand Article VI on domestic regulation states that (i) in all sectors review of and remedies for administrative decisions affecting trade in services should be undertaken, (ii) measures relating to qualification requirements and procedures, technical standards and licensing requirements can not constitute unnecessary barriers to trade, (iii) in sectors were specific commitments are undertaken

- measures of general application affecting trade in services must be administered in a reasonable, objective and impartial manner;
- if authorization is required for the supply of a service, decisions on applications must be given in reasonable period;
- if verification of competence of professionals is required, the procedures must be adequate;

and (iv) necessary disciplines should be developed in order to ensure that the measures are based on objective and transparent criteria; not more burdensome than necessary to ensure the quality of the service; and in the case of licensing procedures, not in themselves a restriction on supply. Finally according to Mutual Recognition Agreements a Member may recognize the education or experience obtained, requirements met, or licenses or certifications granted in a particular foreign country; recognition can be done by means of harmonization or otherwise; and recognition can be achieved autonomously or through agreement.

Under specific commitments the market access commitments require that six types of restrictions are forbidden unless specified in the schedules; measures which should not be maintained include limitations on the number of service suppliers on the total value of service transactions or assets, on the total number of service operations or on the total quantity of service output, on the total number of persons that may be employed in a particular service sector, measures which restrict or require specific types of legal entity or joint venture through which a service may be supplied, limitations on the participation of foreign capital. The national treatment clause requires that foreign accountancy firms or accountants cannot be discriminated against national ones, e.g. citizenship or residency requirement are against the national treatment. Finally, the

additional commitments require additional undertakings, e.g. regarding regulations concerning qualifications, technical standards and licensing matters.

4. ACCOUNTANCY FRAMEWORK IN EUROPEAN UNION

The harmonization of accounting and financial reporting is based on Article 54 Paragraph g of the 1957 Treaty Establishing the European Economic Community, the *Treaty of Rome 1957*. The formal reason for harmonization is the establishment of "a level playing field" for all companies wherever based in the Member States. The instruments to gain this harmonization were the Fourth (78/660/EEC), and Seventh (83/349/EEC) EEC Directives.

The Fourth Council Directive, amended later by various directives, deals with the accounts of single companies and requires all limited liability companies to prepare annual accounts.[21] According to Thorell and Whittington (1994) the main features of the Directive requirements are the format rules for the balance sheet (Articles 9 and 10) and the profit and loss account (Articles 23-26), disclosure requirements (Article 43), valuation rules (Articles 31-42) based upon historical cost but with alternative rules allowing current values, and the true and fair view (Article 2). Thus, the Directive lays down the principles which govern the drawing up of a balance sheet, profit and loss account and the notes to the accounts, and state general principles for the valuation of items in the annual accounts, such as prudence, consistency in the application of the methods of valuation, etc. It sets out also specific valuation rules based on the principle of purchase price or production cost. The annual report must include a fair review of the development of the company's business and of its position. The Directive provides also for a system of auditing under which companies must have their annual accounts audited by one or more persons authorized by national law to audit accounts. Less strict rules are laid down for small and medium-sized companies. Their obligations in respect of the publication of annual accounts and auditing of accounts may be lightened. Furthermore, the Directive contains a large number of options for member states or for companies, which permit different accounting treatments. Comparability between different options is established through additional information in the notes.[22]

The Seventh Council Directive together with later amending directives coordinates national laws on consolidated accounts of companies with limited liability and extends the Fourth Directive requirements to consolidated accounts.[23] It requires a parent company to prepare, in addition to its individual accounts, consolidated accounts and a consolidated annual report in which the financial situation of the group is shown as if it were a single entity. It addresses the difficult problem of identifying groups, defining which companies should be required to draw up consolidated group accounts, and the choice of method in the consolidation process. The figures given in euro in Directive 78/660/EEC serve as thresholds for defining the small groups which can be exempted completely from the consolidated accounts requirement. The Directive sets out

[21] For amendments of and further information on Fourth Directive see http://europa.eu/scadplus/leg/en/lvb/l26009.htm).
[22] See EUROPA, 26.1.2007 (a).
[23] For amendments of and further information on Seventh Company Law Directive see http://europa.eu/scadplus/leg/en/lvb/l26009.htm).

the methods of drawing up consolidated accounts which comprise the consolidated balance sheet, the consolidated profit and loss account and the notes to the accounts; the book values of shares in the capital of companies included in a consolidation that must be set off against the proportion which they represent of the capital and reserves of those companies; and the drawing up the consolidated accounts on the same date and by the same methods as the annual accounts of the parent company. Just like the Fourth *Directive the Seventh Directive contains a large number of options for companies, which* permit different accounting treatments, and also offers exemptions from drawing up consolidated accounts for small and medium-sized group of companies.[24]

With the Fourth and Seventh Directives the EU has made progress towards harmonization of accounting law. But standardization of accounting rules could not be achieved. The reasons are various. First, the Directives contain a number of options which were necessary to meet the needs of member countries at the time when the directives were published. But for achieving harmonization of accounting practice options were undesirable. Second, the directives failed to address certain specific issues such as provisions for the cash flow statements. Finally, the true and fair view (TFV) principle introduced in the directives was not clearly defined, and thus the principle could not be implemented and/or interpreted in the individual national laws in a uniform way resulting in different accounting practices. As a result the contents of the accounts and financial figures of different countries as emphasized by Haller (2002) were so different that they could not be compared and analyzed decently on a cross-border basis without taking national particularities into account and subsequently arranging reconciliation.

The sectoral Directives (86/635/EEC) and (91/674/EEC) deal with the financial information to be disclosed respectively by banks and other financial institutions and by insurance companies. These Directives contain the derogations from the Fourth and Seventh Directives necessary to take account of the particular characteristics of the entities concerned. Directive 86/635/EEC harmonizes the format and contents of the annual accounts of all financial institutions in EU, and Directive 91/674/EEC provides for the same layout and the same item headings for the balance sheets of all EU insurance companies in order to ensure comparability. On the other hand Council Directive (89/117/EEC) aims to remove the need for branches of foreign banks and other financial institutions having their head office in another member state or in a non-member country to publish separate annual accounts. Documents which are to be published by branches of credit institutions and financial institutions include their annual accounts, consolidated accounts, annual report, etc. These must be published and audited as required by the law of the member state in which the head office is located. Documents to be published by branches of credit institutions and financial institutions.[25] (EUROPA, 25.01.2007).

During the 1990's trade and foreign direct investment (FDI) have grown rapidly relative to economic growth. While the increase in FDI can partly be traced back to 'greenfield' investments, the majority was related to cross-border merger and acquisition activities. With globalization of capital markets European companies started to increase their access to highly liquid capital markets in order to raise the necessary capital for financing their activities. A

[24] See EUROPA 26.1.2007 (b).
[25] See EUROPA 25.01.2007.

listing on foreign stock exchanges such as the New York Stock Exchange turned out to be an advantage. In addition more firms started to choose IAS as stock exchanges in Europe became more favorably disposed toward IAS.

In 1995 the Commission (1995a) concluded that directives were not an appropriate mechanism to achieve accounting harmonization and proposed a new strategy based on the adoption of international accounting standards, set by the IASB. Later on the Commission (2000, 2001) expressed its intention to require consolidated financial statements in accordance with IAS from listed European companies by 2005 as well as establish an effective endorsement process of the standards and an enforcement infrastructure. In 2002 the Regulation (EC) No. 1606/2002 was adopted which required European listed companies to prepare their consolidated accounts in accordance with international accounting standards from 2005 onwards, and established an endorsement mechanism, based on satisfying the comitology and Lamfalussy procedures for the adoption of international accounting standards in Europe.[26] [27] By 2004 as emphasized by the European Commission (2003, 2004) virtually all international accounting standards had been adopted, leaving IAS 39 "Financial Instruments: Recognition and Measurement" as the only significant standard needing further consideration. We note that IAS 39 embodies a move from 'historic cost' accounting where assets on the balance sheet are valued at original purchase cost towards 'fair value' accounting where assets on the balance sheet are valued at current market value. If no ready market exists for the instrument then under the fair value rules it would be valued based on an estimation of market value using a mathematical model.

The IAS 39 was eventually adopted by the EU in November 2004 subject to two 'carve outs'. The first of these provisions deals with the obligation for companies to report investment assets at their "fair" (i.e. market) rather than historical (i.e. purchased) value on the balance sheet. The argument used by financial institutions to oppose this provision is that it would create too much volatility in their accounts, since investments would have to be revalued every time a company publishes financial statements and resulting unrealized gains or losses recorded accordingly. The fear is that such volatility in earnings would push away investors from financial institutions, whose assets are mainly in the form of investments. The second carve out concerned hedge accounting provisions meaning that companies can recognize gains and losses on financial derivatives only when they are realized. However, in the case of financial institutions, which use macro hedging where assets are not directly tied to liabilities but cover only a net risk exposure,

[26] Comitology in the EU refers to the committee system which oversees the acts implemented by the European Commission. A Comitology Committee is appointed by the Commission to deal with a particular issue and its report, if approved by the Commission, is a binding interpretation of the practical effect of the principles laid down. The Committee membership consists of representatives from member states under a Chairman appointed by the Commission. This system allows the Commission to discuss its proposals with national administrations before they are implemented, in order for the measures to be best adapted to national situations

[27] The Lamfalussy Procedure features the decomposition of new legislative acts into framework and implementing decisions, applied by means of a well-defined four-stage process. At the first stage (level 1), the legislation is enacted according to the EU's conventional co-decision procedure. The law then progresses to the second level, where sector-specific committees and regulators advise on technical details, then bring it to a vote in front of member-state representatives. At the third level, national regulators work on coordinating new regulations with other nations. The fourth level involves compliance and enforcement of the new rules and laws. On the details of the EU endorsement mechanism see Dewing and Russell (2008).

IAS 39 would force them to include the assets on their balance sheet at their fair value and record the unrealized gains or losses. After much lobbying, especially from a number of European banks, the Commission accepted the argument that hedge accounting proposals in IAS 39 would force the majority of European banks into disproportionate and costly changes both to their asset/liability management and to their accounting systems and would produce unwarranted volatility.

On the other hand the Eighth Company Law Directive (2006/43/EC) on statutory audit aims at reinforcing and harmonizing the statutory audit function throughout the EU. It was designed to create a new regulatory and legal environment and corporate accountability framework that would be recognized on a global scale. The Directive sets out principles for public supervision in all member states. It introduces a requirement for external quality assurance system that must meet the criteria laid down in the Directive. These cover, for example, the independence of those responsible for ensuring public oversight, secure funding and adequate resources for the system and the selection of reviewers for specific quality assurance review assignments. It clarifies the duties of statutory auditors and establishes ethical principles to guarantee their objectivity and independence. A statutory audit cannot be carried if there is any direct or indirect financial, business, employment or other relationship between the statutory auditor and the audited entity. The Directive updates the course of studies auditors must follow. An auditor may be approved to carry out a statutory audit only after having attained university entrance or equivalent level, then completed a course of theoretical instruction, undergone practical training and passed an examination of professional competence. Audit qualifications obtained by statutory auditors on the basis of the Directive should be considered equivalent by the member states. The knowledge of auditors should be tested before a statutory auditor from another member state can be approved. The regulatory arrangements of member states must respect the principle of home-country regulation. Each public-interest entity must have an audit committee. The competent authorities of a member state may approve a third-country auditor as a statutory auditor if that person has furnished proof that he or she complies with requirements equivalent to those laid down in the Directive. The competent authorities of a member state must register every third-country auditor and audit entity that provides an audit report concerning the annual or consolidated accounts of a company incorporated outside the EU. The Directive provides also a basis for effective and balanced co-operation between regulators in the EU and with regulators in third countries.[28]

The above considerations reveal that the *acquis i*ncludes valuation rules and layouts for balance sheets and profit & loss accounts for annual and consolidated accounts of public and private limited liability companies. These directives also set-out audit requirements, as well as disclosure and publication obligations. In addition, the IAS Regulation requires Community companies listed on a regulated market to draw-up their consolidated accounts in accordance with international accounting standards endorsed by the European Commission. Member States may extend the application of such international accounting standards to the consolidated accounts of non-listed companies and to annual accounts. Finally, the eighth company law directive harmonizes rules including *inter alia* the approval and registration of statutory auditors, external quality assurance, public oversight, auditor independence and the possible application of

[28] See EUROPA 29.05.2007.

international standards of audit. These are the harmonization rules. The EU tries to achieve the liberalization of accounting services also through mutual recognition of professional qualifications or licenses to practice. The rules for mutual recognition of the diplomas of accountants and auditors in the EU were set in the Directives 89/48/EEC and 92/51/EEC. These directives give the accountants and auditors the right to obtain the local professional title of the host member state after passing an aptitude test. Typically, these aptitude tests cover company law, tax law and the ethics of the host Member State, as these matters still substantially differ between the Member States of the EU. The Directives 89/48/EEC and 92/51/EEC were repealed by the Directive on the recognition of professional qualifications (2005/36/EC), which aims to consolidate fifteen directives which have been adopted over the last forty years and have established different systems of recognition in the EU. While maintaining the guarantees afforded by each of the existing recognition systems, this Directive aims to create a single, consistent legal framework which is based on further liberalization of the provision of services, more automatic recognition of qualifications and greater flexibility in the procedures for updating the Directive.

Finally, the so called "Services Directive" of the European Parliament and of the Council (2006/123/EC) on services in the internal market will influence accounting services once it is transposed to national legal systems (28th December 2009 the latest). It will ease the freedom of establishment and the freedom to provide services on cross-border basis. The provisions of the Directive aim to simplify administrative procedures, remove legal and administrative obstacles to the development of service activities and enhance both mutual trust between member states and the confidence of providers and consumers in the Internal Market. The Services Directive applies in addition to existing Community law.

5. ACCOUNTANCY FRAMEWORK IN TURKEY[29]

In Turkey bookkeeping and financial reporting are governed, as emphasized by the World Bank (2006), by various laws and bodies. While the laws include the Turkish Commercial Code, the Tax Procedural Law, the Capital Markets Law, Banking Law and the Insurance Law, the responsible bodies include the Ministry of Industry and Trade, Ministry of Finance, Capital Markets Board, the Banking Regulation and Supervision Agency and the Undersecretariat of the Treasury.

The current Commercial Code, which came into effect on January 1, 1957, sets out certain bookkeeping requirements, but does not govern the preparation or publication of financial statements. On the other hand, the Tax Procedural Law of 1950, which has since been consolidated into the Tax Procedures Code, introduced detailed bookkeeping requirements. The Code itself is the basis of authority for accounting regulations for all entities in Turkey with some exemptions for financial institutions, including listed companies and banks. The Revenues Administration designs legally mandated accounting requirements to meet the needs of the state as a tax collector. In 1992, the Ministry of Finance organized a committee to establish accounting principles and a uniform chart of accounts that would be used by all companies. The

[29] This section is based on mainly Muğan (1995), Muğan and Hoşal-Akman (2007), World Bank (2006), UNCTAD (2007) and Commission of European Communities (2007).

Ministry published the committee's report in a *communiqué* on 26 December 1992 establishing the principles and the Uniform Chart of Accounts (UCA) to take effect on January 1, 1994. The stated purpose of these requirements is to establish an accounting system in line with IAS. All companies except banks, brokerage firms and insurance companies are required to conform to the guidelines stated in the communiqué. According to the requirements of the 1992 communiqué, financial statements include a balance sheet, an income statement, a statement of cost of goods sold, a funds flow statement, a cash flow statement, a profit distribution statement and a statement of owners' equity, as well as notes to these statements. The Ministry of Finance communiqué of September 1994 states that small companies are required to submit the fundamental statements only.

The Capital Markets Law of 1981 provides the Capital Markets Board (CMB) with the authority to determine accounting and auditing requirements in respect of companies with shares listed on the Istanbul Stock Exchange (ISE), companies having more than 250 shareholders, mutual funds, investment funds and financial intermediary companies except for banks and insurance companies. Regulations are published in the form of *Communiqués*. The first set of financial accounting standards was developed in January 1989 by the CMB following the inauguration of ISE in 1986 to be in effect for the fiscal years that started on or after 1 January 1989 (Serial X, No: 11). This set of CMB standards was comparable to IASs, including the assumptions of going concern, consistency, time period, unit of measure and the basic principles such as, cost, matching, conservatism, materiality, objectivity and full disclosure. However, there were significant differences in measurement and disclosure issues regarding the effects of inflation under hyperinflationary economies, and also long-term investments.[30] In 2003 CMB issued the IFRS based standard Communiqué entitled "Accounting Standards in Capital Markets", and required publicly-owned and traded companies to use the new rules starting January 2005 while encouraging early adoption. CMB also permitted adoption of full IFRS for financial periods ending December 31, 2003 onwards. Thus, until 2008, publicly-owned companies whose shares are traded in the stock exchange were subject to the new CMB rules (Serial X, No: 25) that were based on IFRS. On the other hand a 'publicly-owned company', defined as a corporation where the number of shareholders exceeds 250, and not listed on ISE is still subject to Serial X, No: 11 standards (old CMB rules). Currently, CMB requires such companies to use Turkish Financial Reporting / Accounting Standards set by the Turkish Accounting Standards Board (TASB) but with the clause "as accepted by the European Community". In other words, CMB do not allow IASB based IFRS translations to be in effect before they are accepted by the European Community.

The Banking Law (2005) provides the Banking Regulation and Supervision Agency (BRSA) with the authority to determine accounting and auditing requirements applicable to all banks under its supervision. The BRSA introduced new regulations in November 2006, which require banks to comply with Turkish Accounting Standards (TFRS/TAS) .[31] On the other hand, the

[30] Although Turkey had been experiencing considerable rates of inflation since 1984, financial statements were prepared at historical cost except for the revaluation of property, plant and equipment. Furthermore, long-term investments including subsidiaries and equity participations were carried at cost.

[31] Through Law No: 4487 dated December 1999, an addendum was made to the Capital Markets Law for the establishment of the Turkish Accounting Standards Board (TASB) to issue Turkish Accounting Standards (TAS) that would facilitate fair disclosure of the financial position. The board has both administrative and financial

General Directorate of Insurance (GDI) of the Undersecretariat of Treasury is responsible for regulating and overseeing insurance and reinsurance companies and for establishing their financial reporting regime. A recent *Communiqués* published by the Treasury aims to update the accounting requirements and financial structure regulations including capital adequacy consistent with the EU Insurance Accounts Directive. It is only now that financial reporting standards, largely based on IFRS, are being developed. In particular, the *Communiqué* on the "Insurance Accounting System and its Definition" was adopted and published in the Official Gazette in 2004 effective starting 1 January 2005.[32] The GDI draws on the Regulations published by the CMB in 2004, which introduced IFRS-based accounting standards for capital market participants.

Turning to issues related with the accountancy profession we note that the accounting profession was formally defined by Law No: 3968, enacted in 1989. The three categories of accountants according to the law are as follows:

(a) Independent Accountant (IA): The IA is a practicing accountant who may keep the accounting records of companies, and develop accounting systems within the companies. They cannot conduct any audits

(b) Certified Public Accountant (CPA): Apart from the responsibilities of IAs, CPAs may conduct audits but not tax audits, and perform consulting services; and

(c) Sworn-in Certified Public Acco*untant (swor*n-in CPA): Sworn-in CPAs may conduct tax audits and certify the tax financial statements and tax returns in addition to all the services provided by CPAs except bookkeeping. They have joint responsibility with the audited company for errors and misstatements in the financial statements they have c*ertified.*

The organizational structure is supported by two distinct Chambers, the Chamber of Independent Accountants and Certified Public Accountants, and the Chamber of Sworn-In Certified Public Accountants, which together form TURMOB. TURMOB is the national umbrella for the local Chambers, and it alone is authorized to issue professional audit licenses, issue licenses to IAs and to set professional standards. TURMOB is a member of IFAC and a well-resourced professional organization. Accountancy services are a regulated activity. The law also defines the competencies that are required (education, certificates and diplomas) to become an IA, CPA and sworn-in CPA.[33]

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autonomy. It held its first meeting in March 2002. TASB has an agreement with the IASB to officially translate and publish IFRS/IAS and the related interpretations. As of mid-2007, TASB had issued 31 TAS and seven Turkish Financial Reporting Standards (TFRS). All of these issued standards correspond to the respective IAS and IFRS. Currently, TASB has no enforcement authority to require any Turkish company to prepare financial statements in accordance with TAS or TFRS (hereafter referred to as TAS).

[32] Insurance Accounting System – Communique No.1 published in the Official Gazette of 30 December 2004 (No. 25686)

[33] There are three levels of education requirements for professional licensing. The following entrance requirements relate to the three distinct TURMOB professional accounting qualifications: (i) An IA license requires candidates to successfully complete a practical trainee period under the direct supervision of a member of the profession. The period of required traineeship is six years for the graduates of vocational colleges, four years for the graduates of two-year high schools, and two years for holders of Bachelor of Arts (BA) degrees in Economics, Law and Management. Practical training must cover the requirements of Law 3568, related accounting regulations under the UCA and the Tax Procedural Law, social security law, etc.; (ii) A sworn-in CPA license requires that candidates (a) have at least a BA or post-graduate degree in Law, Economics, Business Administration, Accounting, Banking, Public Administration or Political Science; (b) pass the initial entry exam for the sworn-in CPA program; (c) have

Regarding auditing we note that audit requirements fall into two broad categories: (i) audits of regulated entities and (ii) tax and accounting audits of financial statements prepared according to the UCA and the Tax Procedural Law. When considering the auditing of regulated entities we note that the Commercial Code contains provisions with respect to "auditors" of joint stock companies who cannot be more than five in number. According to the Code limited liability companies are required to have one "auditor" if the number of shareholders is greater than 20, and their task is to oversee the affairs of the company by checking its transactions and accounts. On the other hand for publicly-held companies and other capital market institutions the CMB is authorized to determine the principles related to independent audit requirements. It requires the application of independent audit standards that are fully convergent with International Standards on Auditing (ISA) published by International Auditing and Assurance Standards Board (IAASB) of International Federation of Accountants (IFAC). Article 16 of the Capital Markets Law (CML) requires that an independent audit firm approved by the CMB should audit the financial statements of publicly-held companies. The CML sets out in Article 22 (d) that the CMB must approve all auditors of publicly-held companies. All CMB registered audit firms must be registered with TURMOB. The criteria for such approval are outlined in the Communiqué on "Principles of Auditing in Capital Markets." Among others, partners, managers and independent auditors of approved audit firms must declare that they have not worked in an audit firm whose right to conduct such audits has been revoked.

In the case of banking Articles 15, 33 and 39 of the Banking Law of 2005 requires that the financial statements submitted to the shareholders should be audited by an independent audit firm approved by the BRSA. The BRSA requires independent auditors and audit partners to declare that their license to perform external audit of companies has not been revoked by Turkish or foreign supervisory authorities and that they have not taken part in audit activities that has caused such revocation. The BRSA, in consultation with the Central Bank and TURMOB, is responsible for establishing the criteria an audit firm must meet to be authorized to audit banks. On the other hand, requirements relating to the auditing of insurance companies are established through Regulations issued by Treasury. Article 39 of the Insurance Audit Law No. 7397 states that practitioners, individuals and firms are required to be approved by the Treasury in order to audit insurance companies. The detailed requirements for approval to conduct independent audits of insurance companies are outlined in the Regulation on "Conduct of Independent Audit in Insurance and Reinsurance Companies" and in the regulation on "Principles Applicable to Independent Audit of Insurance Companies" dated September 2003.

When considering the tax and accounting audits of financial statements prepared according to the UCA and the Tax Procedural Law we note that authorization to perform tax audits is determined according to the Law on "Independent Accountants, Independent Accountants and Financial

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two years' practical experience under supervision or control of either an sworn-in CPA or a CPA in public practice or industry; practical training must cover IFRS, ISA, the requirements of Law 3568, related accounting regulations under the UCA and the Tax Procedural Law, social security law, etc ; (d) pass the professional sworn-in CPA exams; and (e) finally are certified as a sworn-in CPA by TURMOB.; (iii) The CPA license requirements are (a) 10 years of work experience as an sworn-in CPA, (b) successful completion of a further set of exams conducted by TURMOB, and (c) certification as a CPA by TURMOB.

Advisors, and Sworn-In Financial Advisors," which was enacted in 1989 as Law 3568. Tax audits are heavily relied upon by the Revenues Administration when conducted by Sworn-In Financial Advisors (YMMs). The Tax Procedural Code requires tax-based financial statements to be audited by a YMM if the company exceeds one of the two following size thresholds: a total balance sheet of YTL 3 million (approximately US$ 2.2 million), and net annual turnover of YTL 6 million (US$ 4.4 million). Upon discovery of an error or fraud in the financial statements, the YMM is required to recommend that the error or fraud be corrected. If the company refuses to correct the error or fraud, the YMM is required to inform the relevant Governmental agency(ies).

Comparison of the financial position and performance of an enterprise prepared in accordance with the UCA and Tax Procedure Law with that prepared in accordance with IFRS reveals that dissimilarities are wide-ranging.[34] Since the Tax Procedure Law has precedence over all other accounting regulations, most Turkish companies only prepare financial statements in accordance with the UCA and the Tax Procedural Law. The needs of the users of financial statements prepared by medium-sized and large entities are not being met given the limited scope of this basis of preparation. The required disclosures are limited hence further reducing the transparency of financial statements in general. Note that the UCA does not embrace "fair value" as an acceptable or required valuation basis for all assets and liabilities. In most instances, the UCA generally endorses "historical cost" as the measurement basis for assets and liabilities.

[34] IAS 1, Presentation of Financial Statements, has not been adopted and so requirements for the Statement of Changes in Equity, the Cash Flow Statements, and some accounting policies and explanatory notes are omitted. While the tax regulation has disclosure requirements, these are less comprehensive than "full IFRS."

IAS 16, Property, Plant and Equipment (PPE), requires that the depreciable amount of an asset be depreciated over its useful life. The UCA requires application of the depreciation rates outlined in the tax laws, which may not necessarily reflect the useful life of the asset.

IAS 17, Leases, distinguishes between finance and operational leases. Under the UCA, assets subject to finance leasing contracts after July 2003 are accounted in accordance with IAS 17 requirements. However, assets subject to finance leasing contracts prior to July 2003 are not reflected in the lessee's balance sheet. This means that accounting treatments across these two periods are not comparable.

IAS 19, Employee Benefits, requires that an entity recognizes a liability when an employee has provided service in exchange for employee benefits to be paid in the future. Under the UCA, an entity is not allowed to recognize a liability for such post-employment benefits. Consequently, accounting under the UCA does not provide a clear understanding of liabilities that a company will face, which could be substantial and thus significant information that would aid users of the financial statements in assessing the economic reality facing the company in the future is absent.

IAS 24, Related Party Disclosures, has not been adopted and related party activities are not adequately disclosed under the UCA.

IAS 27, Consolidated Financial Statements and Separate Financial Statements, has no equivalent under the UCA. Hence, consolidated financial statements are not presented.

IAS 29, Financial Reporting in Hyperinflationary Economies, was only partially taken into account by the UCA.

The above considerations reveal that the current legal framework on accounting and auditing mostly do not reflect internationally-accepted practices and that there are inadequate sanctions for non-compliance. The majority of Turkish companies are currently required to draw-up their accounts on the basis of the Tax Procedural Law and related implementing regulations. Similarly, most companies – other than publicly-held companies and regulated financial institutions – are only subject to a tax audit which differs in fundamental ways from a statutory audit as defined in the *acquis*.

In terms of international accounting standards, the TASB sets uniform national accounting standards that are exact translations of IFRSs as published by the IASB. It is a public legal entity with administrative and financial autonomy and an official relationship with the IASB. Publicly-held companies are required to prepare their consolidated financial statements in accordance with TAS. , As of the beginning of 2009, TASB translated and published 8 IFRSs and all the IASs and also closely follows the changes made in the IAS counterparts of these standards and incorporates them in the Turkish Accounting Standards as well as translating the new standards concurrently with IASB.

In codified law countries, of which Turkey can be classified as one, standard setting and enforcement are primarily functions of governmental institutions. In such countries, there is a lower demand for high-quality financial reporting and disclosure, as the reporting model is oriented towards tax offices and financial institutions. In common law countries, on the other hand, the enforcement of high-quality financial reporting standards is needed for shareholder protection. The accounting managers of publicly-owned companies are already familiar with IAS-based accounting standards because of the CMB requirements which parallel the common law country approach. Most of the accounting managers of family-owned businesses are not exposed to such standards and are not familiar with the content of TAS since their company is not traded on the market. However, once the draft commercial code is enacted and companies start to apply TAS, these managers will be in significantly difficult positions with respect to preparing financial statements. Family-owned companies comprise more than 85 per cent of businesses in Turkey. Thus, there is need for a new Commercial Code, which will significantly improve corporate law and will also introduce new financial reporting requirement. Currently a new draft Commercial Code is considered by Parliament. The Draft Law contains the following improvements:

Financial Reporting Requirements: Article 64 of the draft Code requires all companies other than SMEs to prepare financial statements in accordance with Turkish Accounting Standards (TAS) adopted by the Turkish Accounting Standards Board (TASB). These TAS are based on, and correspond to IFRS. The draft code groups companies as small, medium and large based on their sales, assets and number of employees. Small and medium sized companies will be able to use a simplified version of Turkish Accounting Standards that will be the same the as the accounting standards published by the IASB. Large companies, on the other hand, will use the full set of TAS.

Statutory Audit Requirements: Articles 397 and 398 of the Draft Code require all companies to have an independent audit conducted according to ISA by auditors or audit firms authorized according to the code. Medium and large joint stock companies would be required to use an

independent audit firm whereas small joint stock companies may appoint sworn-in financial advisors or independent sworn-in certified public accountants as independent auditors. Audit firms would be subject to rotation every five years and would be prohibited from providing certain services, including legal and financial consulting services to audit clients. This universal audit requirement would lead to over 700,000 companies requiring an ISA-compliant audit.

Filing and Publishing Requirements: The draft Code requires that all companies must file their annual financial statements with the Ministry of Trade and Industry (where they will be publicly available) and publish the financial statements on the company website, in the Trade Registry Gazette and in 2 newspapers with national circulation.

6. ACCOUNTANCY FRAMEWORK IN POLAND

Similarly to world trends, Polish accountancy market is dominated by big international units (the Big Four). They dominate audit services, bookkeeping services, consulting management. The share of the Big Four in Polish audit market during 2007 accounted for 19 percent (4 percentage points less than in 2006).

Accounting services are more and more often outsourced. The market for such activities is divided between three main group of companies. The first group consists of KPMG, Deloitte, Ernst & Young. PriceWaterhouseCoopers used to offer such services before, but it does not anymore. The second group is created by both Polish companies with some share of foreign capital and international statutory auditors. And finally there are small and medium sized Polish accounting offices, offering relatively cheap services for similar in size firms (Finansista (2004)).

In recent years tax and accounting laws have been changed in Poland very often. The principles of the accounting system had to be adjusted to the needs of the market economy. They were gradually adjusted to the EU law. In 1994 the Accounting Act was passed. The major principle set in the Act is a faithful and honest presentation of the image of an enterprise. It governs, after many amendments, bookkeeping in Poland till today. Together with 5 domestic standards of accounting and numerous detailed ordinances indicating specific provisions, it constitutes the entire accounting system in Poland (PWC (2008)). Major legal acts regulating this sector include:

- The Accounting Act of 29 September 1994 and later amendments (the most important in 2000 and 2004);
- The Law of 13 October 1994 on Auditors and their Self-Governing Body and later amendment of 2000;
- Law of 26 April 2001 on the rules governing the recognition of the qualifications required in EU member states for the pursuit of the regulated professions;
- Law of 12 September 2003 amending the law on the rules governing the recognition of qualifications acquired in EU Member States for the pursuit of a regulated profession and amending certain other laws;
- Act of 18 March 2008 on the rules regulating recognition of professional qualifications obtained in EU member states;

Regulatory regime in relation to accounting services is consistent with the EU law and with most International Accounting Standards. They appeared in the amended Accounting Act of 2000. A considerable part of its provisions and regulations issued on the basis thereof were directly based on suitable standards. International Financial Reporting Standards are allowed, and in some cases even required to be used as official principles of reporting. In practice, few companies in Poland actually apply the IFRS. Numerous units belonging to international concerns prepare financial information in compliance with requirements presented by dominant units. Where a company is not subject to statutory reporting requirements this is the only kind of reporting units prepare (PWC (2008)).

In the case of bookkeeping we note that companies can keep their accounts according to simplified principles based mainly on tax provisions, or in the form of full accounting, in compliance with the Accounting Act. Units obliged to do include

- commercial companies;
- natural persons, civil partnerships, registered partnerships or professional partnerships, provided that the net income from the sale of goods, products and financial operations for the previous accounting year amounted to a equivalent of at least EUR 800,000;
- organizational units operating on the basis of the Banking Law, provisions on trading in securities, provisions on investment funds, provisions on insurance activity or provisions concerning the organization and functioning of pension funds, irrespective of their level of income;
- foreign legal persons, foreign unincorporated units or foreign natural persons conducting business activity on the territory of the Republic of Poland personally or through an authorized person or through employees, irrespective of the level of income.

Account books have to be kept in the Polish language, in the Polish currency and they are to be conducted in the registered office of the unit, or, under several conditions, outside such an office, but still on the territory of Poland. While making entries in the books, each unit can specify any set of accounts (no uniform system is established). The head of the unit (or, in case of multi-person authority – all members of it) is responsible for the performance of obligations resulting from the Act. Fines and the punishment of imprisonment is stipulated in case of violating the provisions of the Accounting Act (PWC (2008)).

On the other hand the audit services are regulated mainly by the Law on Auditors and their Self-Governing Body. It has provided for procedures for establishment of the National Chamber of Statutory Auditors and its bodies; qualification proceedings and auditor certification; rules of auditor profession; auditor continuing education policies; auditor supervision policy; auditor disciplinary and criminal liability. On the 12th June 2008 the project of amended Law was submitted. It will reduce the competencies of the National Chamber of Statutory Auditors over the auditors to the advantage of the public supervision body (Commission of Audit Supervision). On the 24th of June 2008 the consultations were started on the project of the Law transposing the Directive 2006/43/WE on statutory audit into Polish legal system.

The audit of financial statements has to be conducted in compliance with the norms of a statutory auditor issued by the National Chamber of Statutory Auditors. The norms have been issued as a result of obligations imposed on the Chamber by The Law on Auditors and their Self-Governing

Body. In many cases, apart from the Norms, the audit has to be conducted in compliance with the International Accounting Standards (IAS) as well.

Financial statements can be audited by the self employed statutory auditors; civil partnerships, general partnerships, partnerships or limited partnerships with statutory auditors as sole shareholders; and legal persons that meet all of the following: (i) employ statutory auditors for audit of financial statements, (ii) most of the Management Board members are represented by statutory auditors, and if the Management Board consists of not more than 2 people, one of them must be a statutory auditor, (iii) most members of the supervisory body are statutory auditors, and if there is no such body – the majority of votes must be held by partners or shareholders, who are also statutory auditors, and (iv) opinions and audit (review) reports on financial statements is signed on behalf of the entity authorized to audit financial statements by those members of the management board, who are also statutory auditors (Rzepnikowska (2006)).

The Chamber keeps lists of statutory auditors authorized to sign opinions and reports from audits as well as subjects authorized to conduct these audits. The opinion from the audit is a standard document containing paragraphs which are required to be present in each and every opinion. This is determined by the above mentioned norms and allows for the comparability of issued opinions. Such an opinion together with the audited financial statement are submitted to the appropriate court register by the head of the unit and is then published. The financial statement is drawn up as at the day of closing the books, in the Polish language and in the Polish currency (PWC (2008)).

7. BARRIERS TO TRADE IN ACCOUNTANCY SERVICES IN TURKEY AND POLAND

To estimate the extend of barriers to accountancy services in Poland and Turkey we calculate restrictiveness index values following the approach developed by Nguyen-Hong (2000). The index measurement attempts to identify and classify restrictions according to (i) the ways they affect foreign and domestic accounting service providers, and (ii) whether they apply to establishment or to ongoing operations.

Barriers to trade in accounting services affect foreign and domestic service providers in general differently. Nguyen-Hong (2000) calculates a foreign and then a domestic index separately. While the foreign index captures all relevant restrictions applying to foreign service providers, including those that discriminate against foreigners, the domestic index covers the restrictions that are relevant to domestic service providers, including those that affect only domestic providers. Thus, the difference between the foreign and domestic index score is a measure of discrimination against foreigners. On the other hand, restrictions on accounting services can be further classified into two main groups (i) barriers to establishment (restrictions that prevent service providers from establishing or setting up a physical presence in the market), and (ii) barriers to ongoing operations, which represent restrictions on provision of services once the capital is established. While examples of barriers to establishment are restrictions on foreign partnership and foreign direct investment, barriers to ongoing operations cover regulations that restrict price competition and multidisciplinary practices.

Table 4 shows for accountancy services the restriction categories, weights for them, and scoring for each category. In the table the restriction categories are classified into 'barriers to establishment' and 'barriers to ongoing operations'. 'Barriers to establishment' include 'form of establishment', 'foreign partnership or joint venture', 'investment and ownership by foreign professionals', 'investment and ownership by non-professional investors', 'nationality or citizenship requirement', 'residency and local presence', 'quotas or economic needs tests on the number of foreign professionals and firms', 'licensing and accreditation of local professionals', and 'permanent movement of people'. On the other hand 'barriers to ongoing operations' include 'activities reserved by law to the profession', 'multi-disciplinary practices', 'advertising, marketing and solicitation', 'fee setting', 'licensing requirements on management', 'other restrictions', and 'temporary movement of people'. The weights of each of these categories is shown in column one. They 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. The values to be assigned to various restrictions are indicated in front of each restriction category. Once the values for a particular country are assigned to various restrictions two restrictiveness indexes are calculated by multiplying the assigned value with the category weight and then adding up all these products.

{Insert Table 4}

Table 5 shows the restrictiveness index value for trade in accounting services in Poland and Turkey.[35] Table 6 shows the restrictiveness index values for trade in accounting services in a number of countries. The table reveals that the most liberal markets for accountancy services are Finland and the Netherlands. These economies maintain few restrictive measures affecting foreign providers of professional services. The most restricted markets for accountancy services are in Turkey and Austria. These economies impose a number of barriers, notably comprehensive nationality and residency requirements, and barriers on form of establishment and foreign direct investment.

{Insert Table 5 and Table 6}

On the other hand Conway and Nicoletti (2006) have carried out a study on the differences in regulations in accounting sector among the OECD countries. They have measured cross-country differences, changes in the regulation and effects of regulations on competition where competition is possible. The sole objective of the indicators is to quantify the degree to which regulatory settings in a given sector are anti-competitive. The indicators cover information in

[35] In the case of Poland the analysis was carried out with the support of the Department of Accountancy, Ministry of Poland. In addition during the study the report of Copenhagen Economics of 2005 and Polish Schedule of specific commitments in WTO were also consulted. Some necessary approximations in few cases were made, especially because the accountancy sector cover different kinds of activities with different regulations concerning the access to the market and ongoing operations. For examples, the rules concerning auditors are much more restrictive in many instances than bookkeepers. The aggregated index does not show such differences.

four main areas: state control, barriers to entry, involvement in business operations and, in some cases, market structure. These indicators measure explicit policy settings and formal government regulations. The basic information on these issues was coded into quantitative scores first (the larger the scores – the higher restrictions to competition occur), then the scores were aggregated into indices that cover specific areas of regulation (low-level indicators) and finally the low-level indicators were aggregated into an overall indicator of regulation for the sector.

Low-level indicators for the professional services (accounting service included) cover the following items:

- entry regulations - mainly barriers to becoming a member the profession; these may take the form of licensing and educational requirements, quantitative constraints on the number of suppliers and/or exclusive rights granted to suppliers.
- conduct regulations - restrictions on prices and fees, advertising, form of business and inter-professional cooperation. The indicator covers restrictions that are imposed either by law or by self-regulatory arrangements of the professions.

The indicators of regulation suggest that, on average across the OECD, accountancy is the second most regulated of the professional services. Only minor progress has been made in liberalizing the accountancy profession between 1996 and 2003 as shown in Figure 1. Relatively liberal countries are Switzerland, Denmark, New Zealand, Ireland, Austria, United States, Australia, Mexico, Norway (indices below 2), while the most restrictive countries in 2003 were Turkey, Italy, Czech Republic, Canada, France (indices not lower than 3). Entry restrictions are quite even between countries, while larger differences occur in conduct regulation. Main entry regulations in most OECD countries relate to licensing requirements followed by education requirements. As far as conduct regulations are concerned they are especially restrictive in advertising as shown in Table 7.

{Insert Figure 1 and Table 7}

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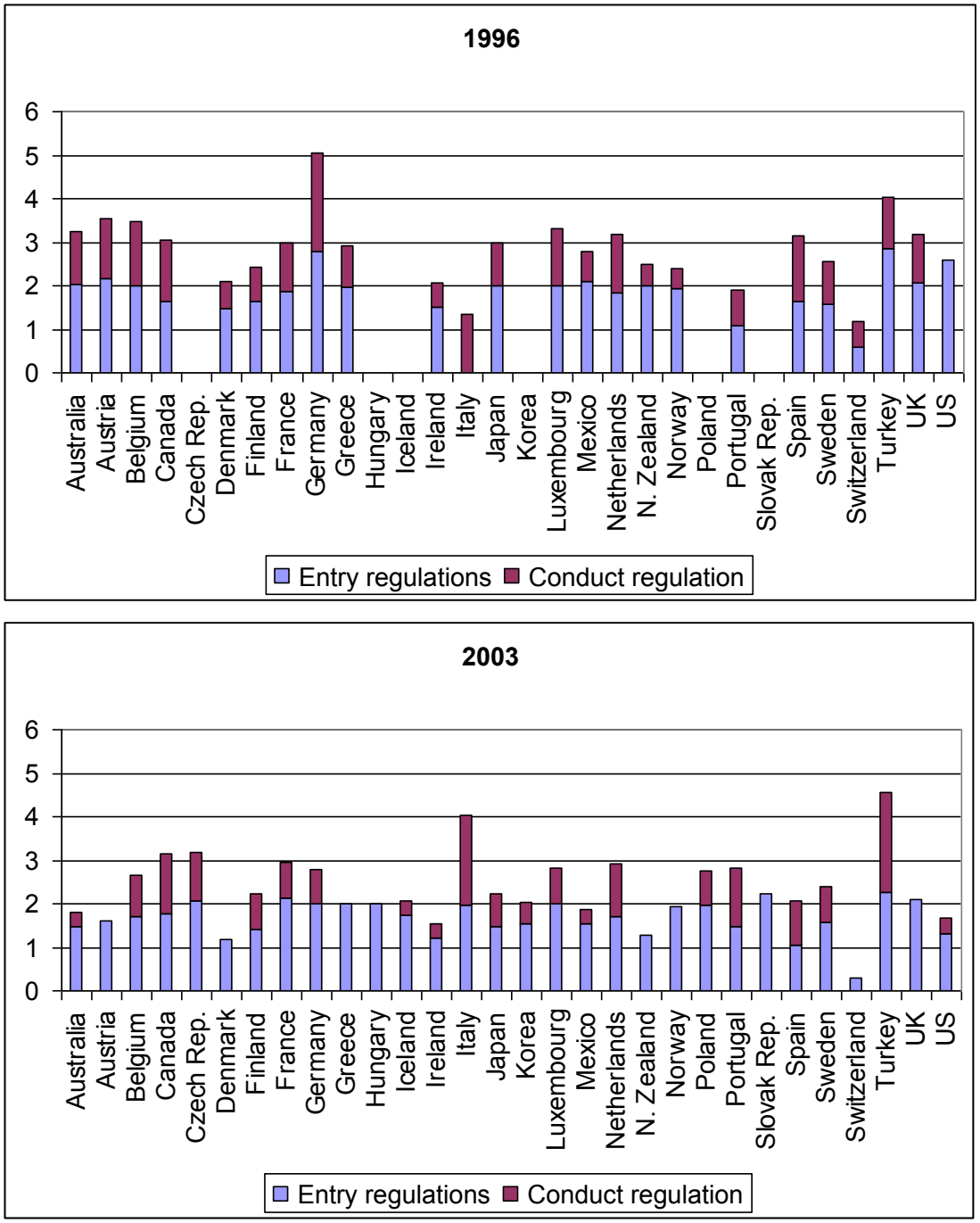
Figure 1: Regulation in accounting services
(scale is 0-6 from least to most restrictive of competition)



Source: Conway and Nicoletti (2006).

TABLE 1: Estimated Revenue for Taxable Employer Accounting Firms in the US ($ million)

	1998	1999	2000	2001	2002	2003	2004
Accounting Services	65,914	71,693	79,361	82,845	84,072	87,791	92,884
Offices of certified public accountants	39,558	42,145	45,773	49,635	48,498	47,835	50,679
Tax preparation services	2,722	3,074	3,347	3,765	4,129	4,468	4,944
Payroll services	16,467	18,829	21,394	20,149	21,418	24,366	25,359
Other accounting services	7,167	7,646	8,847	9,296	10,028	11,122	11,902
			Percentage Distribution				
Offices of certified public accountants	60.01	58.79	57.68	59.91	57.69	54.49	54.56
Tax preparation services	4.13	4.29	4.22	4.54	4.91	5.09	5.32
Payroll services	24.98	26.26	26.96	24.32	25.48	27.75	27.30
Other accounting services	10.87	10.66	11.15	11.22	11.93	12.67	12.81

Source: Survice Annual Survey, Current Business Reports, US Census Bureau

TABLE 2: Domestic Revenues of the Largest U.S. Accounting Firms, 2008

	Top 6 firms		Firms over $100 mn		Firms under $100 mn		Total Top 100
	Revenue ($ million)	Percent of Revenue	Revenue ($ billion)	Percent of Revenue	Revenue ($ billion)	Percent of Revenue	Revenue ($ billion)
Audit & Attest	17,819	54.50	2,192	47.33	1,533	43.47	21,545
Tax	8,345	25.52	1,288	27.80	1,139	32.28	10,771
Management Consulting	4,920	15.05	989	21.34	556	15.77	6,465
Other	1,612	4.93	162	3.51	299	8.48	2,073
Total Revenues	32,696	100.00	4,631	100.00	3,527	100.00	40,854

Some figures may not correspond exactly due to rounding.
Source: The Top 100 Firms: A Glowing Review, "Accounting Today", 2008.

TABLE 3: Commitments in "Accounting, Auditing and Bookkeeping Services" by WTO Members as of November 1998 (in percentage)

	Market Access	National Treatment
	Cross border	
Full commitment	29	34
Partial commitment	41	36
No commitment	30	30
	Consumption abroad	
Full commitment	41	50
Partial commitment	45	36
No commitment	14	14
	Commercial presence	
Full commitment	9	32
Partial commitment	89	64
No commitment	2	4
	Natural persons	
Full commitment	2	4
Partial commitment	86	80
No commitment	13	16

Source: WTO (1998).

TABLE 4: Restrictiveness Index for Accounting, Auditing and Bookkeeping Services

Restriction category	Relevant to foreign index	Weight of foreign index	Relevant to domestic index	Weight of domestic index
BARRIERS TO ESTABLISHMENT				
Form of establishment	Yes	0.08	Yes	0.08
1.00 Prohibition on incorporation				
0.50 Some form of incorporation permitted				
0.00 No restrictions				
Foreign partnership or joint venture	Yes	0.08	No	na
1.00 Prohibition on partnership with foreign professionals				
0.50 Partnership or joint venture with local professionals required				
0.00 No restrictions				
Investment and ownership by foreign professionals	Yes	0.05	No	na
Firms must be owned or controlled by local professionals. The score is inversely proportional to the maximum foreign equity participation permitted in a professional firm. For example, equity participation to a maximum of 75 per cent in an existing firm receives a score of 0.25				
Investment and ownership by non-professional investors	Yes	0.05	Yes	0.05
Firms must be owned or controlled by professionals. The score is proportional to the non-professional equity participation permitted in a professional firm. For example, equity participation to a maximum of 75 per cent in an existing firm receives a score of 0.25				
Nationality or citizenship requirements	Yes	0.135	No	na
1.00 Nationality required to qualify or to practice				
0.25 Nationality required for use of professional title, but practice is relatively free				
0.00 No restrictions				
Residency and local presence	Yes	0.135	No	na
1.00 Permanent or prior residency (more than 12 months)				
0.75 Less than 12 months prior residency				
0.50 Prior residency required for local training				
0.25 Domicile or representative office only				
0.00 No restrictions				
Quotas or economic needs tests on the number of foreign professionals and firms	Yes	0.1	No	na
1.00 Quotas or economic needs tests				
0.50 Some restrictions apply				
0.00 No restrictions				
Licensing and accreditation of foreign professionals	Yes	0.1	No	na
1.00 Local retraining required for a full licence				
0.75 Local examination required in all cases				
0.50 Case-by-case assessment of foreign licence and qualifications				
0.25 Aptitude tests				
0.00 Foreign licence and qualifications sufficient to practice				
Licensing and accreditation of local Professional	No	na	Yes	0.05
0.25 Compulsory membership of professional association				
0.25 Professional examination				
0.25 Practical experience				
0.25 Higher education				
Permanent movement of people	Yes	0.02	No	na
1.00 No entry of executives, senior managers or specialists				
0.80 Entry of up to 1 year				
0.60 Entry of up to 2 years				
0.40 Entry of up to 3 years				
0.20 Entry of up to 4 years				
0.00 Entry of up to 5 years or more				
BARRIERS TO ONGOING OPERATIONS				
Activities reserved by law to the profession	Yes	0.05	Yes	0.05
1.00 4 core activities and over				
0.75 3 core activities				
0.50 2 core activities				
0.25 1 core activity				
0.00 None				
Multi-disciplinary practices	Yes	0.05	Yes	0.05
1.00 Prohibition on partnership or association with other professions				
0.50 Majority partnership required				
0.00 No restrictions				
Advertising, marketing and solicitation	Yes	0.05	Yes	0.05
1.00 Prohibition of advertising, marketing and solicitation				
0.50 Restrictions apply to some groups or activities				
0.00 General legal requirements				
Fee setting	Yes	0.05	Yes	0.05
1.00 Minimum and maximum fees for all groups in the profession				
0.50 Restrictions apply to some groups or activities				
0.00 Setting fee freely				
Licensing requirements on management	Yes	0.02	No	na
1.00 At least a majority of managers must be nationals or residents				
0.50 Directors and managers must be locally licensed				
0.25 Directors and managers must be domiciled				
0.00 No restrictions				
Other restrictionsa	Yes	0.02	No	na
0.33 Restrictions on hiring local professionals				
0.33 Restrictions on the use of firm's international names				
0.33 Government procurement — restrictions towards foreign suppliers				
0.00 No restrictions				
Temporary movement of people	Yes	0.01	No	na
1.00 No temporary entry				
0.75 Temporary entry of up to 30 days				
0.50 Temporary entry of up to 60 days				
0.25 Temporary entry of up to 90 days				
0.00 Temporary entry over 90 days				
Total		1.00		0.38

TABLE 5: Restrictiveness Index for Accounting, Auditing and Bookkeeping Services in Poland and Turkey

Restriction category	Poland Foreign Index	Poland Domestic Index	Turkey Foreign Index	Turkey Domestic Index
BARRIERS TO ESTABLISHMENT				
Form of establishment	-			
1.00 Prohibition on incorporation	0.5	0.5		
0.50 Some form of incorporation permitted	-		0.5	0.5
0.00 No restrictions				
Foreign partnership or joint venture	-	Non relevant		Non relevant
1.00 Prohibition on partnership with foreign professionals	-			
0.50 Partnership or joint venture with local professionals required	0		0	0
0.00 No restrictions				
Investment and ownership by foreign professionals	0	Non relevant	0.51	Non relevant
Firms must be owned or controlled by local professionals. The score is inversely proportional to the maximum foreign equity participation permitted in a professional firm. For example, equity participation to a maximum of 75 per cent in an existing firm receives a score of 0.25				
Investment and ownership by non-professional investors	0.25	0.25	0.49	0.49
Firms must be owned or controlled by professionals. The score is proportional to the non-professional equity participation permitted in a professional firm. For example, equity participation to a maximum of 75 per cent in an existing firm receives a score of 0.25				
Nationality or citizenship requirements	-	Non relevant		Non relevant
1.00 Nationality required to qualify or to practice				
0.25 Nationality required for use of professional title, but practice is relatively free	0			
0.00 No restrictions			0	
Residency and local presence	-	Non relevant		Non relevant
1.00 Permanent or prior residency (more than 12 months)	-		1	
0.75 Less than 12 months prior residency	-			
0.50 Prior residency required for local training				
0.25 Domicile or representative office only	0			
0.00 No restrictions				
Quotas or economic needs tests on the number of foreign professionals and firms	-	Non relevant		Non relevant
1.00 Quotas or economic needs tests	-			
0.50 Some restrictions apply	0			
0.00 No restrictions			0	
Licensing and accreditation of foreign professionals	-	Non relevant		Non relevant
1.00 Local retraining required for a full licence	-			
0.75 Local examination required in all cases	0.5			
0.50 Case-by-case assessment of foreign licence and qualifications	-		0.5	
0.25 Aptitude tests	-			
0.00 Foreign licence and qualifications sufficient to practice				
Licensing and accreditation of local Professional (a)	Non relevant		Non relevant	
0.25 Compulsory membership of professional association		0.25		0.25
0.25 Professional examination		0.25		0.25
0.25 Practical experience		0.25		0.25
0.25 Higher education		0.25		0.25
Permanent movement of people	-	Non relevant		Non relevant
1.00 No entry of executives, senior managers or specialists				
0.80 Entry of up to 1 year	0.8		0.8	
0.60 Entry of up to 2 years	-			
0.40 Entry of up to 3 years	-			
0.20 Entry of up to 4 years	-			
0.00 Entry of up to 5 years or more				

TABLE 5: Restrictiveness Index for Accounting, Auditing and Bookkeeping Services in Poland and Turkey

Restriction category	Poland Foreign Index	Poland Domestic Index	Turkey Foreign Index	Turkey Domestic Index
BARRIERS TO ONGOING OPERATIONS				
Activities reserved by law to the profession				
1.00 4 core activities and over				
0.75 3 core activities			0.75	0.0375
0.50 2 core activities	0.25	0.25		
0.25 1 core activity				
0.00 None				
Multi-disciplinary practices				
1.00 Prohibition on partnership or association with other professions	0.5	0.5	1	0.05
0.50 Majority partnership required				
0.00 No restrictions				
Advertising, marketing and solicitation	-	-		
1.00 Prohibition of advertising, marketing and solicitation	0.5	0.5	1	0.05
0.50 Restrictions apply to some groups or activities				
0.00 General legal requirements				
Fee setting	-	-		
1.00 Minimum and maximum fees for all groups in the profession	-	-		
0.50 Restrictions apply to some groups or activities	0	0	0.5	0.025
0.00 Setting fee freely				
Licensing requirements on management	-	Non relevant		Non relevant
1.00 At least a majority of managers must be nationals or residents	-		1	
0.50 Directors and managers must be locally licensed	-		0.5	
0.25 Directors and managers must be domiciled	0		0.25	
0.00 No restrictions				
Other restrictionsa		Non relevant		Non relevant
0.33 Restrictions on hiring local professionals	-		0.33	
0.33 Restrictions on the use of firm's international names	-			
0.33 Government procurement — restrictions towards foreign suppliers	0			
0.00 No restrictions				
Temporary movement of people	-	Non relevant		Non relevant
1.00 No temporary entry	-			
0.75 Temporary entry of up to 30 days	-			
0.50 Temporary entry of up to 60 days	0.25		0.25	
0.25 Temporary entry of up to 90 days	-			
0.00 Temporary entry over 90 days				
Restrictions on establishment	0.1185	0.09	0.291	0.1145
Restrictions on ongoing operations	0.065	0.04	0.2066	0.1625
Total	0.1835	0.13	0.4976	0.277

Table 6: Restrictiveness Indexes

	Domestic			Foreign			Total
	Establishment	Ongoing Operations	Total	Establishment	Ongoing Operations	Total	
Austria	0.12	0.15	0.27	0.39	0.18	0.57	0.84
Belgium	0.09	0.10	0.19	0.12	0.10	0.22	0.41
Denmark	0.13	0.08	0.20	0.31	0.10	0.41	0.61
Finland	0.07	0.03	0.10	0.10	0.04	0.14	0.24
France	0.12	0.13	0.24	0.17	0.14	0.31	0.55
Germany	0.12	0.10	0.22	0.27	0.12	0.39	0.61
Greece	0.10	0.08	0.18	0.24	0.08	0.32	0.50
Italy	0.12	0.01	0.13	0.41	0.02	0.43	0.56
Netherlands	0.12	0.08	0.19	0.13	0.09	0.22	0.41
Portugal	0.13	0.13	0.26	0.28	0.13	0.41	0.67
Spain	0.10	0.10	0.20	0.20	0.11	0.31	0.51
Sweden	0.13	0.05	0.18	0.36	0.08	0.44	0.62
United Kingdom	0.08	0.10	0.18	0.09	0.11	0.19	0.37

Note: Scale is 0-1 from least to most restrictive
Source: Nguyen-Hong (2000)

Table 7: Entry and Conduct Regulation Indicators in Accounting Services, 2003

	Entry Regulations			Conduct Regulations			
	Licensing	Education Requirements	Quotas & economic needs tests	Regulations on the form of business and inter-professional cooperation	Regulations on advertising	Regulations on prices and fees	Overall indicator
Australia	4,5	2,8	0,0	0,0	3,0	0,0	1,8
Austria	4,5	3,6	0,0	0,0	0,0	0,0	1,6
Belgium	4,5	4,0	0,0	3,3	3,0	0,0	2,7
Canada	4,5	4,3	0,0	5,5	3,0	0,0	3,2
Czech Rep.	6,0	4,3	0,0	2,3	6,0	0,0	3,2
Denmark	1,5	4,3	0,0	0,0	0,0	0,0	1,2
Finland	3,0	4,0	0,0	2,5	3,0	0,0	2,2
France	6,0	4,7	0,0	2,5	3,0	0,0	3,0
Germany	6,0	4,0	0,0	2,3	3,0	0,0	2,8
Greece	6,0	4,0	0,0	0,0	0,0	0,0	2,0
Hungary	6,0	4,0	0,0	0,0	0,0	0,0	2,0
Iceland	6,0	2,7	0,0	0,0	3,0	0,0	2,1
Ireland	1,5	4,6	0,0	0,0	3,0	0,0	1,6
Italy	6,0	3,8	0,0	3,0	3,0	6,0	4,0
Japan	6,0	1,3	0,0	4,0	0,0	0,0	2,2
Korea	6,0	1,8	0,0	2,5	0,0	0,0	2,0
Luxembourg	6,0	4,0	0,0	2,5	3,0	0,0	2,8
Mexico	6,0	1,7	0,0	0,0	3,0	0,0	1,9
Netherlands	4,5	4,0	0,0	2,5	3,0	2,0	2,9
New Zealand	3,0	3,4	0,0	0,0	0,0	0,0	1,3
Norway	6,0	3,7	0,0	0,0	0,0	0,0	1,9
Poland	6,0	3,9	0,0	2,3	3,0	0,0	2,8
Portugal	3,0	4,3	0,0	..	..	..	2,8
Slovak	6,0	5,2	0,0	0,0	0,0	0,0	2,2
Spain	1,5	3,7	0,0	2,5	3,0	1,0	2,1
Sweden	3,0	4,9	0,0	2,5	3,0	0,0	2,4
Switzerland	1,5	0,0	0,0	0,0	0,0	0,0	0,3

Note: Scale is 0-6 from least to most restrictive of competition
Source: Conway and Nicoletti (2006)

APPENDIX I: INTERNATIONAL FINANCIAL REPORTING STANDARDS AND INTERNATIONAL ACCOUNTING STANDARDS

- Preface to International Financial Reporting Standards
- IFRS 1 First-time Adoption of International Financial Reporting Standards
- IFRS 2 Share-based Payment
- IFRS 3 Business Combinations
- IFRS 4 Insurance Contracts
- IFRS 5 Non-current Assets Held for Sale and Discontinued Operations
- IFRS 6 Exploration for and Evaluation of Mineral Assets
- IFRS 7 Financial Instruments: Disclosures
- IFRS 8 Operating Segments

- IAS 1Presentation of Financial Statements
- IAS 2 Inventories
- IAS 3 Consolidated Financial Statements (Originally issued 1976, effective 1 Jan 1977. Superseded in 1989 by IAS 27 and IAS 28)
- IAS 4 Depreciation Accounting (Withdrawn in 1999, replaced by IAS 16, 22, and 38, all of which were issued or revised in 1998)
- IAS 5 Information to Be Disclosed in Financial Statements (Originally issued October 1976, effective 1 January 1997. Superseded by IAS 1 in 1997)
- IAS 6 Accounting Responses to Changing Prices (Superseded by IAS 15, which was withdrawn December 2003)
- IAS 7 Statement of Cash Flows
- IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors
- IAS 9 Accounting for Research and Development Activities (Superseded by IAS 38 effective 1.7.99)
- IAS 10 Events After the Reporting Period
- IAS 11 Construction Contracts
- IAS 12 Income Taxes
- IAS 13 Presentation of Current Assets and Current Liabilities (Superseded by IAS 1)
- IAS 14 Segment Reporting
- IAS 15 Information Reflecting the Effects of Changing Prices (Withdrawn December 2003)
- IAS 16 Property, Plant and Equipment
- IAS 17 Leases
- IAS 18 Revenue
- IAS 19 Employee Benefits
- IAS 20 Accounting for Government Grants and Disclosure of Government Assistance
- IAS 21 The Effects of Changes in Foreign Exchange Rates
- IAS 22 Business Combinations (Superseded by IFRS 3 effective 31 March 2004)
- IAS 23 Borrowing Costs

- IAS 24 Related Party Disclosures
- IAS 25 Accounting for Investments (Superseded by IAS 39 and IAS 40 effective 2001)
- IAS 26 Accounting and Reporting by Retirement Benefit Plans
- IAS 27 Consolidated and Separate Financial Statements
- IAS 28 Investments in Associates
- IAS 29 Financial Reporting in Hyperinflationary Economies
- IAS 30 Disclosures in the Financial Statements of Banks and Similar Financial Institutions (Superseded by IFRS 7 effective 2007)
- IAS 31 Interests in Joint Ventures
- IAS 32 Financial Instruments: Presentation (Disclosure provisions superseded by IFRS 7 effective 2007)
- IAS 33 Earnings Per Share
- IAS 34 Interim Financial Reporting
- IAS 35 Discontinuing Operations (Superseded by IFRS 5 effective 2005)
- IAS 36 Impairment of Assets
- IAS 37 Provisions, Contingent Liabilities and Contingent Assets
- IAS 38 Intangible Assets
- IAS 39 Financial Instruments: Recognition and Measurement
- IAS 40 Investment Property
- IAS 41 Agriculture

Chapter 2

Liberalization of Health Services

Sübidey Togan, Katarzyna Kowalska and Jan Michalek[1]

Health services have long been considered not to be tradable across borders or, more generally, over distances. As a result, international trade in health services is relatively new. However, with the diminishment of barriers to trade in health services and the advent of new communication technologies, including the Internet, governments have begun to reconsider their role in the provision of health services. This has presented new opportunities for private participation, both domestic and foreign.

1. TRADE AND IMPEDIMENTS TO TRADE IN HEALTH SERVICES

Trade in health services occurs via the four modes of supply distinguished by the World Trade Organization's (WTO) General Agreement on Trade in Services (GATS): cross border delivery, consumption abroad, commercial presence and movement of health personnel. The following examples for each mode can be given in the case of health services:

- Mode 1: Cross-border delivery — e-health, telehealth, telematic, telemedicine, drugs online, telelinked diagnosis, patient monitoring, remote surgery assistance
- Mode 2: Consumption abroad — patients travelling abroad for hospital treatment
- Mode 3: Commercial presence — foreign investment in health facilities such as hospitals or clinics
- Mode 4: Movement of natural persons — doctors and nurses from one country move temporarily to another country to deliver health services.

The first mode (cross border delivery) includes shipment of lab samples, diagnosis, clinical consultations done via traditional mail channels, electronic delivery of health (telehealth and telemedicine) services, which makes use of interactive audiovisual and data communications to provide services such as diagnosis, second opinions, lab testing, surveillance, consultations, transmission of and access to specialized data, records, and information, and continuing education and upgrading of skills. On the other hand, the second mode of health services (consumption abroad) trade refers to the movement of consumers to the country providing the service for diagnosis and treatment, and also to movement of health professionals and students for receiving medical and paramedical education and training abroad. The third mode of trade in health services (commercial presence) involves the establishment of hospitals, clinics, diagnostic and treatment centers, and nursing homes. Some countries are entering into contract-based management and administration of foreign owned or joint venture hospitals, and there are also opportunities for firms with experience in accreditation, legislation, and medical standards. Another emerging area for commercial presence is in medical and paramedical education with

[1] With important contribution of Katarzyna Smiala

many well-known medical schools of international repute, establishing joint ventures with local medical schools. Finally, health services are traded through the movement of health personnel including doctors, specialists, nurses, paramedics, midwives, technicians, consultants, trainers, health management personnel, and other skilled and trained professionals.

As noted by Maurer et al. (2008) trade in services represents a major challenge to trade statisticians, since data on trade in services is limited and of relatively poor quality. In the past data on services trade been reported as balance-of-payments (BOP) statistics in the three categories: transportation, travel and other commercial services. In addition to the low level of aggregation, BOP statistics on trade in services largely excludes FDI-related (Mode 3) trade. As a response, the 'Manual on Statistics of International Trade in Services' (MSITS) (United Nations et al. (2002)) was produced to improve data, which sets out guidelines on how to use and develop sources to measure trade in services. It has two 'building blocks' – BOP statistics and Foreign Affiliate Trade in Services (FATS) statistics. In relation to BOP statistics, it introduces a more detailed classification of trade in services (the Extended Balance of Payments Services Classification – EBOPS). FATS was introduced to capture Mode 3 trade and is a novel approach within trade statistics. Both of the 'building blocks' are in their infancy and lack of data reliability remains almost a general rule (WTO 2006). While FATS and EBOPS should be enough to obtain the information needed to get a picture about mode 1-3 service trade, additional data is needed for mode 4. For this purpose the UN Manual suggests to look at the "Compensation of employees" in the Balance of Payments Manual (Revision of the Fifth Edition) supplement, the FATS supplement information on foreign employment in foreign affiliates as a subcategory and additionally to migration and labor market statistics. Thus for mode 1 balance of payments statistics using EBOPS code no. 896 "Health Services" could be used. Similarly for mode 2 the balance of payments statistics under EBOPS code no. 241 "Health Related Expenditure in Travel" would yield the appropriate information. Finally for mode 3 one has to look at the FATS statistics. But unfortunately these data are on the whole not available for a large number of countries.[2]

In 2007, global cross-border trade in services stood at USD 3.3 trillion. Recently the United Nations has launched the database UN Service Trade collected in accordance with the MSITS.[3] These data are limited to EBOPS data and they do not include the FATS data. For the seven-year period 2000-2006, Mortensen (2008) notes that 13 countries have reported data on 'health services' while 25 countries reported on 'health-related expenditure in travel'. On average, in 2005, 'health services' made-up 0.13 percent of the 13 reporting countries' total exports of services. Using the 13 reporters as a proxy for the world, total global trade in that category can be roughly estimated at USD 4.29 billion. On the other hand 'health-related expenditure in travel' on average made-up 0.53 percent of the 25 reporting countries' total exports of services. Using the 25 reporters as a proxy for the world, total global trade in that category can be roughly estimated at USD 17.5 billion. But as noted by Waeger (2008) data for mode 3 are still lagging. Hence, it is not possible to ascertain the amount of trade in Italy under mode 3. Similar considerations apply for data on trade under mode 4.

[2] As noted by Waeger (2008) FATS statistics are basically at their infancy stage and some countries have not started collecting data yet. On the other hand not all countries have accepted the EBOPS classification, and only a few data are available so far for selected number of OECD countries.

[3] The relevant trade data can be accessed at http://unstats.un.org/unsd/servicetrade/default.aspx.

The above considerations reveal that uncertainty prevails regarding the amount of trade in health services. But because of many impediments to trade in health services they will be relatively low. The main barriers to trade in health services can be divided into four broad categories. These are the (i) regulatory, infrastructural, and capacity related domestic constraints, (ii) restrictions on FDI in health and related sectors, (iii) restrictions on entry and practice by foreign health providers, and (iv) health insurance.

With the growth of information and communications technologies, the cross-border supply of health services such as diagnostic or advisory services has been made increasingly feasible and convenient. In addition it is possible to provide e-education in health, health information such as databases of medical literature, and health information websites for physicians. But health insurance systems in general refuse to reimburse telemedical services provided by physicians located abroad. Hence electronic delivery of these services is at present limited by the absence of regulatory frameworks to deal with malpractice liability, confidentiality and privacy of information, recognition, lack of insurance coverage, and cross-border payment arrangements. In addition, limits on foreign participation in educational and training institutions in the health sector also constrain trade in health services by limiting the scope for cross-border movement of health trainers, educators, and students.

Countries control the border crossing of natural persons. Although there are restrictions for entry or exit, visa or custom rules, they are not specifically designed to regulate health consumption abroad. Hence impediments to mode 2 trade in health services are in general subject to the same rules as the exchange of tourist services, and they are very lax because tourism is often an important economic factor of the economy. But rules regarding public health insurance portability may cause barriers to trade. The problem is whether patients will get reimbursement from their health insurer for services received abroad.

The provision of health services through a commercial presence is subject to diverse restrictions on FDI. Blouin (2006) notes the following restrictions on investment:

- Full foreign ownership not permitted, joint venture with local partner mandatory
- Foreign ownership approval based on policy guidelines and overall national interest considerations
- Foreign investment approval based on economic needs test or ‘net national benefit’ criteria
- Foreign investment approval subject to agreeing to specific performance requirements, e.g. use of local goods, services, or personnel, and transfer of technology
- Only acquisition of existing companies permitted, with foreign equity limites to minority stake
- Reservation of some sectors or activities, for investment only by nationals
- Restrictions on acquisition of land
- Restrictions on composition of board of directors
- Requirements to grant more favorable treatment to economically disadvantages groups or regions.

Mode 3 is further constrained by restrictions on movement of health care practitioners and managers required for commercial presence.

When looking for barriers to the exchange of health services through the temporary movement of health practitioners abroad, we note that cross-border mobility of health personnel is restricted by border measures as well as domestic regulations which are used to regulate entry as well as the terms and conditions of stay and operation by foreign health service providers in the host country. Such constraints limit the scope for trade via mode 4 and also indirectly via mode 3 to the extent that movement of health personnel is required for staffing and management of foreign commercial establishments in this sector. While border measures consist mainly of immigration regulations, which include quantitative limits on entry and various eligibility conditions for entry, domestic regulatory measures include economic and local market needs tests and manpower planning tests which are used to determine the need for foreign health service providers and the quantity to be allowed into the host country. Domestic regulations concerning accreditation and licensing requirements for foreign health service providers constitute another major constraint to health services trade. In the absence of mutual recognition agreements between the home and host countries, foreign health professionals are often subject to highly stringent and discretionary standards. In addition professional associations in the host country, while important for ensuring adherence to minimum standards in the profession, may often be protectionist in their intentions, seeking to protect their income by deterring entry and limiting competition from foreign health professionals. They often reduce price competition by preventing foreign health service providers from advertising their prices, discounts, and the services offered.

Finally, we note that national health insurance systems form considerable obstacles to trade. Most insurers in countries with expensive health care deny coverage for non-emergency treatment abroad. For example German public insurances only pay for non-emergency surgeries abroad for which there is no qualified specialist available within the country, and Medicare and Medicaid, the two public health insurance systems in the USA, do not cover treatments abroad in general. Beside the intention to control the misuse of health insurance through wasteful spending several other reasons are mentioned for justifying these restrictive policies. Most frequently apprehensions about quality as well as universal and non-discriminatory access to health care are expressed. Also concerns regarding malpractice of law, liability law, costs of monitoring health care consumption abroad or legal binding in the home country are mentioned.

2. INTERNATIONAL LEGAL DISCIPLINES AFFECTING HEALTH POLICY

On the international level the ‘International Health Regulations’ (IHR) and international human rights law create disciplines on the exercise of sovereignty for health policy purposes. Member states of the World Health Organization (WHO) are bound by the IHR. IHR obliged WHO members (i) to notify the Organization of outbreaks of cholera, plague, and yellow fever (Article 3), and (ii) not to take unwarranted measures against trade and travelers originating in WHO members experiencing disease outbreaks (Article 23). Thus, the IHR affected a WHO member’s health policy in the context of cross-border transmission of cholera, plague, and yellow fever. On the other hand international law on civil and political rights requires governments to satisfy specific criteria before limiting the enjoyment of such rights for public health purposes. The

"human right to health" found in human rights treaties imposes on governments the duty to realize progressively specific health goals, such as greater access to primary health care services. For states that have accepted treaties containing the right to health, such as the International Covenant on Economic, Social, and Cultural Rights, this right creates obligations that touch upon health policy. Thus, human right to health under international law requires bound countries to achieve, progressively the highest attainable standard of physical and mental health, which includes protecting populations from health treats and providing health services to the people.

The resurgence of infectious diseases in the 1980s and 1990s highlighted the IHR's ineffectiveness, and particularly troublesome were the IHR's inapplicability to the spread of endemic diseases, such as tuberculosis and malaria, and new diseases, such as HIV/AIDS and viral hemorrhagic fevers. As a result the World Health Assembly adopted the new International Health Regulations (IHR) on May 23, 2005, which expanded the scope of the IHR's application, incorporate international human rights principles, contain more demanding obligations for states parties to conduct surveillance and response, and establish important new powers for the World Health Organization (WHO).

While the old IHR applied only to a short list of infectious diseases whose spread was historically associated with trade and travel, the new IHR encompasses, as emphasized by Fidler and Gostin (2006), public health risks whatever their origin or source, including (i) naturally occurring infectious diseases, whether of known or unknown etiological origin, (ii) the potential international spread of non-communicable diseases caused by chemical or radiological agents in products moving in international commerce, and (iii) suspected intentional or accidental releases of biological, chemical, or radiological substances. It requires states parties to develop, strengthen, and maintain core surveillance and response capacities, and to notify WHO of all events within their territories that may constitute a public health emergency of international concern, defined as an extraordinary event, which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response. States parties must respond to WHO verification requests.

The new IHR grant two important powers to WHO that never appeared in the old IHR. First, the new IHR accord WHO the authority to determine whether a disease event constitutes a public emergency of international concern. States parties have to notify disease events that may constitute such emergencies, but the World Health Director General determines if disease events are public health emergencies of international concern. Although the World Health Director General must consult with states parties in whose territories disease events are occurring, he or she is not bound to follow their views. In other words, a state party's refusal to cooperate does not bar WHO action. Second, if the World Health Director General determines that a public health emergency of international concern is occurring, then he or she shall issue non-binding, temporary recommendations to states parties on the most appropriate ways to respond. The World Health Director General may also issue non-binding, standing recommendations on routine, periodic application of health measures for specific, ongoing public health risks. Furthermore, the new IHR regulate measures states parties can apply to ships, aircraft, goods, and containers and harmonize the types of health documents required from ships and aircraft. But such health measures must be based on scientific principles, available scientific evidence, relevant guidance or advice from WHO and cannot be more restrictive of international traffic or

more invasive or intrusive to persons than reasonably available alternatives that would achieve the level of health protection sought.

As emphasized by World Health Organization (2005) international legal disciplines affecting health policy have been developed mainly by international trade law, most prominent of which are the General Agreement on Trade in Services (GATS) and the World Trade Organization (WTO) Agreement on Related Aspects of Intellectual Property Rights (TRIPS).

2.1 Commitments in Health Services under the GATS

The Uruguay Round was the first attempt at a multilateral level to liberalize trade in health services, when the health sector was included in 1995 under the scope of GATS. Its objective is to open the borders of the WTO Member nations to trade in all types of services, including health services. It distinguishes between four modes of supplying services trade, namely cross-border delivery, consumption abroad, commercial presence, and movement of natural persons.

With respect to health the WTO Services Sectoral Classification List (MTN.GNS/W/120) defines health related and social services to include hospital services (CPC 9311), other human health services (CPC 9319 other than 93191), social services (CPC 933), and other services.[4] Here CPC stands for United Nation's 'Central Product Classification (CPS) Version 1.1'. On the other hand WTO (1998) includes under health services also medical and dental services (CPC 9312), veterinary services (CPC 932), services provided by midwives, nurses, physiotherapists and paramedical personnel (CPC 93191), and other related services, which are covered in the

[4] According to United Nations Statistical Commission (2002) hospital services include: (i) surgical services delivered under the direction of medical doctors chiefly to inpatients, aimed at curing, restoring and/or maintaining the health of a patient, (ii) medical services delivered under the direction of medical doctors chiefly to inpatients aimed at curing, restoring and/or maintaining the health of a patient, (iii) gynecological and obstetrical services delivered under the direction of medical doctors chiefly to in-patients, aimed at curing, restoring and/or maintaining the health of a patient, (iv) rehabilitation services delivered under the direction of medical doctors chiefly to inpatients, aimed at curing, restoring and/or maintaining the health of a patient, (v) psychiatric services delivered under the direction of medical doctors chiefly to inpatients, aimed at curing, restoring and/or maintaining the health of a patient, (vi) other hospital services delivered under the direction of medical doctors chiefly to inpatients, aimed at curing, restoring and/or maintaining the health of a patient. These services comprise medical, pharmaceutical and paramedical services, nursing services, laboratory and technical services including radiological and anaesthesiological services, etc, (vii) military hospital services, and (viii) prison hospital services. According to CPC hospital services does not include services delivered by hospital out-patient clinics (CPC 9312), dental services (CPC. 93123), and ambulance services (CPC. 93192). On the other hand 'other human health services' (CPC 9319) include deliveries and related services, nursing services, physiotherapeutic and paramedical services (CPC 93191); ambulance services (CPC 93192), residential health facilities services other than hospital services (CPC 93193); and other human health services n.e.c. (CPC 93199). Note that other human health services include services provided by medical laboratories; services provided by blood, sperm and transplant organ banks; diagnostic imaging services without analysis or interpretation, e.g. x-ray, ultrasound, magnetic resonance imaging (MRI), etc.; and other human health services n.e.c. Finally, note that social services cover social services with accommodation and social services without accommodation. Social services with accommodation include welfare services delivered through residential institutions to old persons and the handicapped (PPC 93311) and children and other clients (93312); other social services with accommodation (93319). On the other hand social services without accommodation include child day-care services including day-care services for the handicapped (93321); guidance and counselling services n.e.c. related to children (93322); welfare services not delivered through residential institutions (93323); vocational rehabilitation services (excluding services where the education component is predominant) (93324); other social services without accommodation (CPC 93329).

WTO Services Sectoral Classification List (MTN.GNS/W/120) under business services.[5] Thus, health services according to GATS include general and specialized services of doctors, deliveries and related services, nursing services, physiotherapeutic and paramedical services, all hospital services, ambulance services, residential health facility services, and services provided by medical and dental laboratories. But GATS excludes from its coverage services supplied in the exercise of governmental authority, and services supplied pursuant to governmental authority only fall within this exclusion if the services are provided neither on a commercial basis nor in competition with one or more service suppliers. Hence, among excluded activities we have the provision of medical and hospital treatment directly through the government, free of charge. Table 1 summarizes the correspondence between the classifications given in GNS/W/120 with those in CPC Vers. 1.1.

{Insert Table 1}

GATS, creating the multilateral legal framework for international trade in nearly every type of service, applies to all measures by WTO members affecting trade in services. The Agreement contains, as emphasized by World Health Organization (2005), Fidler et al. (2006) and Drager and Fidler (2004), four sets of obligations for WTO members with respect to trade in services. The first set of rules, called general or horizontal obligations, involves the general obligations, that apply to all measures affecting trade in services. The second set of rules governs the making of specific market access and national treatment commitments by WTO members, which arise from voluntary undertakings by WTO members and apply only to services sectors specified in the commitments. The third set of rules lays out the obligation of WTO members to engage in successive rounds of negotiations with a view to achieving a progressively higher level of liberalization in trade in services. Finally, the fourth set of rules establishes the institutional framework for GATS and link the treaty to the WTO's dispute settlement mechanism.

The general obligations include Article II on the most-favored nation (MFN) treatment, Article VI on domestic regulation, Article VIII on monopolies and service suppliers, and Article XIV on general exceptions. The MFN principle requires that with respect to any measure covered by GATS, each WTO member shall accord immediately and unconditionally to services and service suppliers of any other WTO member treatment no less favorable than that it accords to like services and service suppliers of any other country. According to the domestic regulation obligation the Council for Trade in Services shall develop any necessary disciplines on measures relating to qualification requirements, technical standards, and licensing requirements to ensure that such measures do not constitute unnecessary barriers to trade in services. Such disciplines shall aim to ensure that such requirements are, *inter alia*, not more burdensome than necessary to ensure the quality of the service. One of the core elements is a necessity test, which essentially requires that technical standards as well as licensing and qualification requirements and procedures be no more restrictive on trade than is necessary to fulfill a legitimate objective. On

[5] Medical and dental services according to United Nations Statistical Commission (2002) include services chiefly aimed at preventing, diagnosing and treating illness through consultation by individual patients without institutional nursing. Veterinary services include services for pet animals and animals other than pets (hospital and non-hospital medical, surgical and dental services). Services provided by midwives, nurses and physiotherapists and paramedical personnel services such as supervision during pregnancy and childbirth, nursing (without admission) care, advice and prevention for patients at home.

the other hand the monopolies and exclusive service suppliers condition require that if a WTO member grants monopoly or exclusive service rights regarding the supply of a service covered by specific commitments, then that WTO member must make compensatory arrangements with any WTO member adversely affected by such granting of monopoly or exclusive service rights. Finally, according to the general exceptions WTO members may restrict trade in health-related services in violation of general obligations or specific commitments when such restrictive measures are necessary to protect human, animal, or plant life or health, and the application of which does not constitute means of arbitrary or unjustifiable discrimination or a disguised restriction on trade in services.

Regarding specific commitments we note that GATS creates a structure for countries to make specific market access (Article XVI) and national treatment (Article XVII) commitments in service sectors in which they wish to liberalize trade. While market access commitments remove barriers to foreign services, national treatment commitments require that foreign and domestic services be treated the same. According to market access commitment each WTO member shall accord services and service suppliers of any other WTO member treatment no less favorable than that provided under the terms, limitations, and conditions agreed and specified in its Schedule of Specific Commitments through the four modes of supply (cross border trade, consumption abroad, commercial presence, and presence of natural persons). WTO members must list measures restricting market access they wish to maintain in sectors subject to a market access commitments. On the other hand according to national treatment principle each WTO member in the sectors inscribed in its Schedule of Specific Commitments, and subject to any conditions and qualifications set out therein, shall accord to services and service suppliers of any other WTO member, in respect of all measures affecting the supply of services, treatment no less favorable than that it accords to its own like services and service suppliers. On the other hand the progressive liberalization commitments include Article XIX on negotiation of specific commitments, and Article XXI on modification of schedules. While Article XIX requires that WTO members shall enter into successive rounds of negotiations with a view to achieving a progressively higher level of liberalization in trade in services, Article XXI states that to withdraw or modify a Schedule of Specific Commitments, a WTO member must make compensatory arrangements for WTO members adversely affected by such withdrawal or modification; and such compensatory arrangements are then available to all WTO members on a most-favored-nation basis. Finally, the institutional provisions include Article XXIII on dispute settlement and enforcement, and Article XXIV on Council for Trade in Services. According to Article XXIII disputes that arise under GATS are subject to the WTO Dispute Settlement Understanding, and according to Article XXIV the Council for Trade in Services shall facilitate the operation of GATS and advance its objectives.

Under GATS, each WTO member decides for itself whether to make binding market access and national treatment commitments. When making these commitments, countries have to list all measures they wish to retain that would otherwise violate the specific commitment being made. Since the commitments each apply to the four modes of supply, trading conditions are ultimately defined in the form of eight entries per sector. These may vary within a spectrum whose opposing ends are guaranteed market access and/or national treatment without limitations (full commitments) and the denial of any such guarantees (no commitments). While the relevant entry would be ‘‘none’’ in the former case, the absence of commitments would be indicated as

‘‘unbound’’. The non-scheduling of a sector or a non-commitment on a particular mode do not imply that the relevant policies are beyond all GATS disciplines. Some basic obligations such as the MFN principle apply regardless of such circumstances. Any form of discrimination between trading partners on grounds of nationality is prohibited. The only exemptions relate to mutual preferences between participants in economic integration agreements and to recognition measures in the areas of licensing, certification and technical standards. Exemptions from MFN treatment could have been sought, for a period not exceeding 10 years in principle, at the date of entry into force of the Agreement or, for new WTO Members, at the date of accession.

Regarding the structuring of the process for progressive liberalization of trade in services we note that GATS requires WTO members to enter into successive rounds of negotiations with a view to achieving a progressively higher level of liberalization in trade in services. To withdraw or modify a Schedule of Specific Commitments, a WTO member must make compensatory arrangements for WTO members adversely affected by such withdrawal or modification; and such compensatory arrangements are then available to all WTO members on a most-favored-nation basis, and link the treaty to the WTO’s dispute settlement mechanism. On the other hand regarding institutional provisions in the GATS we note that disputes that would arise under GATS are subject to the WTO Dispute Settlement Understanding, and the Council for Trade in Services has the duty to facilitate the operation of GATS and advance its objectives.

As emphasized by Chanda (2001), World Health Organization (2005), and Fidler et al. (2006) there are several provisions under GATS which address the main regulatory measures governing trade in health services. Article VI:5(a) of GATS regulates licensing and qualification requirements and technical standards implemented in sectors subject to specific commitments. This provision obliges a WTO member not to apply such requirements and standards in a manner that is not transparent, is more burdensome than necessary to ensure the quality of the service, and could not have reasonably been expected at the time the WTO member in question made the relevant specific commitments. Article VI in general requires all domestic regulations to be administered in a reasonable, objective and impartial manner and not be more burdensome than necessary to ensure the quality of the service. On the other hand Article VIII addresses the domestic regulation of monopoly service suppliers. While Article VIII:2 requires members to ensure that monopoly positions are not abused in areas outside the scope of the monopoly, Article VIII:4 imposes rules that apply if a WTO member grants monopoly or exclusive rights regarding the supply of a service covered by specific commitments. These rules require the WTO member granting such rights to provide affected WTO members with compensation or face trade sanctions. Finally, we have Article VII on recognition which requires members not to accord recognition in a manner which would constitute a means of discrimination or a disguised restriction on trade. In fact, it allows members to enter into mutual recognition agreements enabling them to recognize the education or experience obtained, requirements met, or licenses or certifications granted in one or several other countries. The aricle further requires that negotiations to such agreements be open to all members who can demonstrate that their qualifications are equivalent. Thus, from a health policy perspective, the most important general obligations involve rules on domestic regulation of services, specifically disciplines on granting or extending monopoly or exclusive service rights and the duty to engage in negotiations to develop rules on domestic regulation, subsidies, government procurement, and emergency safeguards.

Consideration of the current pattern of access commitments based on the conclusions of the Uruguay Round reveal that there have been very few commitments in the health sector. Table 2 considers the subsectors 'medical and dental services', nurses, midwives, etc.', 'hospital services', and 'other human health services'. Of these four subsectors, medical and dental services are the most heavily committed (54 Members), followed by hospital services (44 Members) and services provided by nurses, midwives, etc. (29 Members). A comparison across all schedules and sectors reveals that trading conditions are considerably more restrictive for mode 4 than for other modes. Partial commitments on market access include commitments that carry any of the six limitations specified in Article XVI:2 of GATS as well as commitments subject to limitations in sectoral coverage or geographical coverage within the Member's territory, and any other measures scheduled in the relevant column such as domestic regulatory measures for which Article VI provides legal cover.[6] Similarly, partial commitments recorded under national treatment may include cases of overscheduling or misinterpretations.

{Insert Table 2}

Commitments in mode 1 (cross border delivery) are mostly unbound for technical reasons, indicating an element of uncertainty about the cross-border tradability of health services at the time of the negotiations. There are few limitations on mode 2 (consumption abroad) of medical, health, and dental services. Most governments have taken a liberal approach towards treatment by their nationals in overseas markets, albeit subject to constraints imposed by nonportability of public medical insurance schemes and foreign exchange restrictions. Thus, highest share of full market access commitments is recorded for this mode. By contrast, limitations are more frequent in the case of mode 3 (commercial presence), particularly to medical and dental services, hospital services and social services. These limitations include economic needs tests, nationality requirements, equity ceilings, joint venture requirements, and various approval and authorization requirements. One-third of the countries that have scheduled health services have committed to opening up hospital services to foreign participation and another one-third have committed to opening up medical and dental services under professional services to foreign competition.

Concerning mode 4, we note that no WTO Member has undertaken full commitments in any of the four health subsectors mainly because of the political constraints involved. In general, the value of the commitments made on mode 4 have been greatly reduced by the horizontal limitations.[7] What further reduces the value of mode 4 commitments is that only a limited range of service providers are addressed by these commitments. Market access commitments limit the scope for cross-border movement of persons in health services to areas such as management

[6] The six limitations are (i) limitations on the number of service suppliers, (ii) limitations on the total value of service transactions or assets, (iii) limitations on the total number of service operations or on the total quantity of service output, (iv) limitations on the total number of natural persons, (v) measures which restrict or require specific types of legal entity or joint venture, and (vi) limitations on the participation of foreign capital.

[7] These limitations include: economic needs and local market needs tests; manpower planning tests; discriminatory licensing, accreditation, and recognition requirements for foreign professionals; nationality and residency requirements; state and provincial requirements with regard to residency and licensing; immigration regulations including quota restrictions which are both quantitative and qualitative, based on the needs and capabilities of the health sector; restricted access to certification exams; foreign exchange controls; repatriation restrictions; and regulation of fees and expenses of foreign health service providers.

consulting, research and development, health education, and some specialized services. Thus, there is virtually no liberalization of market access for health service providers under the existing GATS commitments.

Overall, an analysis of the offers made in health services indicates very little progress in terms of increased market access and elimination of discriminatory treatment. Of the two main modes of trade in health services, namely, consumption abroad, and movement of persons, the latter is not addressed at all. Even though there are liberal market access offers on consumption abroad, the latter remains constrained by limitations due to portability of medical insurance and foreign exchange restrictions and thus the progress made in liberalizing the financial and insurance services sectors. Commercial presence, an important emerging area in health services trade, is also subject to limited liberalization. The significance of whatever commitments have been made in health services is further limited by the narrowness of the commitments and the highly nontransparent and discretionary nature of many of the limitations listed in the schedules.

On January 1, 2000 a new services multilateral trade negotiation round was launched. The new round is expected to promote further market liberalization or at least to translate into legally binding obligations what has already been achieved autonomously, and thus advance or consolidate developments that have been going on for years in many countries. Countries will face decisions whether to liberalize trade in services through market access and national treatment commitments in periodic negotiations designed to produce the progressive liberalization of trade in services. The current round of liberalization talks, known as "GATS 2000," is now under-way. Besides making commitments on market access and national treatment the GATS 2000 process also involves, as emphasized by Drager and Fidler (2004), negotiations on GATS rules on domestic regulation, subsidies, emergency safeguards, and government procurement. Given privatization trends and greater public-private cooperation in the delivery of health services around the world, often necessitated by declining public sector resources, more countries may be willing to table health services in the current round of GATS discussions.

Among the main issues pertinent to health services which require multilateral discussion, are recognition requirements and insurance portability. As emphasized by Adlung and Carzaniga (2001) there is a need to encourage notification of existing or impending recognition agreements, quality standards, and licenses under Article VII:4 of the GATS. There is also need to establish multilaterally agreed criteria for recognition and its extension to other member countries under Article VII:5 of the GATS. Discussion is also required on the establishment of common international standards in the professional health services and hospital services sectors. There is a need to identify priority areas for international portability of insurance entitlements and to distinguish between recognition measures relating to the quality of treatment and adherence to standards and recognition measures for reimbursement purposes.

The globalization of health services is drawing increased attention to various regulatory interventions and measures such as licensing and certification requirements which currently constrain trade in health services. There is growing concern about the need to harmonize standards across countries and to introduce multilateral disciplines which prevent the use of discriminatory market access barriers, while also protecting national interests and public health

objectives. As a result, the sector is increasingly coming under the purview of the multilateral trading system.

2.2 Commitments in Health Services under the TRIPS

The WTO 'Agreement on Trade-Related Aspects of Intellectual Property Rights' (TRIPS) requires WTO Members to establish minimum standards for protecting and enforcing intellectual property rights. It attempts to strike a balance between the longer term objective of providing incentives for future inventions and creations, and the shorter term objective of allowing people to use existing inventions and creations.

The areas of intellectual property covered by the TRIPS Agreement that are relevant to health include according to World Health Organization (2002) : patents; trademarks including service marks, which are relevant, for example, to combating counterfeit drugs; and undisclosed information, including trade secrets and test data. In respect of each of these areas, the Agreement sets out the minimum standards of protection that must be adopted by each Member. Each of the main elements of protection is defined, the rights to be conferred and permissible exceptions to those rights, and the minimum duration of protection, and the standards build on those in the main pre-existing World Intellectual Property Organization Conventions, substantive provisions of which are incorporated into the Agreement by reference.

3. REGULATORY FRAMEWORK IN THE EUROPEAN UNION

The scope of liberalization of medical services among EU members remains very low. The immediate liberalization seems to be unlikely, given the fact that medical services are excluded from Services Directive (2006) and the scope of discrimination against foreign suppliers of medical services remains high. The barriers to liberalization process stem from the fact that in the majority of European countries health care services are, to a large extent, financed from national budgets. Therefore, domestic trade unions and politicians frequently oppose increasing access to the domestic market for foreign suppliers, physical persons (physicians, nurses etc.) and foreign patients. The most frequent formal argument against liberalization refers to the need for a guarantee of high quality of medical services.

The importance of public health (safety, security and human health) has been distinctly stressed in numerous EU policies as a prerequisite for economic productivity and prosperity. However, due to the fact that the area of health is essentially of the responsibility of the Member States[8], the European Union role is to supplement their work with particular regard to issues that have a cross-border or international impact as well as questions relating to the free movement of goods, services and people. In the latter case, there is no clear answer regarding the application of the principle of subsidiarity and the degree of harmonisation in relation to health care services. On the one hand, any Community action affecting the health systems should respect the subsidiarity principle according to the article 5 of the EC Treaty. On the other, the principle of subsidiarity should not prevent the exercising of EU fundamental freedoms, a matter of overriding importance for the European Union. Currently, introducing no changes to the subject causes an

[8] The health care services are excluded from the scope of Services Directive (2006).

immense barrier in the field of exercising the right to the free movement. The problem inheres in lack of clarity of which country is responsible for what, especially in the issue of reimbursement of health care provided abroad.

All activities of the European Union in the field of health services can be summed up in strategies, programmes, initiatives as well as communications (e.g. on organ donation and transplantation, on combating HIV/AIDS, etc) from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. The health care sector is not covered by any specific regulations and excluded from the scope of service directive (2006). There is only one Commission proposal for a directive of the European Parliament and the Council on the application of patients' rights in cross-border health care (2.7.2008). In terms of EU health strategy the White Paper: the EU Health Strategy "*Together for Health – A Strategic Approach for the EU 2008-2013*" [COM(2007) 630 final] (worked out on 23 October 2007) represents the newest and important development. In terms of EU programmes and initiatives, the *Second programme for Community action in the field of health for the period 2008-2013* (established with a decision No 1350/2007/EC of The European Parliament and The Council) stands for the newest EU activity. There is also, above stated, proposal for a directive of The European Parliament and The Council on the application of patients' rights in cross-border health care (2.7.2008) extending the *"e-Health" action plan* (Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions of 30 April 2004 entitled "*e-Health - making healthcare better for European citizens: An action plan for a European e-Health Area*" [COM(2004) 356 final]).

The White Paper sets out a new Community health strategy until 2013, which is designed to confront the growing challenges (included in the strategy objectives) for the health of the EU population, such as: population aging, cross-border health threats (pandemics, bioterrorism) followed by managing innovation in health systems. To this end, the White Paper proposes four principles for the coming years: strengthen Community cooperation, invest more in prevention, create synergies between all the sectors that are of vital importance for health (health in all policies approach) as well as strengthen cooperation with international organizations. What the strategy underlines is the need for existing a single strategic framework ensuring cooperation mechanisms in the areas in which the Member States cannot act alone to successfully implement the strategy.

A second programme of Community action in the filed of health is assumed to be the key instrument supporting achieving the Health Strategy objectives. It aims to improve citizens' health security, promote health as well as generate and disseminate knowledge and information on the subject. The Commission, in close cooperation with the Member States, is responsible for implementing the programme.

The "e-Health" action plan (formulated in 2004) identifies practical steps to achieve the "European e-Health Area", as a part of the eEurope action plan, designed to develop electronic systems for health records, patient identifiers and health cards. According to the action plan, by the end of 2009, the European Commission in cooperation with Member States should, *inter alia*, provide a framework for greater legal certainty of e-Health products and services liability.

In 2008, the European Commission came up with a specific proposal for a directive in the field of cross-border health care. The proposal is aimed to resolve the problem of existing legal uncertainties concerning the provision of cross-border health care.

Currently the clarity of which country is responsible for what is lacking, especially in the issue of reimbursement of health care provided abroad. In the proposal, the four options aimed at improving cross-border care are presented and assessed in terms of their feasibility and impact on treatment costs, treatment benefits, compliance costs and administrative costs. Among the options the following are stated: leaving the responsibility of creating clarity to the individual Member State, using a kind of soft measures (such as Commission guidance, recommendations on ensuring quality and safety), using a directive on health services (with the division into two sub-options regarding financial entitlements and prior authorisation) and finally the using of a detailed legal framework established at EU level. The level of certainty and the legal harmonisation (additional administrative burden) increases and decreases respectively with the order of presented options. The preferred by the Commission option is the use of a directive applied to the financial aspects of all cross-border health care.

So far, the EU is addressing the huge challenges that health services across the EU are facing by communications, initiatives, programmes and strategies, that are not creating additional binding legal measures. Undeniably, a clear Community framework for cooperation at Community level (a certain degree of harmonisation) will benefit both patients and health systems. The public health is the area that have a big potential for improvement, especially in the field of cross-border or international impact as well as making advantages of the information society.

4. HEALTH SERVICES IN TURKEY[9]

The foundations of the current public health system in Turkey were established during the period 1923-46. The focus was on preventive public health programs and programs to control communicable diseases such as syphilis, tuberculosis, malaria, trachoma and leprosy. The organizational model was vertical. During the period 1946-1960 health centers, which were supposed to provide integrated health services to the Turkish population, were established and all hospitals were transferred from local administrations to the Ministry of Health. Labor Insurance Organization, which formed the beginning of the Social Security Institution in Turkey, was established in 1945 to provide health insurance to private-sector employees and blue collar public-sector workers.

At the beginning of 1960's the advantages and disadvantages of different health policies were discussed, and at the end the Law on Socialization of Health Services came into force in 1961. Socialization started with pilot practices. Although spreading of socialization to the whole country in fifteen years was suggested, this could not be achieved and success of the Socialization Law was limited. In 1963, for the first time, health was included in the five-year development plans. The objectives of the first five-year development plan for the health sector

[9]This section is based largely on Organization for Economic Co-operation and Development (2009), Ministry of Health (2003), European Observatory on Health Care Systems (2002) and the World Bank (2006).

were to: *i)* give priority to preventive health care; *ii)* provide public health services through the Ministry of Health; *iii)* distribute health personnel evenly throughout the country; *iv)* promote community health services; *v)* encourage the domestic pharmaceutical industry; *vi)* support the establishment of private hospitals; *vii)* establish Universal Health Insurance; and *viii)* set up revolving funds in government hospitals. Although a general Health Insurance Law promoting the idea of Universal Health Insurance was subsequently drafted, it could not be adopted during the 1970's.

During the 1960's and 1970's there were three separate health insurance funds: (i) Social Insurance Organization (SSK) for blue and white-collar workers in the public and private sectors; (ii) Social Security Organization for Artisans and the Self-Employed; and (iii) Government Employees Retirement Fund. The benefits packages of the health insurance funds differed considerably. Whereas the SSK insurees and dependents were allowed to use the SSK hospitals and pharmacies, Social Security Organization for Artisans and the Self-Employed insurees and dependents were allowed medical examinations, laboratory tests, and inpatient and outpatient services from a wide range of providers such as the Ministry of Health hospitals, university hospitals, private hospitals and non-governmental organizations such as the Red Crescent. However, these insurees and dependents were allowed to access health services only if they had paid premiums for at least 90 days prior to the time that the services were needed. While SSK managed its own hospitals which were paid according to line-item budgets, Social Security Organization for Artisans and the Self-Employed payments to providers were on a fee-for-service basis. On the other hand Government Employees Retirement Fund had the most extensive benefits package among the three health insurance schemes, which included medical and non-medical services and access to all types of facilities, public and private.

Between 1986 and 1989, the government adopted the Basic Law of Health Services (1987) and the Law on Launching Health Insurance through the Social Insurance Agency for Merchants, Artisans and Self-employed. But, the success of the Basic Law was limited. During 1988-93, the Ministry of Health and the State Planning Organization carried out a major health reform study to understand the needs and identify directions for reforms. The National Health Policy was formally adopted by the government in 1990 and included, among other things, the introduction of Universal Health Insurance and family medicine in Turkey. In 1992, the government introduced the Green Card. The objective was to provide health benefits to the poor and vulnerables who were incapable of paying for health services. The Green Card program was considered a transitional solution until the Universal Health Insurance would be introduced. Applications for the Green Card were evaluated and finalized by a Commission at the district level. This Commission, which was established under the Provincial District Offices, determined eligibility based on the verification of applicants' incomes.

Although at the beginning of 2000's the majority of the population was covered through one of the health insurance schemes, including the Green Card, and although all citizens were eligible for free primary and emergency hospital care, there were serious problems in the health sector. According to the Turkey Household Budget Survey conducted by the Turkish Statistical Institute, the percentage of the population covered by any health insurance in 2003 was 64

percent.[10] Regarding primary health care we note that the implementation of the 1963 Law on Socialization of Health Services had led to the formation of a four-tiered primary health care system. Rural health posts, staffed by midwives, served units of population numbering 2000-2500. At the next level, were rural health centres, which were supposed to serve a population of 5 000 - 10 000. Next, there was the district health centre expected to serve a population of 10 000 - 30 000 population. Finally, there was the provincial health centre. The main function of the health centres was to provide comprehensive preventive and primary health-care services for the population, and they were supposed to serve as the first point of contact in the health-care systems for households and for managing referrals to higher-level medical institutions. But the delivery of primary health care services suffered from problems such as the lack of adequate resources both staff as well as operational resources, low salaries of health personnel, professional isolation, and minimal training. The referral mechanism did not work and the majority of the population tended to bypass primary health care to seek care directly at higher-level health facilities. Another problem was the lack of any managerial autonomy for primary health care managers, including autonomy to determine staffing levels and resource allocation.

In the case of public hospitals we note that they operated as traditional public sector institutions, with limited financial and management autonomy. Managers had no autonomy to hire or fire staff and all staffing decisions were made by the 'Ministry of Health' for the Ministry of Health hospitals and by the 'SSK General Directorate of Health Services' for the SSK hospitals. Health personnel were generally civil servants and could not be fired even if they were underperforming. Furthermore, budgeting and procurement processes, as emphasized by the Organization for Economic Co-operation and Development (2009) and Ministry of Health (2003), did not encourage efficiency. On the other hand there were relatively few private hospitals. In fact before the 1980s there were hardly any of them. During the 1980s, as a result of the government's policies of providing subsidies to the private sector, there was some expansion in the number of private hospitals and clinics, which were able to provide a whole range of health services to the population. In 2001-02, there were an estimated 250 private hospitals in the country, and they concentrated in the large cities. The majority of private facilities were financed by private patients, although social security institutions also had contracts with private hospitals providing specialized health services.

The Ministry of Health estimated that in the period 1998-2001, there were approximately 11 000 general physicians in private practice and an estimated 60 percent of public sector doctors worked in the private sector. Due to low salaries in the public sector, allowing public sector doctors to work in the private sector was a way to ensure an adequate number of doctors for the public sector. Organization for Economic Co-operation and Development (2009) reports that Turkey had reached 68.2 percent population coverage by 2003 (67.2 percent public coverage + 1 percent private coverage), and that the poor spend 1.3 percent of their consumption on health, while the rich spend 2.6 percent for an overall average of 2.2 percent. Out of pocket spending on health was progressive and fell disproportionately on the rich. According to the World Bank (2006) distribution of health benefits to different income quintiles showed a significant bias towards the top two quintiles, who consumed about 52 percent more health care per capita

[10] Although the State Planning Organization estimated that in 2003 approximately 85 percent of the population had some type of health insurance, it is emphasized that the official estimates should be treated with caution. (See Organization for Economic Co-operation and Development (2009).

relative to the bottom two quintiles. Thus, there were still huge differences in health outcomes across socioeconomic levels and across regions, with expenditure flows in the health sector favoring Turkey's Central and Mediterranean regions over other parts of the country and East and Southeast Turkey receiving less than the proportionate share of spending given their population. Furthermore, there was no effective coordination among the Ministry of Health, health insurance funds, university hospitals, institutional hospitals, and private hospitals. There were regional and urban-rural disparities in utilization of health services, and accessing health services in rural areas was significantly harder and more expensive. Allocative efficiency of health services was poor, with the majority of health expenditures allocated for more costly inpatient and outpatient hospital-based services instead of preventive and primary health-care services.

In 2003 the government introduced the Health Transformation Program, which has as its objective to make the health system more effective by improving governance, efficiency, user and provider satisfaction and long-term fiscal sustainability. Key elements of the Health Transformation Program include: (i) establishing the Ministry of Health as a planning and supervising authority; (ii) implementing Universal Health Insurance uniting all citizens of Turkey under a single Social Security Institute (SSI); (iii) expanding the delivery of health care and making it more easily accessible and friendly; (iv) improving the motivation of health personnel and equipping them with enhanced knowledge and skills (v) setting up educational and scientific institutions to support the system; (vi) securing quality and accreditation systems to encourage effective and quality health-care services; (vii) implementing rational drug use and management of medical materials and devices, and (viii) providing access to effective information for decision making, through the establishment of an effective Health Information System. Thus the program aims to improve equity and access to health services as well as the introduction of universal health insurance scheme and the creation of a health insurance fund that would integrate all functions and premium collections related to health in the existing insurance agencies. The health insurance fund would combine all financial flows of fund in the health sector, including budgetary support to Ministry of Health except for public health care activities, financial outlays for the existing Green Card program, and health expenditures of civil servants. Based on the principles of solidarity and risk pooling, all citizens of the country are proposed to be covered under universal health insurance, with the state making premium contributions on behalf of the indigent and others unable to do so on their own behalf. The responsible agency for setting up the universal health insurance system and fund is the Ministry of Labor and Social Security.

Since 2003 several reforms have been implemented to harmonize health benefits across the different health insurance schemes, as well as Green Card holders. In 2004 a pilot family-medicine implementation law was adopted creating the necessary legal framework for piloting family medicine with capitation payment. As a result salaried general practitioners working at the primary-care level or at the secondary-care level were given the option of taking a leave of absence from their public sector jobs and taking up a position as an independent family doctor. In 2005, Green Card holders were given access to outpatient care and pharmaceuticals, and SSK beneficiaries were given access to all public hospitals and pharmacies. Furthermore, in 2005 the majority of public hospitals, including those previously managed by a social security institute, were integrated under the umbrella of the Ministry of Health, thereby resulting in the separation

of the purchaser of health services from the provider. In 2006, the pharmaceutical positive list across all the health insurance schemes, including Green Card holders, was integrated. In addition, in 2006 the Law 5502 was adopted accompanying Law 5510 on Social Security and Universal Health Insurance aimed at unifying the three different social security and health insurance schemes into one unified social security institute. As a result, the Social Security Institute (SSI) was established and currently there exists within the SSI a Universal Health Insurance (UHI) Fund. Furthermore, a Public-Private Partnership Law for the health sector was adopted during the same year and a new Public-Private Partnership unit was set-up under the Ministry of Health, mandated to pilot Public-Private Partnerships in the health sector. In 2007, legal measures mandated that all citizens of Turkey would have access to free primary care, even if they are not covered under the social security system. Under the 2007 Health Budget Law benefits across the formal health insurance schemes were further harmonized. In February 2008, a new regulation was adopted by the Ministry of Health which will implement a "certificate of need" requirement for new private-sector hospitals, outpatient clinics and diagnostic centres. This regulation is expected to have a significant positive effect on ensuring an effective, better-qualified and needs-responsive operation of public and private establishments throughout the country. The operationalization of the Social Security and UHI Law in October 2008 has completed the harmonization of the benefits package. Green Card holders have now formally joined UHI and will receive the same benefits package that other beneficiaries have been receiving since the July 2007 Health Budget Law. In addition a single-payer system has been established for public patients in Turkey. Thus, Turkey which had been moving for some time towards universal, contributory social health insurance, has achieved that goal with the legislation passed in April 2008.

The above considerations reveal that the implementation of the Health Transformation Program since 2003 has resulted in significant changes in the health system. The various social security institutions are now integrated under one institution, the SSI, and share common beneficiary databases, claims and utilization management systems. The benefits package across the various health insurance schemes is unified and provider payment mechanisms are shifting towards prospective-payment systems incorporating pay-for-performance. Furthermore, an integrated primary health-care system based on the model of family medicine is under implementation by now in 23 out of 81 provinces, and public hospitals have been given more autonomy over resource allocation while simultaneously being expected to operate under a more rigorous Ministry of Health accountability framework. But, the extension of health insurance to the entire population will lead to higher levels of public expenditure on health. In order for the system to be fiscally sustainable, the introduction of universal health insurance needs to be accompanied by system-wide efficiency changes that will bring about a downward pressure on health costs and compensate for the additional expenditures associated with extending financial protection to all segments of the population.

In Turkey total health spending during 2006 amounted to 5.7 percent of GDP which was about to two-thirds of the OECD average. Between 2000 and 2005 health spending had grown in real terms by 7.6 percent per year on average, and this rate was significantly higher than the OECD average of 5 percent per year. During 2005 71 percent of health spending was funded by public sources, slightly below the average of 73 percent in OECD countries, and the share of public spending had increased significantly over the past five years, up from 63 percent in 2000. On the

other hand despite increasing numbers of doctors in recent years, Turkey continues to have the lowest number of physicians per capita among all OECD countries. In 2006, Turkey had 1.6 physicians per 1 000 population, less than the OECD average of 3.1. According to OECD (2009) a little over 50 percent of physicians in Turkey are specialists, nearly 20 percent are in assistant positions, training to be specialists, and only about 30 percent are working as general practitioners. Similarly, there were only 2.1 nurses per 1 000 population in 2006, a much lower figure than the average of 9.7 in OECD countries. Turning to remuneration of physicians and nurses we note that the performance management system introduced in 2004 had brought about a pronounced increase in remuneration at constant prices, both for specialists and for general practitioners. But monthly remuneration of specialists remained about 40 percent above that of family practitioners in 2007. As a result there is still incentive for new medical students to specialize rather than to go into family practice. Finally, we note that the number of acute care hospital beds in Turkey in 2006 was 2.5 per 1 000 population, less than the OECD average of 3.9 beds.

According to "OECD Health Data", a person born in Turkey can expect to live 71.8 years in 2007. The life expectancy at birth has been rising over the past four decades thanks to improvements in living conditions, public health interventions and progress in medical care, and it has reached 91 percent of the OECD average in 2006. But infant mortality, at 22.6 per 1 000 live births in 2006, remained the highest reported in the OECD area in 2006, and it was more than four times the OECD average. The most important causes of mortality among children from 1 to 4 years old are infectious diseases and their complications, mainly associated with malnutrition. The country-wide infant mortality rate masks considerable variation across urban and rural Turkey and across regions. Infant mortality rates and under-five-mortality rate are lower than the national average in the urban areas and in Western and Southern regions, and they are almost 40 percent higher than the national average in the rural areas and the Eastern regions. On the other hand maternal mortality (deaths per 100 000 live births) in 2006 was about 2.5 times the OECD average.

5. HEALTH SERVICES IN POLAND

Poland spends significantly less on health care services in comparison to old members of the European Union. But even in comparison with other Central and East European (CEE) members of the EU, Poland's expenditures on health care are low. Total health spending accounted for 6.2 per cent of GDP in Poland in 2006, the second lowest share among OECD countries and more than 2.5 percentage points lower than the OECD average of 8.9 percent. The lowest share, equal to 5.7 per cent was in Turkey, while Hungary, Slovakia and Czech Republic, had shares equal to 8.3, 7.1 and 6.8 percent respectively[11]. Poland also ranks well below the OECD average in terms of health spending per capita, with spending of 910 USD PPP[12] in 2006, compared with an OECD average of 2824 USD PPP. The lowest spending, equal to 591 dollars PPP per capita in 2006, was in Turkey. Once again even other CEE countries were spending more than Poland. The health care spending in Hungary, Czech Republic and Slovakia were equal to 1504, 1490 and 1130 USD PPP per capita respectively. Health spending per capita in Poland grew, in real

[11] OECD Health Data 2008, p.1 and also Ministry of Health: Green Paper on Financing of Health in Poland, November 2008

[12] adjusted for purchasing power parity

terms, by an average of 5.6 per cent per year between 2000 and 2006, a growth rate higher than the OECD average of 5.0 percent per year[13].

The strong rise in pharmaceutical spending has been one of the factors behind the rise in total health spending in Poland as well as in many other OECD countries. In 2006, spending on pharmaceuticals accounted for 27.2 percent of total health spending in Poland, well above the OECD average of 17.6 percent. In fact, Poland ranks third among OECD countries for spending on pharmaceuticals as a proportion of total health expenditure, behind the Slovak Republic and Hungary. Total expenditure on pharmaceuticals was equal to 5.3 billion of dollars in 2005, being the largest, in absolute terms, among CEE countries. One important reason for high share of expenditure on pharmaceuticals in total expenditure on health care is very low level of salaries in health care services sector. In the same year Turkey was spending 6.6 US $ billion on pharmaceuticals, while Hungary and Czech Republic were spending 2.3 and 2.3 billions respectively.[14] Per capita expenditure on pharmaceuticals in Poland (243 US $ PPP) was among the lowest in OECD countries, but in line with a standard relationship between GDP per capita and spending on pharmaceuticals[15].

In Poland, 70 percent of health spending was funded by public sources in 2006, below the average of 73 percent of OECD countries. The share of public spending among OECD countries was higher (over 80 percent) inter alia in the United Kingdom, the Czech Republic and several Nordic countries.

The health care system in Poland has undergone significant changes in the last two decades. Since 1989, the role of the leading provider of products and services performed by the central government has been gradually reduced.[16] The Health Care Organizations Act (1991) introduced contracting in place of administrative relationships and since 1993 has enabled private surgeries and allowed medical organizations to sign contracts for the provision of services to people entitled to care financed from public resources. The most significant and far-reaching health sector reform started in January 1, 1999 with the introduction of the social health insurance system (The General Health Insurance Act)[17] and separation of public 'third party payer' from health services providers which caused a vast increase in the number of private organizations holding public contracts. Presently, signing contracts is the principal way in which public funds could be used to secure services for the public, irrespective of whether a service is provided by a public or private provider. Contracts, and negotiations which precede them, have introduced elements of market competition, which has affected the number and types of services provided by health care centers operating under a contract.

The new health insurance system aimed at providing a stable and transparent means to raise funds, through compulsory income-based health insurance premiums from the eligible population or from the state for those unable to make such contributions (i.e farmers, who do not pay personal income taxes in Poland; homeless; the unemployed and the disabled). The premium

[13] See also: OECD Health Data 2008, p. 2.
[14] See also: OECD Health Policy Studies (2008), Figure 1.2. p. 25.
[15] Ibidem, Figure 1.3. The lowest spending per capita (among OECD countries) was in Turkey (141 US$ PPP).
[16] Tymowska (2001), Wlodarczyk and Zajac (2002)
[17] There were several amendments made since that time

payable by people obtaining income was set at 7.5 percent in 2000 and has been increased to 9.0 percent in 2008, It was established mainly by deduction of the premium from the personal income tax (1.25 percent of that is not deducted from taxable income). The Parliament decision on the level of the premium was of political nature (no insurance statistics were used to establish the premium). Employers do not participate in financing the premium in part. They only pay the premium to the account of a nationwide public agency collecting the revenues. Persons maintained by the insured are also entitled to use medical services.

Since 2004, the major source of financing health care has been the public resources at the disposal of a single national purchasing organization, the National Health Fund (Narodowy Fundusz Zdrowia: NFZ) and its 16 regional departments.[18] In addition to what is financed by the NFZ, a large number of highly specialized procedures under tertiary care (such as oncology, organ transplants, hemodialysis therapy, third degree burns, etc.) and also public health programs (including vaccinations) are financed directly from the State budget. The insured have the right to choose any of the 16 NFZ's departments, however, the benefits of change are so limited and insignificant that they discourage people to migrate.

The introduction of a market environment has changed the way in which providers are compensated, with a discernible shift away from salary-based systems to capitation and fee-for-service compensation. A dominating form of individual doctor compensation is the salary. Health services in the public sector are provided free of charge at the time medical care is needed.

Until 1989, the share of the private sector was not significant. However, in 1990, a dynamic development of the private sector started, mainly in dental care, ambulatory services, and diagnostic testing. Since then the share of private spending on health care was slowly growing, but public spending remained the dominant one (about 70 percent of the total). The total estimated spending in 2008 were equal to 80 billion of zlotys (about 23 billions of Euro). Out of this sum, 45.5 billions (56 percent) were spent by NFZ, 3.3 (4.1 percent) billion from central budget, 3.5 billion (4.3 percent) by local administration. In addition there were spendings by charity (2.0 billion zlotys) and by employers (1.6 billion). Patients have spent about 20 billions zlotys, mainly on pharmaceuticals (12.5 billion)[19].

The number of non-public (mostly private) hospitals has been increasing constantly from 38 in year 2000 to 153 in 2006, in comparison to 589 public hospitals in 2008 and 714 in 2000)[20]. But private hospitals were usually much smaller and specialized only in some type of simpler operations (cosmetic, orthopedic, etc.). The number of beds in non-public hospitals was limited and accounted for 5.3 per cent of total number of beds in 2008. About 1.5 percent of all surgeries were performed in non-public hospitals. The share of private medical services was much higher in the case of dentistry (90 percent), family doctors (60 per cent), dialysis (35 percent) and medical tests (25 percent).[21]

[18] Statute dated 27 August 2004 pertaining to medical benefits financed by public funds (Dz.U. Nr 210, poz. 2135).

[19] Szwedzik (2008), p. 47. In addition it was estimated that grey area and medical services accounted for about nine billion zlotys.

[20] Szwedzik (2008), p. 42-43 and 70.

[21] Szwedzik (2008). p. 78.

However, the market for private provision of health care services in Poland is perceived by foreign and domestic investors as an attractive and prospectively generating above-average returns. This general opinion is supported by the Polish Office of Competition and Consumer Protection[22], according to which the market for private medical services is bound to grow as long as the discrepancy between the patients' expectations and quality of services provided by public health care sector continues to grow. The similar opinion was expressed by The Foundation Globalization Institute[23], according to which the share of private health care services (in total) in 2009 may exceed 10 per cent, in comparison to around 1 percent a few years ago. Furthermore, increasing wealth of the society, raising number of people willing to pay for the medical service, as well as higher prices for the private medical treatment additionally encourage private investments.

For more than forty years, Polish health care sector structures were fully – financially, proprietarily, organizationally and managerially – integrated. Many public institutions operated in the form of large integrated organizations, including ambulatory specialist clinics, hospitals and emergency services as single structures securing care for large populations. At present, few integrated organizations continue to exist in Poland (Chawla et al. 2004, Tymowska 2001). Many outpatient clinics, which were leased to doctors and nurses, have separate contracts for provision of medical services. During years of transition (since 1989) two opposite processes were observed: some public organizations' integrated structures were being decomposed (with separation of some organizational units), while new units (e.g. primary care or expanded ambulatory specialist services) were established in order to make better usage of their resources and obtain larger revenues under contracts with the public payer. Such process of breaking up the existing public organizations into small facilities, followed by their privatization and bottom-up consolidation was expected since the beginning of transformation as possibly the only way to establish efficient structures (Tymowska 2001, Kowalska 2007). The present system of contracting services with National Health Fund does not promote consolidation in public sector, which fact contributes to the increase of the costs of transactions.

Recently, as an upshot of consolidation tendencies in the private market, two capital groups are prevailing: Mid Europa Partners, and Medicover (that recently took over the control over Centrum Medyczne Damiana Sp. z o.o.). The observed consolidation at the market has both positive and negative consequences. On the one hand, it helps the company strengthen its financial and investment position and also to take on responsibility for organizing and coordinating treatment of the enrolled patients and for management of financial resources assigned to the health care packages broader than usual in Poland. Such institutional arrangements are typical for the managed care system (Kongstvedt 2003, Robinson and Steiner 1998). On the other hand, there is a danger that the consolidation may lead to the oligopoly market structure in the early stage of market forming with all the disadvantages to the society (due to a deficiency of price competition and undeveloped conditions for quality competition).

[22] Based on decision DKK2-421/64/08/LK (february 2009) of the Office of Competition and Consumer Protection.
[23] Instytut Globalizacji (2008), Zagrożenia dla konkurencji na rynku prywatnych usług medycznych skutki dla pacjentow, available at http://www.globalizacja.org/?p=146

One of the prerequisites of private providers' sector development is voluntary health insurance (VHI) market development in Poland. It could be concluded that if society spends so much money on private health care and medications, it would be willing to protect itself against the risk of bearing such costs by the purchase of private health care insurance policies. Declaratory readiness to buy voluntary health insurance shows that its current appraisal is very low (Tymowska 2007). This situation contrasts with the expectations of a number of stakeholders' groups that anticipate a raise in VHI importance in health care funding mix. Voluntary health insurance premiums are considered a significant source of funds to reinforce the under-funded Polish public health. Main impediment to voluntary health insurance market development in Poland is low risk of health related expenses that households face (Tymowska 2007, Sowa 2008). Currently, in Poland, financial risk stemming from possible health issues is relatively low, which is reflected by the level of out-of-pocket health expenditure in relation to income. The level of total out-of-pocket expenditure and its structure will certainly change with the introduction of the catalogue of publicly guaranteed services. Introduction of the catalogue is prerequisite of increasing the risk that households face. An important barrier stems also from the fact that having contracted medical service provision with NFZ, public providers are by law forbidden to provide services to patients financed by private companies. Limited number of privately operated hospitals and infrastructure limitations seem to also impede VHI development.

Poland, in terms of human and technical resources, has less developed endowment in comparison to old members of the European Union and OECD countries. In 2006, Poland had 2.1 practicing physicians per 1 000 population, compared to 3.1 on average across all OECD countries[24]. The number of working physicians has decreased slightly from 2.33 in 2000 to 2.05 in 2006[25]. This was due, inter alia, to migration of physicians to some EU countries (U.K., Norway, Ireland). In Poland there were 5.2 qualified nurses per 1 000 population, also below the average in OECD countries of 9.7. In 2000, the number of nurses in Poland was equal to 6.2 per 1 000 population. Here also, there has been an outflow of qualified nurses to some West European countries. Finally, there were 0.3 dentists per 1 000 population in Poland in 2006. The low level of salaries in health care services constituted an important factor discouraging the employment of medical staff in Poland. The average salary in the sector was equal to 75 percent of the country average in 2001 and provoked many strikes in the sector. Nurses had the lowest salaries among medical personnel. The upward trend in remuneration of medical personnel in real terms started only in 2005. In 2006 the average salary of medical personnel was equal to 91 percent of Poland's average salary[26]. In 2007 and 2006 medical service personnel salaries' increased further.

The number of acute care hospital beds in Poland was 4.7 per 1 000 population in 2006, more than the OECD average of 3.9 beds per 1 000 population. As in most OECD and EU countries, the number of hospital beds per capita in Poland has fallen over time.[27] This decline has coincided with a reduction of average length of stays in hospitals and an increase in the number of surgical procedures performed on a same-day (or ambulatory) basis.

[24] OECD Health data 2008.
[25] Ruzik (2008).
[26] Ruzik (2008).
[27] Kuszewski and Gericke (2005)

During the past decade, there has been a rapid growth in the availability of diagnostic technologies such as computed tomography (CT), scanners and magnetic resonance imaging (MRI) units in most OECD countries. In Poland, the number of CT and MRI scanners was 9.2 and 1.9 per million population respectively in 2006. These numbers were much below the OECD averages, being 19.2 and 10.2 respectively.[28] The other indicators of Poland's health care system, in comparison to other EU member states, will be presented and discussed in the last, empirical section of this chapter.

Most developed countries have enjoyed large gains in life expectancy over the past decades, thanks to improvements in living conditions, public health interventions and progress in medical care. In 2006, life expectancy at birth in Poland stood at 75.3 years, below the OECD average of 78.9 years. The relevant number for men in Poland equaled to 70.9 and for women 79.6. Only a small number of OECD countries, mostly from CEE countries (Hungary, the Slovak Republic) and Turkey, had lower life expectancies.

The infant mortality rate in Poland, as in other developed countries, has fallen greatly over the past decades. It stood at 6.0 deaths per 1 000 live births in 2006, above the OECD average of 5.2. The other elements describing the efficiency of health care systems, affecting the life expectancy and other indicators of health of the population, are analyzed in detail in the last, empirical section of the chapter.

6. COMPARISON OF EUROPEAN HEALTH SYSTEMS

To compare the European health policies, consumer services and quality outcomes in the health sectors of the member countries of the EU we make use of the 'Euro Health Consumer Index' (EHCI) published by 'Health Consumer Powerhouse' since 2005. The EHCI captures properties of different health care system as seen from the consumer's point of view, and thus representing a more relevant measurement for assessing the differences in efficiency of national systems. We have to, however, keep in mind that results of consumer surveys have to be considered with caution since they are based on subjective perception, often based on emotions and may not provide a clear and objective picture.

The idea behind the index was to provide a comprehensive index of the quality of service received by consumers. The indexes (i.e. for 2006 and 2007) were constructed in the following stages. Phase 1 was based on thorough research of legal, statistical and policy documents (relevant bylaws and policy documents, actual data in relation to policies) supplemented with telephone and e-mail interviews with key individuals. Over the years, Health Consumer Powerhouse has established relations with several national and regional health authorities, institutions, patients' associations and private enterprises in order to make the data as reliable as possible. Phase 2 was dedicated to the identification of additional information needed. In phase 3, the score update sheets were consulted with national authorities. The amendments to the score sheets were possible only if relevant justifying such corrections data was provided. The research was additionally based on surveys of consumer representatives and individual consumers.

[28] OECD (2008).

The indexes for 2006 and 2007 were built up as a "pentathlon", with indicators grouped in five sub-disciplines: patient rights and information, waiting time for treatment, outcomes, generosity (provision levels for EHCI 2006) and pharmaceuticals with a number of indicators within each sub-discipline: 9, 5, 5, 4 and 4 respectively for the EHCI 2007 and 10, 5, 6, 3, 4 for the EHCI 2006. All the indicators within sub-disciplines are presented in Table 3. Moreover, what is also shown in the Table 3, different weights were attached to different sub-disciplines, as numerous surveys showed that medical outcomes and accessibility to health care (waiting time) are indicated by patients as the most important aspects of health care services. Therefore, the sub-disciplines of waiting time for treatment and outcomes received weight of 2.0, whereas patient rights and information 1.5, and generosity and pharmaceuticals 1.0.

{Insert Table 3}

The total country score, for each of the five sub-disciplines, was calculated as a percentage of the maximum possible score to achieve (e.g. in case of waiting time, the score for a state was calculated as a percentage of 15 (3 x 5 = 15), the maximum in this sub-discipline). Thereafter, the sub-discipline scores were multiplied by their weights, added up and multiplied by 100 to compute the total country score. The results for each of the sub-disciplines, total scores and the ranking of the countries for 2006 and 2007 are shown in Table 4. The performance of each national health care system was graded according to the above mentioned indicators on a three grade scale, with 3 – best and 1 – worst. Table 5 shows a colour-coded matrix of the different indicators.

{Insert Table 4 and Table 5}

According to the methodology described, in 2006 France, thanks to a technically efficient and generously providing health care system, obtained the highest Euro Health Consumer Index. Other countries with top scores: the Netherlands, Germany, Sweden, Switzerland and Luxemburg, reached their top positions through different qualities, e.g. Sweden owed his great position to the solid victory in the medical outcomes, with very poor performance in accessibility (waiting time for treatment) at the same time[29]. In 2007, Austria emerged as the "winner", with a health care system that is at the same time generous, accessible and has good medical results. Austria was followed by the Netherlands, France, Switzerland, Germany and Sweden showing that little change occurred in this subset of national health care systems over the short period of 2006-2007, with small changes in single scores affecting the order of the top countries.

On the other end of the ranking, the worst performing countries, in 2006 year were: Lithuania, Ireland, Latvia, Czech Republic, Slovak Republic and Poland. Similarly, in 2007 year, the list also included Romania and Bulgaria as New Member States. Latvia, Bulgaria, Poland, Lithuania, Romania, Hungary and Slovak Republic were evaluated as heaving the biggest potential for improvement. The disparities in the total scores seem to reflect the considerable differences in the way different Member States organize, provide and use health care. It seems that the score is affected by both national and organizational cultures, and obviously the amount of resources allocated to health care. Many Western European countries have decentralized health care systems with pluralistic financing, i.e., they offer a choice of health insurance solutions and

[29] This in fact means that waiting time is probably not a very reliable measure of quality of medical services.

provide the citizen with a choice between providers regardless of whether they are public, private, non-profit or commercial. Majority of former centrally planned economies of Eastern Europe and the New Independent States (formerly parts of the Soviet Union), are committed to solidarity in financing health care. In Poland, according to 2008 edition of Powerhouse publications: "it takes more than a dozen years to change a top-down planned economy to a customer-driven one".

However, one should be aware of existing limitations and validity of the index results. The results definitely contain information quality problems. Shortage of multi-country uniform procedures for data gathering leads to a situation, where the scores within the sub-disciplines are based on the "latest available data", which in some cases means that e.g. cancer survival data from 1997 from one country is compared to 2003 data from other countries. Moreover, as far as perceptions of individuals are concerned, the cross-country comparison may be flawed as the consumers usually do not have a good point of reference, i.e. most of the respondents have probably lived in the same country their entire life without using a different health care system than the one they are used to. At the same time, availability measures may be inaccurate due to vague definitions of the range of services offered. Despite the fact that such information is rather dated, presenting even inconsistent data is on purpose of the entire exercise since in consumer-centred measurement poor quality statistics are still better than saying nothing at all.

Nevertheless, the index contains a great deal of relatively complex information, both qualitative and quantitative. Since the index is consumer-centred, it goes beyond the political ideology and pays no attention to whether a national health care system is publicly or privately funded and/or operated. Furthermore, the Index does not take into account the public health parameters, such as lifestyle, food, alcohol or smoking, which often tend to be influenced by external factors other than health care performance although the quality of service perception may be in fact affected by the health condition of an individual.

The analysis presented above has indicated that the scope of liberalization of medical services among EU members remains very low. The immediate liberalization seems to be unlikely, given the fact that medical services are excluded from Services Directive (2006) and the scope of discrimination against foreign suppliers of medical services remains high. The barriers to liberalization process stem from the fact that in the majority of European countries health care services are, to a large extent, financed from national budgets or through social insurance systems. Therefore, domestic trade unions and politicians frequently oppose increasing access to the domestic market for foreign suppliers, physical persons (physicians, nurses etc.) and foreign patients. The most frequent argument against liberalization refers to the need for a guarantee of high quality of medical services. Various studies have shown that there is no direct relationship between level of financing of medical services in a given country and quality of these services provided to patients. On the other hand, health care makers in the New Member States complain about the shortage of funds, low level of wages as well as a general underinvestment in the public health care and provide these arguments as major justifications for the low quality of services. It is our aim to determine whether higher health care spending translates into the higher level of quality and consumer satisfaction. We test this hypothesis using the Euro Health Consumer Index published by Health Consumer Powerhouse, which enables comparison and ranking of the effectiveness of different national European health care systems.

In this section we test the hypothesis that country's health care performance is, despite previous reservations, influenced mainly by GDP per capita as well as total expenditure on health.[30] We have to keep in mind that we are not in a position to analyse the effect of wealth on the health level of societies that are influenced by other factors apart from those listed above – our aim is to look at the determinants of the perceived quality of health care provision.

6.1 Data, Variables and Estimation

The econometric study is based on cross-sectional data for years 2005-2007. We use the Eurostat, the World Bank (World Development Indicators (WDI)) and the Health Consumer Powerhouse (Euro Health Consumer Index: EHCI[31]) data. It contains the information on health care systems in 27 EU Member States plus Switzerland and Norway for the years 2006 and 2007. The total number of observations for 2006 year equals to 26 (all the EU-25 Member States plus Switzerland), while there are 29 observations for 2007 (all the EU-27 Member States plus Switzerland and Norway).

The dependent variable in our study is the total country score (i.e. Euro Health Consumer Index: EHCI) for 2006 and 2007 years. As explanatory variables we have chosen the GDP per capita, total expenditure on health expressed as a percentage of country's GDP per capita, as well as share of urban population, in order to test the extent to which they can explain the total country score obtained in EHCI 2006 and EHCI 2007. Data for the GDP per capita comes from the *Eurostat* statistics for 2006 and 2007 years. Data for total expenditure on health expressed as a percentage of country's GDP per capita comes from World Development Indicators for 2004 and 2005 years. The shares of urban population in the year 2005 are also delivered by World Development Indicators.

The relation between country's total health care performance (index) and GDP per capita is anticipated to be positive. Total expenditure on health expressed as a percentage of country's GDP and share of urban population are also expected to be positively related.

We estimate the following simple equation:

$$total_i = \beta_0 + \beta_j X_i + \varepsilon_i$$

with $i = 1,....,26$ for 2006 year or $i = 1,....,29$ for 2007 year, where β_j are slope coefficients and X_i is a vector of explanatory variables presented in the Table 6. Table 7 gives the summary statistics on the variables.

Table 6: List of estimation variables.

[30] Total expenditure is measured as a percentage of country's GDP. We also added, as a control variable, the share of urban population.

[31] "The Health Consumer Powerhouse is a centre for visions and action promoting consumer-related healthcare in Europe. Following the EU pattern of integration this do-tank has moved from the originally Swedish national level into an European identity"

*total*06	total country score according to the EHCI 2006
*total*07	total country score according to the EHCI 2007

explanatory variables:

l_gdpPC06	log of Gross Domestic Product per capita for 2006
l_gdpPC07	log of Gross Domestic Product per capita for 2007
*HEXPprocGDP*04	total expenditure on health expressed as a percentage of country's GDP for 2004
*HEXPprocGDP*05	total expenditure on health expressed as a percentage of country's GDP for 2005
*urban*05	share of urban population for 2005

Data source: Official figures provided by the Eurostat, The World Bank (World Development Indicators (WDI)) as well as by the Health Consumer Powerhouse (Euro Health Consumer Index).
The data for *HEXPprocGDP* and *urban* were not available for years 2006 and 2007.

Table 7: Data description

Variable	Obs	Mean	Std. Dev.	Min	Max
total07	29	467.931	83.62843	326.1111	604.4445
total06	26	464.3846	71.77469	340	576
l_gdpPC06	29	9.826683	0.783542	8.101678	11.17885
l_gdpPC07	29	9.910614	0.73232	8.242756	11.22791
HEXPprocG~04	29	8.230468	1.607953	5.1	11.5
HEXPprocG~05	29	8.3	1.707964	5	11.4

6.2 Results

The results of the total country score regressions in both 2006 and 2007 years are given in Table 8. In order to verify the sensitivity of results, eight different specifications of the model are estimated. We use different combinations of the lags of health expenditure and GDP per capita for total country score in EHCI 2006 (models 1-4) and for total country score in EHCI 2007 (models 5-8). As far as fit of the model is concerned, the above listed variables contribute to over 60 percent of variation of the EHCI results.

In all models, the percentage of urban population does not significantly affect the total country scores. Our results show that the regression coefficients of the expenditure on health are slightly higher for 2004 than those in 2005. On the other hand, the EHCI results are better explained by the percentage of expenditure on health in a country's GDP in 2006 year than in 2007. Moreover, the regressions outcomes suggest that, in 2004, countries with the percentage of expenditure on

health in their GDP higher by 1 percentage point (the average amounts to 8.23 percent) score better by 23 points in EHCI 2006, while for 2005 expenditure share, the corresponding increase is 19 points (the averages are given in the annex section). For EHCI results in 2007, the respective and insignificant elasticises are 14 and 12.

Table 8: OLS regressions for total country score in EHCI 2006 and EHCI 2007.

VARIABLES	(1) total06	(2) total06	(3) total06	(4) total06	(5) total07	(6) total07	(7) total07	(8) total07
urban05	1.459*	0.968	1.449*	0.971	0.553	0.250	0.588	0.271
	(0.839)	(0.786)	(0.838)	(0.784)	(0.884)	(0.888)	(0.875)	(0.882)
l_gdpPC06	33.79*	38.02**			66.36***	67.78***		
	(18.75)	(16.06)			(16.24)	(15.05)		
HEXPprocGDP05	19.07***		18.49**		11.52		12.40*	
	(6.745)		(6.896)		(6.973)		(6.805)	
HEXPprocGDP04		23.37***		22.81***		13.66*		14.45*
		(6.544)		(6.634)		(7.177)		(7.057)
l_gdpPC05			33.53*	37.23**				
			(18.36)	(15.59)				
l_gdpPC07							69.81***	71.64***
							(16.87)	(15.76)
Constant	-135.6	-175.9	-124.9	-161.0	-319.3**	-328.4**	-368.9**	-380.4***
	(147.1)	(132.1)	(140.3)	(125.7)	(123.6)	(119.6)	(132.6)	(128.5)
Observations	26	26	26	26	29	29	29	29
R-squared	0.636	0.686	0.638	0.687	0.680	0.690	0.683	0.693

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The country score measured by the EHCI proved to be positively correlated with the GDP per capita. Doubling a country's lagged GDP per capita leads, in our data, to an increase of EHCI 2007 by almost 70 points. The effect of lagged GDP per capita on EHCI in 2006 is less pronounced (34-38 points depending on a specification). Standard deviations of indexes, given in the annex section, are 71 and 83 for 2006 and 2007 respectively.

One can see a considerable difference between the results for EHCI 2006 and 2007. The possible explanation is that (i) the inclusion of the New member States and Norway in the sample 2007 has considerably changed the structure of the data distribution and (ii) there have been significant changes in the distribution of the indexes over the two analyzed years. We test the first hypothesis by using the same country sample in EHCI 2006 and EHCI 2007 regressions. The results given in Table 9 suggest that the first hypothesis does not play a large role and therefore the second hypothesis has to determine our results.

Table 9: Estimations for EHCI 2007 on a reduced sample

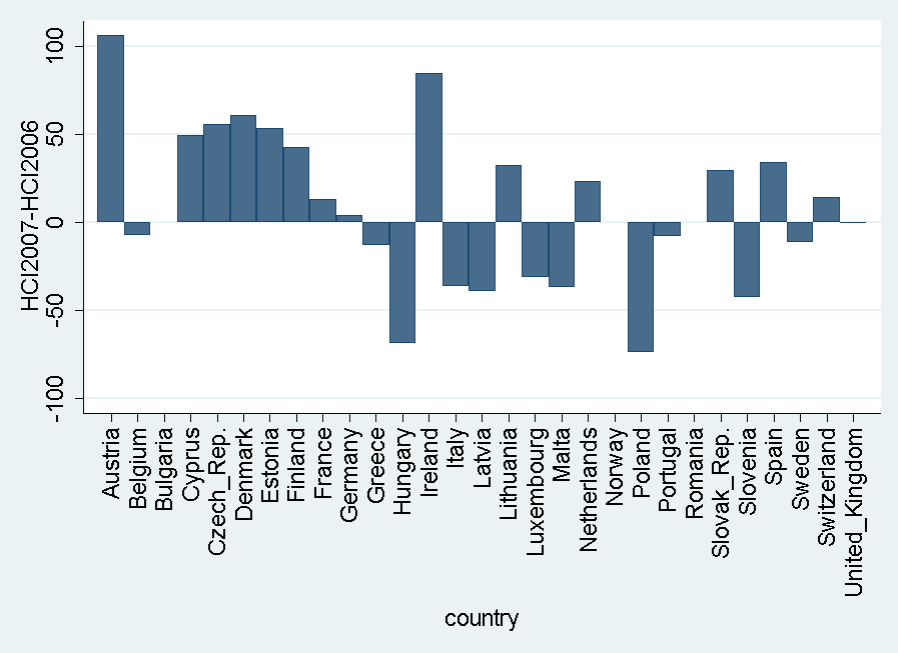
VARIABLES	total07	total07	total07	total07
urban05	0.707	0.376	0.730	0.384
	(0.944)	(0.924)	(0.937)	(0.918)
l_gdpPC06	69.83***	71.89***		
	(21.12)	(18.87)		
l_gdpPC07			74.22***	76.89***
			(22.15)	(19.95)
HEXPprocGDP05	12.46		13.25*	
	(7.597)		(7.410)	
HEXPprocGDP04		15.90*		16.62**
		(7.690)		(7.563)
Constant	-373.6**	-397.5**	-431.2**	-459.6**
	(165.7)	(155.3)	(179.3)	(168.2)
Observations	26	26	26	26
R-squared	0.638	0.660	0.641	0.663

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 1 shows that it is indeed the case. There are significant changes in EHCI over time – we can see that for several countries the changes are close or exceed the EHCI standard deviation (standard deviation of the change is 45 with a minimum of -74 and a maximum of 106). As it is quite unexpected that the healthcare quality may change so dramatically from year to year, the interpretation of indexes is troublesome. Therefore the above quantitative results should be interpreted with caution and only general conclusion can be drawn of a significant positive correlation between the health care quality, share of health expenditure in a country's GDP and country wealth.

Another problem is that the aggregated health care index does not show the differences existing among different countries. It is unclear how these different sub-disciplines can be weighted, as probably they also reflect different countries' weighs (different social preferences) driving the actual choice of the structure of health care system. For example, high-income European countries having centrally planned health care systems, like Sweden, U.K., and being good performers in terms of outcome, are underperformers in terms of accessibility to healthcare services (waiting time). The similar pattern of accessibility exists also among new members of the EU (including Poland). Therefore, the choice of weights seems to be debatable.

Figure 1 Differences between EHCI 2006 and EHCI 2007



Source: Authors compilation on the basis of Euro Health Consumer Index, available at http://www.healthpowerhouse.com

The accession to the EU did not affect the systems of New member States of the EU significantly. Therefore, we can conclude that the quality of medical services and the performance of health care systems depend mostly, for the time being, on amounts spend publicly and privately on health care services[32]. The changes in the structure of financing (e.g. privatization) of health care services can reduce the cost to the government and improve accessibility, but probably cannot significantly improve the overall quality of medical services for patients. On top of that, introducing market-based mechanisms, in a sensitive area such as healthcare, has to be subject to heavy state supervision, as practices such as rent-seeking or moral hazard (exploiting asymmetric information both on the part of the patient and a doctor) may emerge and may lead to an increase in both the social cost of healthcare and the degree of exclusion. International liberalization of these services is very limited for the moment. So, probably in Turkey as well, the performance of the health care system will depend largely on the GDP level and amounts spend privately and publicly on healthcare services. The accession to the European Union would not significantly change this situation.

[32] We tested also whether the value of indexes in sub disciplines depend on the level of GDP and health care expenditure. It turned out that expenditure is relevant only for waiting time index (accession to the European Union would not significantly change this accessibility), whereas values of other indexes cannot be explained by GDP per capita and health care expenditure.

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Table 1: Classification of Health and Social Services

CPC Vers. 1.1	**GNS/W/120**
93 Health and social services	
931 Human health services	
9311 Hospital services	8. Health related and Social Services
93110 Hospital services	8.A Hospital Services
	1. Business Services
9312 Medical and dental services	1.A Professional services
93121 General medical services	
93122 Specialized medical services	1.A.h Medical and Dental services
93123 Dental services	
9319 Other human health services	
93191 Deliveries and related services, nursing services, physiotherapeutic and paramedical services	1.A.j Services provided by midwives, nurses, physiotherapists and para-medical personnel
	8. Health related social services
93192 Ambulance services	
93193 Residential health facilities services other than hospital services	8.B Other Human Health Services
93199 Other human health services n.e.c	
932 Veterinary services	1. Business Services
9321 Veterinary services for pet animals	A Professional Services
93210 Veterinary services for pet animals	
9322 Veterinary services for livestock	
93220 Veterinary services for livestock	A.A.i Veterinary Services
9329 Other veterinary services	
93290 Other veterinary services	
933 Social services	8. Health related and Social Services
93331 Social services with accomodation	
93311 Welfare services delivered through residential institutions to elderly persons and persons with disabilities	
93319 Other social services with accommodation	
9332 Social services without accommodation	
93321 Child day-care services	8.C Social Services
93322 Guidance and councelling services services n.e.c related to children	
93323 Welfare services without accommodation	
93324 Vocational rehabilitation services	
93329 Other social services without accommodation	

Source: Waeger (2008)

Table 2: Numbers of WTO Members with Commitments on Medical, Hospital and Other Health Services

		Medical and dental services	Nurses, midwives, etc.	Hospital services	Other human health services
Total		54	29	44	17
Market Access					
Mode 1	Full	16 (-2)	8 (-1)	15	8
	Partial	11	4	0	2
	Unbound	27	17	29	7
Mode 2	Full	28 (-3)	10 (-1)	38	10
	Partial	24	19	4	6
	Unbound	2	0	2	1
Mode 3	Full	15 (-7)	6 (-2)	16 (-7)	10 (-4)
	Partial	33	22	26	7
	Unbound	6	1	2	0
Mode 4	Full	0	0	0	0
	Partial	49	28	41	12
	Unbound	5	1	3	0
National Treatment					
Mode 1	Full	19	8 (-1)	18 (-2)	10 (-2)
	Partial	9	4	0	1
	Unbound	26	17	26	6
Mode 2	Full	28 (-2)	10 (-1)	38 (-3)	11 (-3)
	Partial	22	19	4	5
	Unbound	4	0	2	1
Mode 3	Full	18 (-1)	9 (-1)	31 (-25)	9 (-6)
	Partial	31	19	10	7
	Unbound	5	1	3	1
Mode 4	Full	1	0	2 (-1)	0
	Partial	49	28	39	17
	Unbound	4	1	3	0

Figures in paranthesis are the reduced number of full commitments if horizontal limitations, which apply to all sectors contained in the indivuidual country schedules, are taken into account

Source: Adlung and Carzaniga (2001)

Table 1: Indicator definitions and data sources for the EHCI 2007.

Sub discipline	Indicator	Weight
patient rights and information	Patients' Rights Law	1.5
	Patient organizations involved in decision-making?	
	No-fault malpractice insurance	
	Right to second opinion	
	Access to own medical record	
	Readily accessible register of legitimate doctors	
	Electronic Patient Record (EPR) penetration in primary care	
	Provider catalogue with quality ranking	
	Web or 24/7 telephone healthcare info	
waiting time for treatment	Family doctor same-day service	2.0
	Direct access to specialist care	
	Major non-acute operations	
	Cancer radiation/chemo-therapy	
	MRI (magnetic resonance imaging) scan examination	
outcomes	Heart infarct mortality less than 28 days after getting to hospital	2.0
	Infant deaths per 1,000 live births	
	Cancer 5-year survival rate	
	Avoidable deaths – Potential years of life lost PYLL/100,000	
	MRSA (Methicillin-resistant Staphylococcus aureus) infections	
generosity	Cataract operation rates per 100,000 citizens (age-adjusted)	1.0
	Infant 4-disease vaccination %	
	Kidney transplants per million people	
	Is dental care part of the offering from public healthcare systems?	
pharmaceuticals	Prescription subsidy percentage	1.0
	Layman-adapted pharmacopoeia	
	Speed of deployment of novel cancer drugs	
	Access to new drugs	

Source: Authors compilation on the basis of Euro-Canada Health Consumer Index, Health Consumer Powerhouse, Frontier Centre for Public Policy, FC Policy Series No. 38, pp. 5-11.

Table 2: Countries' total results based on EHCI 2006 and EHCI 2007.

Country	Pat07	Wait07	Out07	Gen07	Pharm07	Total07	Rank07	Pat06	Wait06	Out06	Gen06	Pharm06	Total06	Rank06
Austria	62,96	93,33	86,67	75,00	75,00	604,44	1	60,00	66,67	61,11	77,78	75,00	498,00	8
Belgium	59,26	100,00	60,00	66,67	50,00	525,56	10	70,00	100,00	55,56	66,67	50,00	533,00	7
Bulgaria	48,15	60,00	33,33	41,67	33,33	333,89	28							
Cyprus	55,56	86,67	53,33	50,00	58,33	471,67	13	60,00	53,33	55,56	55,56	58,33	422,00	19
Czech Republic	59,26	66,67	60,00	75,00	41,67	458,89	15	50,00	60,00	55,56	55,56	41,67	403,00	22
Denmark	92,59	60,00	66,67	58,33	83,33	533,89	9	76,67	66,67	55,56	55,56	58,33	473,00	10
Estonia	74,07	46,67	60,00	75,00	75,00	474,44	12	56,67	40,00	66,67	55,56	66,67	421,00	20
Finland	81,48	53,33	80,00	91,67	58,33	538,89	8	76,67	33,33	88,89	77,78	58,33	496,00	9
France	74,07	86,67	73,33	91,67	66,67	589,44	3	63,33	100,00	66,67	88,89	58,33	576,00	1
Germany	55,56	93,33	73,33	83,33	75,00	575,00	5	56,67	100,00	66,67	77,78	75,00	571,00	3
Greece	51,85	60,00	53,33	58,33	58,33	421,11	22	53,33	46,67	72,22	66,67	50,00	434,00	17
Hungary	51,85	53,33	33,33	91,67	41,67	384,44	24	63,33	66,67	38,89	88,89	58,33	453,00	14
Ireland	59,26	40,00	66,67	58,33	83,33	443,89	16	46,67	33,33	55,56	44,44	66,67	359,00	25
Italy	55,56	46,67	66,67	66,67	58,33	435,00	18	46,67	60,00	72,22	77,78	58,33	471,00	11
Latvia	40,74	46,67	40,00	58,33	33,33	326,11	29	43,33	66,67	33,33	66,67	33,33	365,00	24
Lithuania	59,26	53,33	46,67	50,00	33,33	372,22	26	53,33	46,67	44,44	44,44	33,33	340,00	26
Luxembourg	55,56	73,33	80,00	58,33	66,67	515,00	11	56,67	100,00	66,67	77,78	50,00	546,00	6
Malta	51,85	66,67	53,33	66,67	41,67	426,11	20	50,00	73,33	55,56	88,89	41,67	463,00	13
Netherlands	81,48	66,67	86,67	83,33	83,33	595,56	2	80,00	73,33	77,78	66,67	83,33	572,00	2
Norway	74,07	73,33	80,00	58,33	66,67	542,78	7							
Poland	44,44	46,67	33,33	66,67	41,67	335,00	27	56,67	46,67	55,56	77,78	41,67	409,00	21
Portugal	59,26	46,67	60,00	58,33	66,67	427,22	19	63,33	53,33	61,11	44,44	66,67	435,00	16
Romania	51,85	60,00	33,33	66,67	50,00	381,11	25							
Slovak Republic	48,15	73,33	40,00	50,00	50,00	398,89	23	46,67	46,67	50,00	55,56	50,00	369,00	23
Slovenia	55,56	53,33	66,67	50,00	50,00	423,33	21	60,00	53,33	66,67	77,78	58,33	466,00	12
Spain	55,56	46,67	66,67	75,00	83,33	468,33	14	50,00	53,33	66,67	44,44	75,00	434,00	17
Sweden	66,67	40,00	100,00	91,67	83,33	555,00	6	66,67	46,67	100,00	88,89	83,33	566,00	4
Switzerland	59,26	93,33	80,00	58,33	83,33	577,22	4	60,00	93,33	77,78	55,56	75,00	563,00	5
United Kingdom	70,37	46,67	60,00	50,00	66,67	435,56	17	66,67	40,00	66,67	55,56	66,67	436,00	15

Source: Authors compilation on the basis of Euro Health Consumer Index, available at http://www.healthpowerhouse.com

Table 3: Euro Health Consumer Index 2007, Outcomes matrix.

SUBDISCIPLINE	INDICATOR	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxemburg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingdom
Patient rights and information	Healthcare law based on Patients' Rights	◐	●	◐	●	○	●	◐	●	●	○	●	●	○	◐	○	●	○	○	●	●	◐	◐	◐	◐	◐	◐	○	●	◐
	Patient org. involved in decision making?	○	○	○	○	◐	◐	●	◐	◐	◐	○	○	●	○	◐	○	◐	○	◐	◐	○	◐	○	○	○	◐	◐	○	◐
	No-fault malpractice insurance	○	○	○	○	○	●	○	●	◐	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	●	○	○
	Right to second opinion	●	●	◐	◐	◐	●	●	◐	●	●	◐	◐	◐	◐	○	●	●	●	●	◐	◐	◐	●	◐	●	◐	◐	●	○
	Access to own medical record	●	●	◐	◐	●	●	◐	●	●	◐	◐	●	◐	◐	◐	●	●	○	●	●	◐	◐	●	●	●	●	●	◐	◐
	Register of legit doctors	●	○	◐	◐	◐	●	●	●	●	◐	◐	○	●	●	○	◐	○	◐	●	○	○	○	○	○	◐	○	○	○	◐
	Electronic Patient Record (% of GPs using)	◐	◐	○	n.a.	○	●	◐	●	○	○	○	○	◐	◐	○	○	◐	n.a.	●	●	○	◐	○	○	n.a.	◐	●	◐	●
	Provider catalogue with quality ranking	○	○	○	◐	●	●	○	○	◐	○	○	○	○	○	○	○	○	○	◐	◐	○	○	○	○	○	○	○	○	●
	Web or 24/7 telephone healthcare info	○	○	○	○	○	◐	●	◐	○	◐	○	○	○	○	○	○	○	●	◐	○	○	●	○	○	○	○	◐	◐	●
	Subdiscipline score	17	16	13	15	16	25	20	22	20	15	14	14	16	15	11	16	15	14	22	20	12	16	14	13	15	15	18	16	19
Waiting times	Family doctor same day	●	●	◐	●	●	●	◐	○	●	●	○	●	◐	◐	◐	○	●	●	●	●	◐	○	●	●	●	◐	○	●	◐
	Direct access to specialist	●	●	○	●	○	○	◐	○	●	●	●	○	○	○	○	○	◐	○	○	○	○	○	○	●	○	○	○	●	○
	Major non-acute operations <90 days	◐	●	◐	◐	○	◐	○	◐	◐	●	◐	○	○	○	○	◐	○	◐	◐	◐	○	○	◐	○	○	○	○	●	○
	Cancer therapy < 21 days	●	●	◐	●	●	◐	○	●	●	●	◐	◐	○	◐	◐	◐	●	●	◐	●	◐	◐	◐	◐	◐	◐	◐	●	◐
	MRI scan < 7days	●	●	◐	◐	◐	○	○	○	◐	◐	○	○	○	○	○	◐	◐	○	◐	◐	○	○	◐	○	◐	○	○	◐	○
	Subdiscipline score	14	15	9	13	10	9	7	8	13	14	9	8	6	7	7	8	11	10	10	11	7	7	9	11	8	7	6	14	7
Outcomes	Heart infarct mortality	●	◐	n.a.	○	○	○	○	◐	◐	◐	○	○	◐	◐	○	○	◐	○	●	n.a.	○	○	n.a.	○	●	◐	●	●	●
	Infant deaths/1000 live births	◐	◐	○	●	●	◐	◐	●	●	◐	◐	○	◐	◐	○	○	●	◐	◐	●	○	●	○	○	◐	●	●	◐	◐
	Cancer 5-year survival	●	◐	○	n.a.	○	◐	○	◐	●	◐	○	○	◐	◐	○	◐	◐	◐	◐	◐	○	◐	○	○	○	◐	●	●	○
	Avoidable deaths – Potential years of Life Lost (PYLL)/100 000	●	◐	○	◐	◐	◐	◐	◐	◐	●	●	○	●	●	○	○	●	◐	●	●	○	◐	○	○	◐	◐	●	●	◐
	MRSA infections	◐	○	○	○	◐	●	●	●	○	◐	○	○	○	○	◐	◐	◐	○	●	●	○	○	○	◐	◐	○	●	n.a.	○
	Subdiscipline score	13	9	5	8	9	10	9	12	11	11	8	5	10	10	6	7	12	8	13	12	5	9	5	6	10	10	15	12	9
"Generosity" of public healthcare systems	Cataract operations per 100 000	◐	●	○	n.a.	n.a.	◐	◐	●	●	●	◐	○	●	◐	●	n.a.	n.a.	●	◐	●	◐	○	○	○	n.a.	n.a.	●	●	◐
	Infant 4-disease vaccination	○	◐	◐	●	●	◐	●	●	●	◐	○	●	○	◐	●	◐	◐	◐	●	○	●	●	●	●	○	◐	●	◐	○
	Kidney transplants p.m.p.	●	◐	○	n.a.	●	◐	●	●	●	◐	○	◐	◐	◐	◐	○	○	n.a.	●	●	○	◐	○	○	○	●	●	◐	◐
	Dental care in public healthcare system	●	○	○	○	◐	○	○	◐	◐	●	●	●	◐	○	○	◐	○	●	○	○	●	○	●	○	●	○	◐	○	○
	Subdiscipline score	9	8	5	6	9	7	9	11	11	10	7	11	7	8	7	6	7	8	10	7	8	7	8	6	6	9	11	7	6
Pharmaceuticals	Rx subsidy %	◐	◐	○	○	◐	◐	○	○	●	●	◐	◐	●	●	○	○	●	◐	●	◐	◐	◐	○	●	●	●	◐	●	●
	Layman-adapted pharmacopeia?	○	○	○	○	○	●	●	◐	◐	○	○	○	◐	○	○	○	○	○	●	◐	○	◐	●	○	○	◐	●	○	○
	New cancer drugs deployment speed	●	◐	○	◐	○	◐	◐	◐	◐	◐	◐	○	◐	◐	○	○	●	○	◐	○	○	◐	○	○	○	●	◐	●	○
	Access to new drugs (time to subsidy)	●	○	○	●	○	●	●	◐	○	●	◐	○	●	○	○	○	○	○	◐	●	○	◐	○	○	○	◐	●	●	●
	Subdiscipline score	9	6	4	7	5	10	9	7	8	9	7	5	10	7	4	4	8	5	10	8	5	8	6	6	6	10	10	10	8
	TOTAL SCORE	806	701	445	629	612	712	633	719	786	767	561	513	592	580	435	496	687	568	794	724	447	570	508	532	564	624	740	770	581
	RANK	1	10	28	13	15	9	12	8	3	5	22	24	16	18	29	26	11	20	2	7	27	19	25	23	21	14	6	4	17

Comments: The performances of the national healthcare systems were graded on a three-grade scale for each indicator: Green = good, Amber = so-so; and Red = not so good. A Green score earns 3 points, an Amber score earns 2 points and a Red score (or a not available) earns 1 point. EHCP (200*, p. 5.

Chapter 3

Liberalization of Air Transport Services

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The provision of air transport services involves elaborate infrastructure needs and is tightly linked to the so-called ancillary services such as air-traffic control, booking system, ground handling, catering and maintenance etc. Due to the complexity of the of the whole network of interrelated services and the need to provide sufficient infrastructure, the airline sector has, for a long time believed to be a natural monopoly and also heavily regulated and protected. There was no real competition between flag carriers and the routes; schedules and fares were both subject to regulation and international coordination. At the same time, air sector is a network industry and a degree of cooperation between providers cannot be avoided. However, lack of competition lead to inefficiency, insufficient air traffic and high fares. The process of air services markets liberalization started in the United States in the 1970s, where deregulation resulted in significant drop in fares and an increase in air traffic. Liberalization in Europe followed starting in the 1987s and with the three EU liberalization packages, the air services market in Europe has been completely reshaped to provide tighter competition, more efficient use of infrastructure and more benefits to consumers.

This chapter is organized as follows. Section 1 provides a brief history of the air transport sector, and discusses the functioning of the air transportation sector. Section 2 discusses the legal framework in the air transport industry and liberalization-driven changes in legislation including the GATS initiatives and EU-focused laws. Section 3 and 4 are focused on the overviews of the structure of the national markets and legislation in Poland and Turkey. Finally, section 5 provides a comparative study on the scope of services liberalization based on liberalization indices.

1. AIR TRANSPORT SERVICES

According to Chicago Convention (1944) “"Air service" means any scheduled air service performed by aircraft for the public transport of passengers, mail or cargo”[1]. Today, the aviation industry provides the global economy with infrastructure in the form of a rapid transport network and generates benefits while impacting on the performance of other industries. It facilitates world trade by granting companies the access to global markets and allowing for globalization of production, and aviation transports close to 2 billion passengers annually. Some US$ 1,750 billion of goods were transported internationally by air in 2004 and 40 per cent of the value of inter-regional manufacturing exports is transported by air.[2]

Air transportation contributes to the development of tourism as well. About 40 per cent of international tourists now (2004) travel by air. Some 6.7 million direct tourism jobs are

[1] Article 96 of Chicago Convention (1944), "International air service" is defined as “an air service which passes through the air space over the territory of more than one State”.
[2] ATAG (2008), p. 6. ATAG is the Air Transport Action Group, and the cited report was sponsored by IATA.

supported by the spending of international visitors arriving by air. Its total economic impact (direct, indirect, induced and catalytic), according to ATAG, is estimated at 7.5 percent of the global GDP in 2004[3]. The aviation provides around 15.5 millions jobs, directly and indirectly. In Europe the direct employment in the air transport sector is estimated at 1.515 million workers, indirect at 1.818 million and induced at 0.833 million[4]. The aviation also participates in promoting social inclusion by connecting remote communities, facilitating the delivery of emergency and humanitarian aid relief, and opening opportunities for leisure and cultural experiences. On top of all of that, unlike other modes of transport, aviation pays for its own infrastructure rather than being financed from taxes or subsidies.

Ever since it was established, scheduled passenger transportation has been heavily regulated. The history of regulation of civil aviation dates back to 1920's. During the Paris Peace Conference the International Air Convention was presented. This Convention consisted of 43 articles that dealt with all technical, operational and organizational aspects of civil aviation and also foresaw the creation of an International Commission for Air Navigation (ICAN) to monitor developments in civil aviation and to propose measures to States to keep abreast of developments. During World War II utilization of aircrafts significantly advanced the technical and operational possibilities of air transport. In 1943, the US initiated studies of post-war civil aviation problems. In November 1944, an International Civil Aviation Conference (ICAO) was held in Chicago. Fifty two states signed the Convention on International Civil Aviation and set up the permanent International Civil Aviation Organization (ICAO)[5]. At the same time the International Services Transit Agreement and the International Air Transport Agreement were signed. The five freedoms of Chicago Convention form basic traffic right till now[6].

Scheduled passenger transportation has been heavily regulated as a mode contributing to regional development, delivering public services and being at instant readiness for the national defense alert. As such, aviation was an artifact of the country's prestige and had to demonstrate high safety standards which many governments thought to be possible to maintain only via strict national control. Rigorous policies were governing the entry and ownership of airlines, the selection of points and routes to be served, and the freedoms to set capacity and fares. They affected both the market structure and inner business models of service operators. Flag carriers, being usually state owned, were protected from competition, thus had no incentives to operate efficiently. The quality offered to passengers was indeed high but operating costs very high, capacity utilization rate low, wages too generous and output growth restricted[7]. Network structure was rather far from being optimized according to economic considerations. All in all, airlines were not able to adjust their operations to the dynamics of demand. From the customers' point of view, prices were very high, service inadequate and it was argued that liberalization would increase social welfare[8].

This has led first the United States in the 1970s and than the European Community in the late 1980s to reconsider the industry organization and competition. The authorities of Member States came to the conclusion that the main objective of their policies should be to provide air transport

[3] ATAG (2008), p.7.
[4] ATAG (2008) p. 25. The direct employment in the air services in Europe embraces: airport operators (120 thousand), other on-site jobs (377 thousand), airlines (709 thousand) and aerospace (307 thousand).
[5] ICAO: history of ICAO at: http://www.icao.int/icao/en/m_about.html.
[6] See next section.
[7] Gonenc (2000) p.12
[8] Nello (2005) p.344

opportunity to the largest possible proportion of the population[9]. Moreover, creating a single internal market for air transport was in line with the concept of European single market (1988). Consecutive regulations and directives were aimed at greater competition leading to lower airfares, similar quality of service, more consumer choice, improved efficiency, rationalized air networks and enhanced airline governance. It took several years to bring the outcomes about and it will probably take another few to ensure the sustainability of the industry.

1.1 Core Activities

The core activity of an airline is to transport a passenger from one point to another, providing an appropriate aircraft and crew. Flying on its own requires obtaining the so-called "hard rights", also known as the traffic rights. However, flights would not be possible without a set of specific ancillary services that must be delivered on the ground before take-offs and after landings. Once integrated, the core and the ancillary services significantly influence the degree of competition in the aviation industry.

According to the WTO[10], traffic rights mean "the right for scheduled and non-scheduled services to operate and/or to carry passengers, cargo and mail for remuneration or hire from, to, within, or over the territory of a Member". Reading further into the definition, this covers points to be served, routes to be operated, types of traffic to be carried, capacity to be provided, tariffs to be charged and their conditions, and criteria for designation of airlines, (including their number, ownership, and control issues). Traditionally, those traffic rights were fixed in bilateral agreements. Up to now there still remain about 4000[11] of such air treaties around the world. They create a network of huge density and complexity. In the era of highly regulated air transport services market, competition was based on route negotiations and access to the other nation's airports.

The first and most general regulation of traffic rights comes from the Chicago Convention[12] in the form of the so-called freedoms of the air[13] which can or cannot be exchanged depending on the local law. They are listed below:

- first freedom refers to flying over a territory of another country without landing and currently all Members exercise this freedom (peaceful transit)
- second freedom allows for landing in other countries for technical stop (e.g. refueling) without boarding and deplaning passengers (freedom of non-traffic stop)
- third and fourth freedoms are crucial for passenger movement as they allow for landing in a different partner country to deplane and board (respectively) passengers coming from and to the airline's own country[14].
- fifth freedom is sometimes referred to as "beyond rights" and means that an airline can carry passengers between two other countries on route with origin/destination in its home country. This freedom to pick up and discharge traffic at intermediate points was subject to the European liberalization in the first place.

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[9] Gonenc (2000) p.4
[10] Definition from the Annex on Air Transport Services to the GATS Agreement
[11] www.iata.org/history (19.04.2008). See the section 3 of this chapter.
[12] www.icao.org, (19.04.2008) more on the subject in the appropriate section.
[13] Ibid. (listed in ICAO Manual on the Regulation of International Air Transport (Doc 9626, Part 4))
[14] The third freedom is to take traffic from the homeland to any country. The fourth freedom is to bring traffic from any country to the homeland.

Up to this point, these five rights were recognized by the international treaty concluded among Chicago Convention signatories[15]. However, as there was demand for further forms of freedom, the following four were somehow artificially created:

- sixth freedom gives right to carry traffic from one state through the home country to a third state. It is very useful to airlines having hubs in their place of origin.
- seventh freedom is especially useful for those newly established carriers as it allows them to carry passengers from one country to another without going through the home country.
- eight and ninth freedoms deal with the consecutive and stand-alone cabotage respectively. The former type means the carriage of traffic within the boundaries of one country by an airline from another country. Stand-alone cabotage assumes no connection with the home country, therefore means operating truly domestic traffic in a given foreign country. Cabotage has always been very controversial and subject to heated debates. It is hardly anywhere fully permitted.

Of course, at least some freedoms must be in place to enable airlines to perform their core activities, namely to fly passengers. But there is also a bundle of other ancillary services, associated with air transport without which an aircraft would be able to leave the ground.

1.2 Ancillary Services

Running an airline business involves a wide range of ancillary services that must be provided next to the core activity. First, an airline must encourage a passenger to choose the particular carrier. Second, a passenger must be able to book the flight and purchase the ticket. Third, it also requires the check-in procedure, one of the services collectively called the ground handling and consisting of all the activities aimed at serving the passengers in the airport facilities. Finally, aircraft repair and maintenance services are crucial for the matter of safety. All of these ancillary services could not have been left outside the liberalization process as they are as crucial for the industry as traffic rights themselves.

Computer Reservation Systems (CRS). In the past traditional procedure of booking the ticket by hand or via simple mechanism was enough. But now the air transport the bundle of interlining connections required something much more. From the historical point of view, the first real-time informatics system was SABRE (Semi Automated Business Research Environment), established by American Airlines in 1959. Nowadays, there are 6 major players in the CRS market: SABRE remains the largest one, closely followed by GALILEO, AMADEUS, WORLDSPAN, GETS, and ABACUS. This market is therefore characterized by the high level of concentration. And with forthcoming mergers and acquisitions, the number of CRS providers will probably decrease even further. As of 1998 the turnover was estimated at 4 billion USD[16], half of which originated in North America. This area was forecasted to grow by 3,6 percent annually by the year 2015[17].

Each CRS provider, by the letter of law, displays all flights on its platform. The regulatory regime has been developed in order to ensure consumer protection as well as the property rights of the airline companies. Market access turns out to be a major concern in this field. But because

[15] Ibid.
[16] WTO (1998)
[17] WTO (1998)

there are several systems available, there are markets where certain CRS dominates the rest. It may lead to different kinds of distortion. Especially in the past it happened so that CRS companies, founded by airlines, were preparing incomplete or deliberately incorrect offers. They were obliged to include a full range of competitors' flights in their database but were obviously promoting their own services in the first instance. A regulation cutting this practice and introducing a non-discriminatory treatment had to be implemented (and it is a case which is described in relation to the EU legislation).

From the consumer rights point of view, a proper and convenient presentation of data should be ensured. Passengers are interested in receiving timely and detailed data closest to their demands. The second concern is obviously the data privacy. Nowadays with the growing popularity of on-line booking and the electronic data interchange in general, hackers also harvest in the market. So a greater care had to be placed on this issue. All in all, it seems like the CRS presence is an important factor in the air traffic trend[18].

Ground handling is a link between the airports' entrances and exists, i.e. the passenger is handled right after crossing the threshold of their take-off airport and then again before leaving the destination airport. These services can be divided into two groups[19]. Landside services are passenger-related and include ticketing and baggage handling at the check-in desks. Airside services comprise of ramp handling, aircraft maintenance, fuelling and de-fuelling operations, and catering. They all contribute to value creation for airlines and are crucial element of competition among air carriers.

Historically, the provision of this kind of services used to be a monopoly on many Community airports[20]. The experience of Heathrow Airport in London and Charles de Gaulle Airport in Paris showed that a distinction could be made between exploitation of an airport system and the provision of ancillary services. The market for the latter turned out to be rather distinct and requiring knowledge and skills different from those relating to managing the airport infrastructure. The arguments of quality and efficiency together with those of safety and security could also have been solved easily. Step by step such considerations led to the adoption of the Directive 96/67/EC which, gradually opened up ground handling to competition (and is further described in the next section of this chapter).

In the early years on 1990's several major European airlines filed complaints against the abuse of ground handling monopolies. The accusations of disregarding competitive and commercial principles were aimed at the company SEA Milano servicing the Italian airport, Flughafen Frankfurt, and the Greek Civil Aviation Authority and Aena (Spanish Airports) granting exclusive rights to Olympic Airways and Iberia respectively[21]. The interests of airline customers were hampered from the financial perspective. The potential savings were quite important[22]. Handling and station costs accounted for about 18 percent of total airline operating costs (excluding fuel) and those rates are on average 30 percent higher at airports without a choice of service providers. Liberalisation was assumed to bring cost savings of 25 percent. If the scenario would come true, the following airlines: Air France, Lufthansa, SAS, British Airways and KLM

[18] However, because it is hardly feasible to implement to the empirical econometric model in the last section, the access to Internet will be used as an approximation of the CRS.
[19] http://ec.europa.eu/transport/air_portal/airports/ground_handling_en.htm (05.04.2008)
[20] Ibid.
[21] Doorten (1994) p.37
[22] Ibid. (all three)

would have saved $9.4 million, $100 million, $6,8 million, $14.6 million and $10.7 million respectively[23]. These were the monopoly-driven costs that they had to pay in just one year for ground handling at the airports in Germany, Spain, Greece and Italy. It often happened so that the rigid monopoly service providers offered a standard package of services with no possibility of splitting it and using up only the necessary amount. This resulted in considerable wastage. And there was also a quality problem. For a long time passengers were complaining about inadequate services being provided on the ground. So the full picture of value creation established by the possibility to choose from a pool of ground handlers consists of cost saved plus additional turnover from satisfied passengers.

After introducing the Directive in 1996 no scientific studies have been conducted to check whether in quantitative terms the aim of liberalisation of ground handling services was met. There is, however, a general agreement that it has indeed been the case[24]. Although transposing the Directive into the national legislation of each Member State has often posed quite a challenge, nowadays airlines can choose from a wider pool of ground handling suppliers whose charges decreased substantially and quality improved. This enabled air carriers to consider outsourcing as a way of reducing costs.

In conclusion, the supply of ground handling services is a vital element of competition among air carriers. It had, however, long escaped from the provisions of the EU Treaty regarding the abuse of a dominant position. In the spirit of liberalisation also ground handling was eventually given a directive forbidding the exclusion of competition. Since the case seemed rather ambiguous, no regulation was introduced and thus some bigger airports were able to put off competition for as long as seven years. But still nowadays both airlines and passengers are more satisfied with the current state of affairs. And the European Commission is already considering enhancing the Directive to increase the competition to an even greater extent.

Aircraft repair and maintenance services are aimed at keeping the aircrafts fully functional. It is a complex matter as the structure of the market for such services is in fact diversified. It is called in the industry the 'maintenance, repair and overhaul'[25](MRO) market and its segments include: line maintenance, upkeep of components, upkeep of engines and heavy maintenance of airframes. Each of these sub-divisions can be operated by different agents[26]. The airlines on their own can care for their equipment. They can also provide such services to other airlines. The "Original Equipment Manufacturers" usually offer the after-sale MRO services. Recently, there is a growing market for independent operators having MRO as their core activities.

It is important to note that the entry cost, especially to the engine sector of the market, is very high and therefore there is a tendency for market operators to consolidate. Airlines seek alliances with their counterparts or with the other operators. There are three main types of strategy that they follow: new and leasing companies usually outsource entirely MRO activities. Well-funded airlines may establish subsidiaries devoted to such service and even provide them to others. A company may also function in-between those two ways and decide each time which case is best handled on-site and which can be trusted to an external company.

[23] Ibid.
[24] http://ec.europa.eu/transport/air_portal/airports/ground_handling_en.htm (05.04.2008)
[25] www.aerospace-technology.com (12.04.2008)
[26] WTO (1998) p.14

The main reason for regulation in the field of aircraft repair and maintenance is the concern for quality and flight safety. Therefore security regulations are imposed starting from international level, by ICAO. National civil aviation authorities also define additional standards and require their fulfillment through certification programmes. But MROs must be regulated beyond the terms of quality. Modes of delivery in this case are critical. Liberalization of the cross-border supply is not feasible. But if consumption abroad and commercial presence were banned, neither airlines could repair their aircrafts abroad (and emergency breakages can not wait until return to home airports), nor service providers could establish foreign maintenance facilities in third markets (which significantly hampers the possibility of development). This is the reason why MRO services were first in line to be liberalized on the higher than regional level and, as will be presented later in the paper, went through the GATS negotiations successfully.

1.3 The Nature of Competition in the Air Transport Services Industry

In order to better understand all aspects of the vast range of air transport services, it is useful to present briefly the nature of competition in this industry[27]. Economists usually associate increasing returns to scale (IRS) with differentiated products and oligopolistic competition in aircraft manufacturing sector, traditionally occupied by two companies, Boeing and Airbus[28]. But this phenomenon can also be observed in the air transport services industry. Airlines business is an example of oligopolistic competition[29]. Although many carriers do operate now, previously there was a limited number of them and the legacy still prevails in the form of diversified shares in the market. Moreover, they find many ways to differentiate their products. Perfect information is not available. And even though the entry and exit are legally free, there exist natural and strategic barriers to it.

The geographic scope of air services markets can be defined as "city-pair" markets as the consumers have their preferences both to the take-off and destination country. Studies[30] have shown that the airline industry exhibits constant returns to scale (when long-run average costs are constant with the increase of production) beyond a certain level of traffic in a city-pair market. Increasing returns to scale are, however, limited to unit cost (per passenger) decreasing as the size of the aircraft increases (the so-called economies of density, reflecting the diminishing costs of the additional seats, passengers and flights on individual routes). These economies are exhausted at relatively low levels of output[31]. It may sometimes be difficult to fill large plane if the demand on certain routes is scarce. This has further implications for the optimization of routes and has led to the emergence of the so-called hub-and-spoke system. Hub-and-spoke organization allow for higher frequency of flights and therefore an increase in the overall level of demand without any one flight dropping below the minimum efficient level of traffic[32]. Moreover, service can be provided to airports for which the volume of traffic to any other single destination would otherwise be insufficient to justify service. But the savings earned on increased "load factors" may be offset by the costs of prolonged distances and time of the journey. For time sensitive passengers a connecting service may not be an adequate substitute for

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[27] OECD (2000) p.32
[28] See eg. Brander-Spencer model: Brander, J. and B. Spencer, 1985, "Export Subsidies and International. Market Share Rivalry," *Journal of International Economics*, 18, 83-100.
[29] Begg (1993) p.276
[30] Liu (1999) p.1084
[31] Gonenc (2000) p.7
[32] OECD (2000) p.33

a non-stop service. Thus, the advantages of hub-and-spoke cannot be taken for granted as appearing unconditionally.

Large-network airlines can enjoy demand and cost side economies of scope due to their competitive advantage in the hub-and-spoke system. Of course passengers can change airlines as well as planes at a hub airport. Thus, a point-to-point airline could still benefit from complementary traffic supplied by other airlines operating other spoke routes into and out of the hub. Economies of scope are triggered by cost advantage of operating two or more of the spoke routes in and out of a hub within a single airline[33]. Cost efficiencies arise from vertical integration[34] of spoke routes which are complementary inputs in the provision of end-to-end transport services. If competition on either of them is less than perfect, the airlines operating each spoke will accumulatively mark up prices above marginal cost, leading to what is known as "double marginalization"[35]. By internalizing the price externality between vertically related spoke routes, this inefficiency problem is resolved. It can be summarized that "by developing the hub-and-spoke network systems, carriers seem to have managed to gain economies of scope by exploiting technical economies of density more sufficiently than before"[36].

The economies of scope in aviation can be even greater on the demand side as they can be there enhanced by marketing practices. If there exists a cost of switching between suppliers, consumers do care about the full range of services delivered by a company (the network effect). Airlines try to increase this cost by the mixture of loyalty programs. They can include Frequent Flyer Program (when passengers are rewarded free travel after flying with an airline certain number of times), travel agent incentive schemes, and negotiating special arrangements with large corporate customers encouraging them to travel mainly a particular airline.

All the above-mentioned cost and demand side economies of scope have profound effects on airlines' behavior on the market. Since the demand for airline's services increases with the range and frequency of the offer, there are strong incentives for air carriers to enter into alliance with other carriers which also operate on the same hubs or on complementary route network. Thus, the airlines are driven towards holding dominant position on the hubs. On spoke routes, on the other hand, competition may be sustainable if the competitor has lower costs than the incumbent or differentiates itself for instance in terms of the product offered. Also, if both ends of the route are hubs for different carrier (i.e. this is a hub-hub route), competition will be in place.

It is now also worth mentioning the aspects relating to the entry of challenging airlines to the market. If it were no barriers to entry and exit, dominance described in the previous paragraph would never be a concern. But Baumol, Panzar and Willig[37] developed the theory of contestable markets, widely used by policymakers to justify their stand that potential competition would prove sufficient to prevent airlines from earning supranormal profits[38]. The economists demonstrated that if potential entrants are granted access to the same technology as incumbents, potential competition can then constrain the latter's pricing, allowing them only a competitive

[33] OECD (2000) p.35
[34] vertical integration in the airline industry can also mean a situation when a single airline controls many stages of service delivery, e.g. apart from just flying passengers it also provides ground handling, maintenance services etc. for itself
[35] OECD (2000) p.35
[36] Liu (1999) p.1090
[37] Baumol (1982) p.4
[38] Whinston (1990) p.451

return[39]. The theory's proponents cited the airline industry as being a prime example of such a market. Nowadays it is commonly acknowledged that such assumptions are far from being realistic. Although sunk costs are indeed low in aviation, they do exist as for instance in the form of promotion and marketing for any new service. Thus currently it is assumed that the number of potential entrants do discipline prices on the market to some extent, however that effect is much smaller than if a single actual competitor was present[40]. On the other hand it should be kept in mind that to some extent the costs of promotion might be minimized when Internet is used as a marketing channel and so it may prove to be a significant variable in the empirical model later in the chapter.

Therefore, in order to protect themselves, long-established, flag airlines create strategic barriers to entry since no real market-based ones are in place. They respond sometimes in a predatory fashion to deter any new entrance. It can be made a credible threat due to some existing features of the aviation industry[41].

To start with, the mild response would include cutting the entrant from feeder traffic by increasing load factors through more discount seats on the existing flights (marginal cost of such seats would be small since the flights would take place anyway). Other option for an incumbent would be to use its competitive advantage of established network and extend loyalty incentives. If, however, the incumbent's pricing falls below an appropriate measure of cost and is intended to eliminate the rival, it is then what is known as predation behavior (dumping). Even if a company is loosing income when charging less than its costs, it earns a reputation of being "tough" with deterring any new entry. Such reputation makes this threat of predation credible and can yield higher benefits in the future or from diversified sources[42].

This leads to the topic of airlines fares. Some studies have been conducted to determine what influences the prices in aviation and whether liberalization and extended competition in fact impacts it. Usually there is link between fares efficiency. It has been proved that under regulation firms behave as in an oligopoly with perfect collusion where it is not possible to cheat and with no entries there are few incentives to increase efficiency[43]. Once the liberalization is introduced, firms start acting independently. On one hand new variables become relevant showing that airlines strive at exploiting their cost advantages (e.g. lower labour costs and larger economies of scope)[44], and on the other hand, they also compete in prices. Overall efficiency tends to increase and all categories of fares tend to decrease as the regulatory and market environment becomes friendlier to competition[45].

In terms of fares a distinction business and economy must be made. Both categories are affected by regulation but they react differently to the policy factors. Encouraged by entrance of new (low-cost airline) and their scale economies, airlines decrease economy and discount fares. On the other hand they usually rise business fares[46]. This can be explained by the fact that competitive pressures force airlines to adopt better yield management in the economy segment

[39] OECD (2000) p.41
[40] Ibid. p.41
[41] Ibid. p.42
[42] OECD(2000)
[43] Marin (1995) p.144
[44] Ibid. p.145
[45] Gonenc (2000) p.6
[46] Ibid. Studies based on OLS regression

where demand is highly elastic, but they can offset it by exercising more intense price discrimination on the international business travel where competition is weaker. It should also be mentioned here that positive effects of competition, such as efficiency improvements, have been proved to be offset by certain exogenous factors. Those named in this context are the government control of airport facilities and other ancillary services[47], and social and political constraints on airline restructuring[48].

To sum up all the above consideration, exploitation of both scale and scope economies has led to development of hub-and-spoke networks over the past years. Those networks shifted competition from the route level to the network level. Studies have shown that there is a strong pursuit for dominance at hubs and thus airlines wish to enter in alliances among themselves. And hubs are only located in highly developed, urban areas where carriers can count on great density of population[49]. On the other hand, higher total traffic on individual spoke routes facilitates entry competition over there, which in turn is sustainable given the low-cost business model of the challengers[50]. However, if transaction costs between airlines are significant, firm-specific scope economies are generated between routes and they may dump competition. And this is exactly what the bundle of loyalty programs aims at, being of the weapons against newcomers. And with the on-going liberalization the incumbents may only create strategic barriers to entry. Those barriers in majority of cases are linked with fares. Studies have shown that competition do impact prices in aviation but not all categories similarly. Price differentials between business and economy fares widen under competition. All these aspects of competition constitute a good background for the analysis of regulatory framework for the air services.

2 LEGAL FRAMEWORK FOR THE AIR TRANSPORT INDUSTRY AND LIBERALIZING LEGISLATION

Aviation was subject to regulation ever since it entered the path of commercial history. Setting technical and operational standards was necessary in order to ensure safety of the air journeys. The first step to unify them worldwide, at least to some extent, was the Convention on International Civil Aviation held on 7 December 1944 in Chicago. Representatives of 52 nations gathered to agree "on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically"[51]. This was the most general approach to putting aviation in international legal framework. In the 1990s the members of the World Trade Organization (WTO) tried to agree multilaterally on the mutual treatment of air transport services in more detail. Ending with just three ancillary services in scope, the negotiations turned out to be almost a failure. European countries drew a conclusion already in the late 1980s that if they wish to liberalize the aviation industry, they must implement the appropriate legislation on the regional level. This section deals with all these legal aspects step-by-step.

[47] Marin (1995) p.156
[48] Lapautre (2000) p.9
[49] Thus urbanization rate is worth taking into account while assessing factors influencing the air traffic (see empirical model)
[50] The number of low cost airline present at the market will be taken into account In the empirical study as well.
[51] www.icao.int (19.04.2008)

2.1 International Law and Standards under the Aegis of ICAO

The main outcome of the Chicago Convention was the establishment of the International Civil Aviation Organization (ICAO) which up to date is the United Nations' agency designated to deal with issues of aviation. Furthermore, the countries agreed on four basic principles. These were: sovereignty, equal opportunities, non-discrimination and freedom to designate. The Convention also brought the five original freedoms of the air[52] which signatories obliged themselves to abide by.

Currently, ICAO has strategic objectives to enhance global civil aviation safety and security, minimize its adverse effects on environment, enhance the efficiency and maintain the continuity of air transport operations, and strengthen the law governing international civil aviation[53]. Therefore, first and foremost, the Organization sets international standards[54] in the forms of: Standards and Recommended Practices, collectively referred to as SARPs and concerning aircraft materials and technology, aviation personnel and procedures, Procedures for Air Navigation Services, Regional Supplementary Procedures, and Guidance Material in several formats. To ensure the proper implementation of these safety prerequisites, ICAO runs a Universal Safety Oversight Audit Programme which determines the status of implementation of relevant SARPs.

However, when it comes to liberalizing some tight rules, the matter is handed down to lower, regional levels. So far the history has proven that aviation is apparently too complex to be dealt with multilaterally as any other service would be. The next section looks at WTO negotiations and presents rather humble outcomes of GATS arrangements.

2.2 GATS Attempts at Liberalizing Air Transport Services

Liberalizing trade in services has long been considered not feasible, as services appeared non-tradable[55]. However, aircraft and aircrew are perfectly mobile and it is a matter of hours to fly anywhere, thus air transport services are genuinely tradable[56]. Still, limited forms of trade are practiced, and these are mainly international subcontracting agreements. Therefore, the liberalization of air transport services could concern their delivery rather than trade. And yet an attempt was made towards a multilateral approach to liberalizing the latter. It took place during the Uruguay Round of the General Agreement on Trade in Services (GATS) negotiations launched as a parallel counterpart of the General Agreement on Trade and Tariffs (GATT) which focused entirely on goods trade. The GATS came into force in 1995.

GATS focused on promoting trade by setting credible, non-discriminating and liberalizing international trade rules. They were categorized[57] as horizontal obligations (applying directly to market access in all services sectors listed by notifying Member States), and the Most Favored Nation (a clause ensuring non-discrimination). Other general disciplines included: transparency, establishment of administrative review and appeals procedures and measures coordinating the operation of monopolies and exclusive suppliers.

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[52] see section 2.1 for more details
[53] www.icao.int (19.04.2008)
[54] Ibid.
[55] Hoekman (2001) ch. 7.1
[56] OECD (2000) Box 3
[57] Egger (2007)

There may, however, appear the country-and-sector-specific exceptions from these general commitments. They may concern Market Access or National Treatment. The former may be subject to various types of limitations that are imposed on (according to Article XVI (2)) the number of service suppliers, natural persons that may be employed in a particular service sector, service operations or on the total quantity of service output, the total value of service transactions or assets, the participation of foreign capital, or measures which restrict or require specific types of legal entity or joint venture through which a service may be supplied. The National Treatment clause implies that no measures are to be undertaken to discriminate against any foreign service supplier while benefiting the domestic ones.

For either of specific principles four modes of supplying of a service are distinguished in GATS[58]. Certain transactions, as e.g. banking and mail, may occur in the form of *cross-border supply*. Different modes apply when provider and consumer must be in the same place at the same time. *Consumption abroad* refers to the movement of customers, for instance tourists, to another country to consume a service. Establishing *commercial presence*, on the other hand, means that the service supplier from one Member country purchase or lease a premise abroad (subsidiaries, hotel chains) to provide a service over there. Last, *presence of natural persons* occurs when suppliers themselves move abroad to provide their services.

While reviewing the transportation section within the GATS, the striking feature is the exceptionally limited extent to which air transport services are subject to the schedule of commitments. The specially introduced Annex on Air Transport Services states the exemption from coverage measures affecting air traffic rights and services directly related to the exercise of such rights. Brian Hindley, however, notices an ambiguity in the wording of the Annex[59]. The term "services directly related to the exercise of traffic rights", to which the agreed measures also do not apply, does not specify what these services really are. It also leaves one wondering what services are not directly related to the exercise of traffic rights. Some may argue that there is a wide range of such unrelated ancillary services. Hindley gives the provision of in-flight meals as an example. This does not seem to impact traffic rights significantly so it may be assumed that GATS apply to catering and other services with similar status.

After lengthy negotiations the compromise was reached in the form of an Annex explicitly referring to only three ancillary services and leaving the rest of the sector to be covered at a later date[60]. But firstly, it did not cleared out the doubts concerning the preceding paragraph, and secondly, up to date the state of affairs has been left untouched and the only measures applied still affect only *aircraft repair and maintenance services*[61], the *selling and marketing of air transport services*[62], and *computer reservation system (CRS) services*[63]. The Annex is indeed very modest. The first sub-sector was a must in the liberalization process as emergencies often happen abroad and have to be handled accordingly. Marketing is an activity hardly ever banned anyway. And CRS by its nature is a global undertaking. Therefore, one may come to the conclusion that GATS negotiations on air transport services ended with a very limited success as

[58] Hoekman (2001)
[59] Hindley (2004)
[60] The detailed analysis of air transport services is provided in Guide to GATS (2000), charter 4., p. 51-116.
[61] see chapter 2.2.3. for more information
[62] includes all aspects of marketing such as market research, advertising and distribution, do not include the pricing of air transport services
[63] see chapter 2.2.1. for more information

only some obvious sub-sectors were covered with commitments, leaving the crucial ones outside the agreement.

The analysis of schedules of commitments of analyzed countries reinforces this conclusion. Only Turkey made commitments in all three ancillary sectors noting only that maintenance and repair of aircraft in the mode 3 of market access requires authorization from the Ministry of Transport. The European Communities (EC) of 12 have undertaken liberalization commitments in these three ancillary services as well, but there are some limitations on National Treatment and there are no commitments in the fourth mode of supply (movement of natural persons). Poland has undertaken commitment with respect to rental of aircraft with crew and maintenance and repair but nothing on marketing and CRS. After accession Poland had to accept fully the EC schedule of concessions.

What are the reasons for such a modest development? The negotiators saw a clash between the MFN/national treatment disciplines and the bilateral, reciprocal relationships in the exchange of traffic rights. They wanted to have the aviation sector liberalized between the like-minded states but decided to leave this process in hands of ICAO. If the traffic rights were included into the GATS schedules of commitments and some members would apply them while others held to the existing bilateral arrangements, it would in fact create a kind of dual regulatory regime. In such a scenario those unwilling to open their markets would also enjoy the benefits of liberalization due to the history of bilateral dealing. And this is exactly what neither states nor airlines wished to agree on.

Still, as can be read further in the Annex, the Council for Trade in Services is obliged to review the developments in aviation periodically. It has not, however, brought any measurable results to date. The Annex remains in its original form and no proposals of expanding it has been put forward because "*applying the basic GATS principle of MFN treatment to traffic rights remains a complex and difficult issue. (...) It is also inconclusive at this stage as to whether the GATS is an effective option for air transport liberalization*"[64].

The second pillar of GATS, namely the National Treatment, is not a strong clause either. Current practices like: restrictions on foreign ownership, cabotage, nationality of crew members, prohibitions on wet leasing[65] and methods of slot allocation are inconsistent with it. However, if a government wishes to maintain any of them, it is sufficient to list the exceptions in the relevant schedule and no further agreements are needed.

The Annex states that dispute settlement procedures "may be invoked only where obligations or specific commitments have been assumed by the concerned Members and where dispute settlement procedures in bilateral and other multilateral agreements or arrangements have been exhausted." But this is not a great advantage of GATS. The provisions of Article XXIII of the GATS and WTO Understanding on rules and procedures governing the settlement of disputes allow any member to invoke such procedure if it beliefs that its counterpart fully or partially failed to carry out its obligations or specific commitments. A special report is prepared by a panel and if accepted, the government found in violation of a WTO undertaking

[64] Anon (2003) presented by the Secretariat of the Worldwide Air transport Conference, Montreal 2003

[65] A wet lease is a leasing arrangement whereby one airline (lessor) provides an aircraft, complete crew, maintenance, and insurance, to another airline (lessee), who pays by hours operated. The lessee provides fuel, covers airport fees, and any other duties, taxes, etc.

must bring its actions into conformity with the rules. Otherwise it may face withdrawal of concessions equivalent to the damage caused. The whole process lasts for about a year.

On the other hand, the aviation dispute resolution system works bilaterally, either directly between an airline and the foreign government or informally between governments[66]. Only if it fails, the problem is escalated to consultations or further to arbitration. But it does not fail often. On the contrary, the process usually resolves the issue because the formal dispute settlement involves the discouraging drawbacks. First one being the bureaucratic cost. Moreover, the possibility of imposing restrictions causing much inconvenience for travelers (also understood as the voters here) motivates both sides to resolve the matter by less confrontational means than retaliation. Thus, it may seem that the traditional aviation system is faster and in general superior to what WTO offers.

Last but not least is the problem of protection. WTO system offers two protective instruments, overall quotas and tariffs, compatible with national treatment and MFN clauses. The are not, however, deployed in the air transport. The restrictions are regulated in Article XVI of the GATS. It states that the limitations on the total number of service providers and operations, and the total value of service transactions should not be adopted by a Member "unless otherwise specified in its schedule". That means that the quota on the flights coming in and out may be imposed after all. Such a control would even be MFN-compatible if imposed in a nondiscriminatory fashion (obviously a very blurred expression in this case).

The question of tariffs, the first WTO-favorite tool, is rather hypothetical in this case. Brian Hindley points out that since the delivery of air transport services is very visible, it is technically feasible to employ border measures on their imports[67]. But it should not be assumed that good results achieved in trade in goods would be repeatable in aviation. Tariffs have never existed in relation to services before and if ever applied on their own, i.e. not as a substitute for some other measures, they would pose an additional burden. A burden players in this market would definitely be reluctant to have.

In conclusion, arriving at the global agreement concerning all the air transport services would seem an attractive concept but is unachievable. ICAO has already listed freedoms of the air, it would be enough to unanimously come to an agreement to commit to all of the hard rights. What the governments have created under the aegis of GATS can hardly be called a resolution to the matter. In comparison with what has been omitted in schedules, the three ancillary services covered by the Annex seem to be of minor meaning. Therefore, the subject of GATS commitments is worth analyzing, but will not be further taken into consideration while elaborating on air transport services liberalization in Europe. The Europe itself has shown so much more effort and efficiency in the regional liberalization.

2.3 The EU Liberalization Process and the Current EU Legislation

With the Chicago Convention provisions applying to the whole world of aviation, the web of bilateral air service agreements, with all its drawbacks, shaped the industry in Europe as well. In the 1980's the system came increasingly under attack. Prices tended to be high, services were

[66] Hindley (2004) p.35
[67] Hindley (2004) p.35

inadequate, and various European regions left outside the nationally agreed route networks had no possibility of attracting air carriers.

The European Commission tried to introduce limited deregulation by extending competition policy to air transport but its efforts to formulate a general airline policy were initially thwarted by the Council of transport Ministers which did not succeed in implementing such measures. In the end, the Commission referred the matter to the European Court of Justice which ruled in the *Nouvelle Frontières*[68] case that the competition rules should indeed apply to air transport sector, and that the Member States should not approve fares if it is obvious they resulted from a cartel or concerted actions among airlines. This opened the door for liberalization.

2.3.1 Liberalization Packages

Although it is acknowledged that the liberalization within the EU internal air transport market was made through three packages, one can actually distinguish among five consecutive stages. The "0" stage took place in the mid-1980's when United Kingdom loosed its traditional restrictions on the route to Ireland. It had been served for years by British Airways and Aer Lingus[69] only. But in 1985 Ryanair, the Europe's original low fares airline, obtained permission to enter certain routes between the two countries at the same time challenging the duopoly of flag carriers and bringing some competition.

Next steps were taken by the European Commission which started presenting cases of infringement of competition law by bilateral agreements on fares, capacity-sharing and other restrictive practices[70]. Eventually in December 1987 the Council of Transport Ministers agreed on the First Package[71] relaxing the anti-competitive rules governing the aviation market and consisting of Council Regulation (EEC) No 3975/87 officially applying Articles 85 and 86 of the Treaty to the air transport industry and Council Regulation (EEC) No 3976/87[72] allowing for block exemptions from some restrictions imposed by Article 85.1. Moreover, some flexible terms concerning cooperation among carriers were declared. Governments maintained only limited rights to object to the introduction of new fares within the EU. The single designation provision was abandoned and also seat capacity sharing restrictions were released. All in all, any number of airlines could compete on EU routes, thus overriding the insistence of some Member States that their flag carrier be guaranteed 50 percent of their market; the ratio was to be reduced gradually to 40 percent. What is more, the fifth freedom flights were allow for 30 percent of the traffic and European airlines could start to pick-up and drop-off passengers during the stopovers in third countries.

In June 1990 the so-called Second Package[73] followed and released even more the provisions of the first one. In terms of competition, it was only a significant amendment to the first package[74].

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[68] Common name for the case Ministére Public contra Lucas Asjes; Fixing of air tariffs - Applicability of the competition rules in the EEC Treaty. Joined cases 209 to 213/84.
[69] National (flag) airlines of the UK and Ireland respectively
[70] Nello (2005) p.344
[71] Szymajda (2002) p.67
[72] Council Regulation (EEC) No 3975/87 of 14 December 1987 laying down the procedure for the application of the rules on competition to undertakings in the air transport sector and Council Regulation (EEC) N° 3976/87 of 14 December 1987 on the application of Article 85 (3) of the Treaty to certain categories of agreements and concerted practices in the air transport sector. Both regulations in OJ 1987, L 374/1
[73] Szymajda (2002) p.68

But the measure of crucial importance was to allow all European airlines the third and fourth freedom, i.e. they could carry an unlimited number of passengers or cargo to and from their home countries to other EU Member States. Also the fifth freedom flights were extended to 50 percent of the market. Airlines were allowed multi-designation on specific routes as well. Restrictions concerning fares and capacity were further abolished.

The culmination of gradual process of dismantling the bilateral restrictions was represented by the Third Package. Since June 1993 when it came to force[75] any airline had the right to set its own fares without government approval. But even more significant were the common licensing criteria for air carriers across the EU introduced by the Council Regulation (EEC) no 2407/92[76]. This was the practical effect to the right of establishment provisions of the Treaty of Rome. The "Community air carrier" concept replaced the national ownership and control restrictions. Any airline meeting legislation, financial and safety requirements was allowed to serve any international route within the EU. It was also free to determine fares (those rights set out in the Air Fares Regulation) subject to certain safeguards designed to protect the consumers' and industry interests.

In April 1997, as a part of the Third Package, community airlines were given the freedom to provide cabotage, obviously limited to the territories of other Member States. All of the above mentioned provisions have been extended to Norway, Iceland and Switzerland in the years to follow.

Since the legislation of the third package included amendments to the previous legal documents, currently regulations and directives agreed on in 1993 and later are in force. The following subchapter deals with them.

2.3.2 Regulations and Directives Currently in Force

As it has already been argued, the ICAO sets just the general framework for the functioning of air transport. The process of developing the common air transport law on the territory of EU is unique. As the *Guide to EC legislation in the field of civil aviation* puts it: "*The Community's policy has been defined by looking first at the needs of the sector itself, and secondly but most importantly, to the needs of the whole society, as in many ways air transport is essential for the fabric of a modern well functioning society, such as for trade and tourism*."[77] The EU members for the first time agreed on a comprehensive mandatory policy in this field. The rules are to be applied with the force of national law. Ever since 1977, when the European Community started implementing the aviation regulations, the focus has been put on eight subject areas which are as follows[78]: economic policy, air traffic management, safety, security, environmental affairs, social matters, passenger protection and external relations.

Several legal measures constitute each of the named areas. The first, but also the longest step for the European Community in the field of economic policy of aviation was to create a single air

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[74] Regulations 3975/87 and 3976/87 were superceded by Council Regulations 1284/91 and 2344/90 (OJ 1991, L 122/2 and OJ 1990, L 10/7) respectively
[75] Szymajda (2002) p.68
[76] The third package consists of: Council Regulation (EEC) No 2407/92, No 2408/92 No 2409/92, published in OJ L 240, 24.8.1992, For details see next page.
[77] EC (2007) p.6.
[78] EC (2007) p.6

transport market. Within such a market a company originating in any Member State has the right to create and operate an air carrier anywhere in the single EU market. The most significant liberalising aspect of it is the fact that there is no need for a certified and licensed air carrier to be designated by a government. The legal instruments in this case consist of Regulation 2407/92[79] on Licensing of Air Carriers, Regulation 2408/92[80] on Access to Air Routes and Regulation 2409/92[81] on Fares and Rates for Air Services.

The former [2407/92] deals with the issue of Operating License which is to be granted under certain conditions regarding the candidate's economic and technical fitness. In order to be able to take normal commercial decisions, the carrier must be financially fit. Otherwise, it would have to use the state aid which would naturally lead to a non-market based behavior. Article 5 summarizes the specific requirements: the air carrier must produce a realistic business plan for two years and prove that it would be able to operate for three months with no income. Moreover, according to Article 7, the carrier must be insured to cover liability in regard to passengers, luggage, mail, cargo and third parties. Regulation 785/2004[82] contains further details to flexible wording of Article 7.

As for the technical fitness, Article 9 and 10 oblige the authorities to regular and thorough monitoring of the safety level of equipment, staff and operational methods of an air carrier while granting him air operator's certificate. This is to prevent the company from cutting costs by adopting cheaper solutions in the technical field. One more condition is set out in the Article 8 and regards the registration of at least one aircraft owned or dry-leased by the company. This is to avoid creating a simple sales-and-marketing organization.

The framework named above is necessary to guarantee safety and sustainability, and sufficient to establish a new carrier. What it means is that the State has no right to refuse the license if the candidate complies with all the requirements, due to the Article 3 of the Regulation. In addition, no air carrier without an appropriate operating license may carry out commercial operations within the single EU market or elsewhere.

Article 4 of the regulation 2407/92 contains a provision liberalizing the ownership and control of the Community Air Carrier. It enabled the switch from the national ownership to the principle of non-discrimination but still mostly within the Single Market. The Community Air Carriers must be majority owned and controlled by EU nationals unless the Community has entered into agreement with one or more third countries.

The second crucial legal instrument in the field of economic policy here is the Regulation 2408/92 on Access to Air Routes. It liberalizes the market access and ensures that the access to air routes within the EU stays open for any Community Air Carrier under all circumstances. This applies equally to scheduled and non-scheduled services.

The discussed regulation also contains important provisions for the Public Service Obligations (PSO) within and between states [Article 4]. These apply to the routes which under the free

[79] Council Regulation (EEC) No 2407/92 of 23 July 1992 on licensing of air carriers; OJ L 240, 24.8.1992
[80] Council Regulation (EEC) No 2408/92 of 23 July 1992 on access for Community air carriers to intra-Community air routes; OJ L 240 , 24/08/1992
[81] Council Regulation (EEC) No 2409/92 of 23 July 1992 on fares and rates for air services; OJ L 240, 24.8.1992
[82] Regulation (EC) No 785/2004 of the European Parliament and of Council of 21 April 2004 on insurance requirements for air carriers and aircraft operators; OJ L 138/1 30.4.2004

market conditions would not be financially attractive to the operators but would provide a socially desirable advantage[83]. If a route cannot be served appropriately and without interruptions by any other means of transport or can only be served up to 30 000 passengers a year, it is then given a PSO-status and the Member State can limit the access to the route for one carrier for up to three years. The allocation of the PSO routes is based on a tender process which any Community carrier can submit offers to. Currently[84] there exist 216 routes in the EU on which PSO have been imposed with the corresponding references in the OJ. Another exception towards the protection of domestic route which is served only by a small aircraft, i.e. of up to eighty seats. Such a route is still open for access by any Community carrier but cannot be served by a larger plane than the one just defined.

Article 8 states that while the Community Air Carrier is given the operational freedom, the distribution of traffic within the airports network remains subject to the Member States, but without discrimination on grounds of nationality. The published Community, national, regional or local operational rules relating to safety, environmental protection and the slot allocation must be respected. This leads to the recognition of possible environmental or, more serious, capacity problems. In such case the management of traffic rights lies in hands of Member States. But limitation or refusal of those rights can only take place when absolutely necessary, should not distort competition or be discriminative in any way and can only last for three years at most before being reviewed.

Article 10 makes it clear that capacity restrictions should not occur unless all scheduled air services experience serious negative financial damages. Therefore it may seem that some Commission interventions are allowed however it does not interfere with liberalization clauses which have been proved over the first years of new entries to the aviation market. The low cost airlines endangered the existence of flag carriers. The latter suffered from major losses yet the action to limit capacity was excluded.

With the liberalized market and route access, next field to take care of were the fares. Regulation 2409/92 on Fares and Rates for Air Services was the third legal instrument creating the single air transport market. Its most significant provision was the statement that carriers are free to set their own prices for passengers and freight alike. Airfares should, however, be filed but only for informational purposes. The Regulation recognizes also the need for certain limitations with the aim to safeguard the market against the abuse of dominant position. What may seem controversial is Article 6 that allows the States to cease the airfares going persistently downwards. Such an intervention could seem like a protection of traditional airlines. It is, however, not the case. The low prices can only be stopped if they leave a company in the red. The Article does not apply to low prices resulting in prosperity, and this is usually the way that the most new entrants follow.

The three above mentioned Regulations gave the basic framework for the unified air transport market in the EU, the major area of economic policy. But also other regulations were issued to provide for the specific nature of aviation industry and its newest developments.

[83] Examples of European air transport PSOs currently in operation: routes from Dublin to Knock, Galway, Kerry, Sligo, Donegal and City of Derry, routes between the Italian mainland and Sardinia, routes between the French mainland and Corsica, certain domestic routes within Norway and Sweden, and routes to the Scottish Highlands and Islands. *Source*: www.wikipedia.org (10.02.2008)
[84] as of February 2008, EU portal

The remaining legal instruments in the field of economic policy regulate slot allocation, Computer Reservation System and ground handling services.

The slot allocation is very important but a complex one. The market access to slots has been historically frozen by the so-called "grandfather rights". But with the ever-increasing traffic air, the problem of congestion is more and more serious. Still, to be compliant with the spirit of liberalization, the access to slots should be free by default and based on market conditions. The slot allocation itself is to be performed, in a non-discriminatory and transparent fashion, by the appointed coordinators, not the air carrier. Luckily, the vast majority of the airports do not require a formal slot allocation and the slot facilitator can efficiently deal with the issue. Only when the capacity problems exist, should the formal procedure apply. It is avoided due to the certain amount of bureaucracy and rigidity to the aviation market that it introduces.

The Regulation 95/93[85] on Slot Allocation sets the rules somehow restricting the free market access but still as much in tune with the general liberalization as possible. According to Article 2, an air carrier can operate as it wishes to unless the vast congestion imposes the coordination facilities. In the worst case scenario, a slot must be secured before any landing or a take-off.

Further articles regulate the flow of information between the slot facilitator/coordinator and the airlines to ensure smooth operations. They are followed by the Article 8 that provides the framework for the actual slot allocation. The slot received can then be freely exchanged on the market and sometimes even transferred to another player by mutual agreement or unilaterally. Reallocation of slots must be facilitated out of the efficiency reasons. Static and inflexible situations when air carriers hold on to the slots which they will not give up unless obliged to distort the market. Therefore, as a way of "encouraging" such movements, the regulation also tightens the use-it-or-lose-it rule. This means that if an airline cannot demonstrate 80 percent of slot usage, it goes to the slot pool (unless the case is fairly justified).

Ground handling, as it was discussed, is a different activity. It is one of the links creating a chain of air transport services and as such it has attracted a lot of attention of the European Commission. Its market has been gradually opened up starting October 1996 with the issuing of the Directive 96/97[86]. It was very much needed as many airlines complained about high prices being coupled with low quality, mainly as a result of monopoly of those services occurring at the majority of airports.

The main objective of the regulation was to ensure that no air carrier is given a discriminatory advantage over any of its competitor. Article 4 sets the first tool, namely it clearly states that the accounts of ground handling activities must be rigorously separated from the accounts of any other of their provider's activities. They may and should be offered on a free-access basis but certain services (handling of baggage, ramp, fuel and oil, freight and mail) can be limited to just two providers or further to just one. Some other services, like baggage sorting, de-icing, water purification and fuel-distribution systems, due to their complexity, cost or environmental impact, may be reserved to be provided only via centralized infrastructure at the airport. Self-handling, i.e. all the services that the air carrier can perform on its own, are also regulated. Generally two

[85] Council Regulation (EEC) No 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports; OJ L 14, 22.1.1993

[86] Council Directive 96/67/EC of 15 October 1996 on access to the groundhandling market at Community airports; OJ L 272 , 25/10/1996

rules apply to the cases mentioned above. First of all, all limitations can occur only if there exist specific constraints on space or capacity stemming from congestion and area utilization rate. Secondly, the allocation and management of this scarce pool of services should be "*transparent, objective and non-discriminatory*" (Directive 96/97, Article 8).

The last regulated elements are the Computer Reservation Systems (CRS). They are rather complex for the time being, therefore there exist a detailed Regulation on their use in the European Union. A Code of Conduct for the use of CRS has been introduced by Regulation 2299/1989[87] with a view of simplifying the rules with the prospective advancement of the procedures in these services. They are, after all, relatively new to the industry, and touch the field of ever changing information technology.

According to Article 3 of the Regulation, all carriers must be able to participate on a non-discriminatory manner in the CRSs and data provided by them cannot be manipulated in any way. Even if an air carrier owns or controls the system vendor to some extent, equal conditions should apply. One important problem is the data confidentionality. Generally, no participant (even the one owning the CRS) is granted access to the confidential data of another air carrier or an individual passenger.

To sum up, all the provisions included in these Regulations reinforce the general objective of the EU legislation to ensure all air carriers, both incumbents and new entrants, a non-biased treatment with the possible benefits of competition being experienced by all the parties, from airlines to consumers. To take it a step further, applying a similar approach towards third countries was in scope of the European liberal aviation policy.

2.3.3 The EU External Policy

Having completed the internal market the European Union starts to create and implement the framework of common external policy on air transport services. This policy would mean that each new service linking European Union as a whole with a third country is, a subject of common interest in the Community and should present a high level of complementarity with the already existing ones. It all started with landmark rulings of November 2002[88] and further developed into what is now known as the open skies judgments. Back then, the European Court of Justice ruled that the eight existing bilateral agreements with the United States were not in line with the EU Treaty. Following this statement, foundations of external aviation policy have been established. In June 2005 transport ministers agreed on a comprehensive roadmap aiming even beyond the legal aspects.

The external aviation policy rests on three pillars. First and foremost, all bilateral agreements currently in place should be amended and new agreements should take the form of horizontal ones. These agreements are negotiated by the Commission on behalf of the Member States, in order to bring all existing bilateral air services agreements (ASA) in line with Community law. Secondly, a Common Aviation Area with neighboring countries is the target of 2010. Thirdly,

[87] Council Regulation (EEC) No 2299/1989 of 24 July 1989 introducing a code of conduct for computer reservation systems amended by Council Regulation (EEC) No 3089/93 of 29 October 1993 and Council Regulation (EC) No 323/1999 of 8 February 1999, OJ L 040 , 13/02/1999

[88] EC Court of Justice (2002)

European Commission seeks to sign global agreements with the partners mostly impacting the worldwide economy.

A horizontal agreement is a result of negotiations between the third country and European Commission acting on behalf of Member State(s) for which it has been authorized by the relevant government. Acting autonomously would be contrary to the principles of the single aviation market and this has been clearly stated in the "Communication from the Commission on relations between the Community and third countries in the field on air transport"[89]. It has a crucial consequence for any new member of the European Union. Not only must such a country harmonize its aviation law to be compatible with the Community Air Carrier model, but it must also amend its existing bilateral agreements which for sure are numerous. The main reasons for doing this work is to "ensure the legal certainty of aviation relations based on such agreements" and also to "guarantee the same rights to all Community operators, by virtue of the principles of non-discrimination and freedom of establishment"[90]. Amending the Air Services Agreements can be done in two ways. A country might come again to the negotiation table with each of its partners and set the agreement so that it is in line with the Community law or the Commission can do so on a mandate of the new member, negotiating a single horizontal agreement. The former method is regulated by the Regulation (EC) No 847/2004[91] which says that any Member State can conduct negotiations with a third country if relevant standard clauses jointly developed within the Community are included and proper notification procedures are fulfilled. On the other hand, negotiations at Community level in the framework of the so-called "horizontal mandate" do not have to be formally regulated as this is the common rule and not a deviation from such. So far 23 negotiations have been successfully completed this way[92]. They enabled third country to avoid individual negotiations with each of the Member States with which air transport agreements were in place. The list of ASA agreements signed by the EU is listed in Table 1.

As a sector, aviation also contributes to the Community neighborhood policy[93]. It is one of the factors in promoting co-operation between countries whose markets are essentially turned towards each other. The ultimate goal is to create a Common Aviation Area by the end of 2010 between the EU members and their eastern and southern partners. So far the agreement was concluded with Iceland, Norway, Western Balkans and some of the Mediterranean countries. Priorities comprises of Russia and the region of Black Sea.

And last but definitely not least important pillar of the Community Air Transport Policy are the horizontal agreements with global partners which, even if remote, influence the European economy significantly. The list of seven such countries includes United States of America, China, India, Canada, Australia, New Zealand and Chile.

The most recent development in this area is the EU-US (Open Sky) Air Transport Agreement, signed on 30 April 2007, which will be applied from 30 March 2008[94]. Till March 2007 Germany, France, and 14 other member of the EU (including Poland) had bilateral "open skies" agreements with the US. Those "open skies" agreements gave EU airlines the right to fly without

[89] COM (2003) 94 Final
[90] http://ec.europa.eu/transport/air_portal/international/pillars/horizontal_agreements_en.htm (20.04.2008)
[91] Regulation (EC) No 847/2004 of the European Parliament and the Council of 29 April 2004 on the negotiation and implementation of air service agreements between Member States and third countries; OJ L157 30.4.2004
[92] http://ec.europa.eu/transport/air_portal/international/pillars/horizontal_agreements_en.htm (20.04.2008)
[93] EC (2004)
[94] http://jsis.washington.edu/euc/brussels/05_2_Commission_Q&A.pdf (6.09.2008)

restrictions on capacity or pricing to any point in the US, but only from their home country – French airlines from France, Polish airlines from Poland and so on. These "open skies" agreements included the "fifth freedom" and thereby gave US airlines the rights to operate flights within the Community.

The new Agreement opens the possibility for any "Community air carrier" to fly between any point in the EU to any airport in the U.S., without any restrictions on pricing or capacity and the opportunity to continue flights beyond US the towards third countries ("5th Freedom"). In the Agreement there is also the possibility to operate all-cargo flights between the US and any third country, without a requirement that the service starts or ends in the EU ('7th Freedom'). Finally there is more freedom to enter into commercial arrangements with other airlines (code-sharing, wet-leasing etc.) and the rights - in the area of franchising and branding of air services - to enhance legal certainty in the commercial relations in between airlines.

The EU-US agreement shall expand the transatlantic air transport market with about 50 million passengers in 2007. According to some estimates this Agreement opens the possibility of an additional 25 million extra passengers on transatlantic flights over a period of 5 years. It is expected that the price of flights between the EU and the US will fall for both business travelers and tourists. As a consequence, the Agreement could generate economic benefits up to 12 billion over a period of 5 years, and around 80.000 jobs in the US and the EU[95].

3. AIR TRANSPORT SERVICES IN POLAND

The modern history of Polish civil aviation starts with the establishment of LOT Polish Airlines on 1 January 1929 by the Polish government as a state owned self governing corporation taking over existing domestic lines Aero and Aerolot, and started operations on January 2. [96] Services were suspended during the Second World War, and all of LOT's aircraft were either destroyed or detained. On 10 March 1945 the Polish government recreated the LOT airline. In 1946 the airline restarted its operations. Both domestic and international services restarted that year, first to Berlin, Paris, Stockholm and Prague. The airline continued to operate as a state-run monopoly until 1992 when it became a joint stock company. After the sale of 37.6 percent stake to Swissair, the state remained the 51 percent owner of the company. Since 2003, LOT is a member of Star Alliance. In 2004 LOT opened its low-cost subsidiary Central Wings to withdraw it from regular operation in 2008.

Polish air transport market has a marginal position in the world air transportation. Its share in passenger transports was equal to 0.17 percent and in cargos to 0.05 percent as shown in Table 1[97]. Polish air carriers (LOT, Central Wings and Fischer Air Polska[98]), exploiting altogether 61 aircrafts in 2006, transported 3.6 million of passengers, and had also a marginal share in the world market (in terms of number of passengers and PKm) close to 0.2 per cent.

On the other hand, Poland's market for air transport services is growing rapidly. In 2006 the number of passengers increased by 5.6 percent and the predicted rate of growth (11.2 percent

[95] Ibidem.
[96] http://en.wikipedia.org/wiki/LOT_Polish_Airlines
[97] Turkey, being also rather a marginal market, had shares 4-6 times larger than Poland.
[98] Recently Central Wings has gone out of retail business.

p.a.) during the period of 2005-2009 is probably one of the highest rates in the world[99]. The recent rapid growth has occurred despite the fact that Polish airports suffer from underinvestment, inadequate infrastructure and limited capacity. This dynamic growth of number of passengers reflects i.a. high rate of GDP growth in 2005-2008, increasing demand for tourism services and the growing importance of migration of Polish labor force. Poland, after accession to the European Union, implemented all binding legislation, contained in the three packages that introduce the Single European Sky. The facilitation of access to the Polish market has greatly increased the degree of competition. It seems, that the liberalization process, has contributed to the rapid growth of passengers flights in Poland as well.

Table 1: Ranking of countries according to passengers carried (PKm) and cargos (TKm) in regular flights (2006).

Country	Passengers (billions of PKm):			Cargos (millions of TKm)		
	Ranking	PKm (billion)	Share in the world marke (percent)	Ranking	TKm (million)	Share in the world marke (percent)
USA	1	1277.4	32.4	1	39.882	26.6
China	2	234.5	5.9	6	7.764	5.2
U. Kingdom	3	213.3	5.4	7	6.215	4.1
Germany	4	194.1	4.9	3	8134	5.4
Japan	5	151.4	3.9	2	8480	5.7
France	6	149.4	3.8	8	6135	4.1
…..						
Turkey	25	27.9	0.7	33	464	0.3
……..						
Poland	48	6.6	0.17	56	80	0.05

Source: Polish Civil Aviation Office report 2006, based on ICAO report.

2.4 Market Regulations:

The air transport market in Poland is regulated by the Civil Aviation Office (CAO), created in 2002 by Order 136 of the president of Council of Ministers.[100] It is a civil aviation authority, responsible for providing and maintaining safe and efficient aviation services to, from and within Poland.

The CAO performs functions of aviation administration and aviation supervision authority in the following main areas:

[99] International air transportation (WWW.pmrpublications.com). The other countries with high rate of passengers'' growth (in (2005-2009) are China (9.6 percent), Czech Rep. (9,5 percent), Qatar (9.2 percent) and Turkey (8.95 percent). These estimates should be treated with caution, due to the fact that economic recession has started in 2008.

[100] Polish Monitor of 20 November 2002.

- compliance with legal provisions relating to the civil aviation & commercial aviation,
- operation of aircraft & certification of entities conducting activity in civil aviation,
- airworthiness of aeronautical equipment & the competency of the flight personnel,
- registers of: aircraft, aerodromes, aviation ground facilities, flight personnel, & landing areas,
- flight safety in civil aviation, including the examination & evaluation of safety levels in civil aviation,
- application of civil aviation regulations,
- approving the boundaries of maneuvering area of the aerodrome,
- international agreements - preparation & negotiations;
- aerodrome security protection programs,
- organization of aviation medical examination services,
- co-ordination of local town & country plans in municipalities where a new aerodrome location is projected.

The CAO publishes relevant regulations, entry permissions, air navigation charges, briefings and annual reports, describing new developments in the civil aviation sector in Poland[101].

3.2. Market Access

Foreign air carriers may carry out international commercial flights involving commercial landing in the territory of Poland, subject to the permission granted by the President of Civil Aviation Office of the Republic of Poland[102]. The President of CAO of the Republic of Poland issues: (i) permissions for ad hoc commercial flights; (ii) general permission for a series of unscheduled commercial flights comprising of at least ten flights and (iii) operating permit for scheduled flights.

No permission is required for the operations of all foreign air carriers for: (i) single passenger flights performed with aircraft of seating capacity less than 12 passengers, used only by the charterer or charterers on the route of their choice, (ii) single cargo flights performed with aircraft of which the maximum total weight authorised is less than 5700 kg, used only by the charterer or charterers on the route of their choice and (iii) non - commercial flights. Such flights are only confirmed by the Polish Air Traffic Agency. The only document required is an insurance certificate.

As far as traffic rights for regular carriers are concerned there is a distinction between the requirements for air carriers from European Economic Area (EEA) plus Switzerland and air carriers from non-EEA countries. The documents required to be submitted together with the application for single commercial flight are: (i) Air Operating Certificate with Operations Specifications; (ii) Insurance Certificate and (iii) Operating Licence. If the air carrier is intending to perform scheduled flights, it must also submit the timetable before the beginning of every IATA season and tariffs applicable to air transport services, for information of the authority.

[101] See: http://www.ulc.gov.pl/

[102] According to the article 193 item 1 of the Polish Aviation Act of 3rd July 2002 (Journal of Law No 130 item. 1112 with changes) a foreign air carrier may perform air transport to or from the Republic of Poland only to the extent and on conditions set out in a permission issued by the President of CAO of the Republic of Poland.

Further documents can be required on demand especially if there are specific safety or security concerns. The application for a permission containing the required data and documents, should be submitted at least 30 working days before the planned commencement of carriage services.

Poland, in line with the European Union provisions related to the Single European Sky, set up the Polish Air Navigation Services Agency (PANSA)[103] in 2006. This complies with: (i) Regulation (EC) No 549/2004 (laying down the framework for the creation of the Single European Sky); (ii) Regulation (EC) No 550/2004 (on the provision of air navigation services in the single European sky), (iii) Regulation (EC) No 551/2004 (on the organisation and use of the airspace in the single European sky), (iv) Regulation (EC) No 552/2004 (on the interoperability of the European Air Traffic Management network) and (v) Commission Regulation (EC) No 2096/2005 (laying down common requirements for the provision of air navigation services).

The Agency (Article 3 of PANSA) shall ensure safe, continuous, smooth and effective air navigation in the Polish airspace by performing functions of an air navigation service provider, airspace management and air traffic flow management. In particular PANSA shall: (i) provide meteorological information to airspace users; (ii) purchase, maintain and modernise the airspace communication, navigation and surveillance equipment and systems; (iii) perform airborne control of airspace communication, navigation and surveillance systems; (iv) provide training and consultation within air navigation; (v) ensure flight procedure design and (vi) coordinate air search and rescue.

Thus, Poland has implemented the core elements of the Single European Sky legislation. Basing on ALI indices, one can state that the way of application of rules in Poland does not deviate from the "standard" implementation of other EU Member States.

3.3 Market Structure and Competition:

Polish market and air carriers - as it was already mentioned - have a marginal position in the world market of air transportation. But domestic market has been growing quite rapidly in the recent ten years. The number of international flights over Polish territory has increased from 71.5 thousand in 1997 to 186.4 thousand in 2006. The respective increase for domestic flights was from to 20.4 flights in 1997 to 46.9 thousand in 2006.

The increasing competition is gradually changing the market structure in Poland. These changes follow a general trend observed at the European market. In the past, the market was completely dominated by the flag carrier PLL LOT. Till now the incumbent LOT, with its subsidiary EuroLot, has a dominant position in Poland. In 2006 LOT, owning 38 aircrafts, increased the number of passengers by 3.6 percent in comparison to 2005. The largest number of LOT passengers travelled in Europe (2.2 million) and on transatlantic flights (561 thousand). The most frequent destinations from Warsaw were to London, Chicago, New York, Frankfurt and Brussels. The average load factor in 2006 was equal to 74 per cent on LOT flights, and much higher (87.2 percent) on transatlantic routes. The regional lines EuroLot, created by LOT, had 13 short distance turboprop airplanes (in 2006), servicing mainly domestic flights and neighboring countries (950 thousand passengers). In 2005 LOT created also Centralwings, the low-cost

[103] The Act 1829 of 8 December 2006 on the Polish Air Navigation Services Agency

subsidiary airline, which carried over 1.2 passengers in 2006[104]. The fourth Polish carrier: Fischer Air Polska (FAP) has a marginal position (235 thousand passengers) and is servicing charter flights only[105].

The very strong domination position of incumbent carrier PLL LOT had been gradually undermined in recent years, mainly as a result of emerging competition from low-cost airlines. The share of LOT in the passenger air traffic in Poland decreased quite abruptly from almost 60 percent in 2004 to 34 percent in 2006. This change reflected the process of market access liberalization, decrease of tickets' prices and expansion of low cost-airlines. Indeed their share increased form 12.0 to 44.3 percent in the same period of time[106]. In 2008 the likely market shares in passenger traffic in Poland were as follows[107]: (i) LOT (19.7 percent), (ii) Wizz Air: Hungarian low-cost airline (10.6 percent), (iii) Ryanair: Irish low-cost airline (8.6 percent), (iv) Easy Jet: British low cost-airline (6.4 percent), (v) Lufthansa (6.4 percent), (vi) British Airways (5.1 percent), (vii) Air France (3.8 percent), (viii) Swiss (3.3 percent), (ix) KLM (3.1 percent) and (x) Alitalia (2.9 percent). The already mentioned Centralwings and Sky Europe (Slovakian), Germanwings, Norwegian and Volare Airlines (Italian) were other low-cost airlines having an offer of regular flights to and from Polish airports. The most popular destinations proposed by low-cost airlines in Poland were: London, Dortmund, Paris, Dublin, Rome, Frankfurt, Koln, Stuttgart, Milano, Oslo, Amsterdam and Brussels. Therefore, the range of destinations and services offered by low-cost airlines in Poland is quite large and directly competitive to destinations covered by incumbent, "flag" air carriers (LOT, Lufthansa, British Airways, Air France and Alitalia).

The increased competition among low-cost airlines and traditional air carriers decreased average ticket prices paid by customers in a very significant way. The tickets being offered by low cost airlines are not competitive for business passengers, but are important for tourists and labour migrants, planning their trips well in advance. The demand of the latter groups is usually much more elastic and lower prices boost the tickets' demand from tourists and labour migrants. In 2007 it was possible to buy in Poland (although well in advance) a ticket to many European destinations for less than one hundred Euros. As a result, some traditional air carriers reduced their prices significantly (especially on flights booked in advance) or at least offered temporary reductions for low season flights. On the other hand the business fares were not reduced in a visible way, since competition in that market segment was not seriously affected by the low-cost airlines. In consequence, the average prices paid by customers have been reduced significantly, however, there is no reliable data nor studies that formally confirm this statement. The rapid recent change in market structure, in favor of low cost lines, reflects how large was the price gap between low-cost and traditional air carriers and the degree of monopoly power the traditional airlines have enjoyed in the past thanks to regulatory barriers.

Polish airports, experience a very significant growth of passenger traffic as well. In the year 2006 the number of travelers using Polish airports grew by one third, a number that should be compared to an average of 7 percent in the rest of Europe. Furthermore, forecast of the dynamics of further expansion is quite impressive too. According to IATA, in the years 2005-2009 the

[104] Recently suffering serious financial problems and has ceased to offer ordinary passenger services and focused completely on charters.
[105] Polish CAO report 2007.
[106] Sosna and Lucas 2007, p. 4.
[107] This structure market structure is based on sample of Internet sales by the portal fru.pl. The statistical representativeness of this sample can be quite limited.

numbers of passengers on Polish airports should grow by 11,2 per cent, which places Poland on the first place before countries such as China (9,6 percent), the Czech Republic (9,5 percent) or India (8,4 percent). Of course, the financial and economic crisis in Europe will reduce the potential for further increase in the number of flights and passengers.

The forecasts of rapid growth seem to reflect the relative underdevelopment of Polish airports. The main factors contributing to these figures are the limited capacity and the centralized structure of airports in operation, combined with the rapid expansion of low-cost airlines. The limited capacity of airports stems directly from a less dense airport network in Poland in comparison to Western European countries. In Poland there is one airport per almost 3,2 million inhabitants, whereas in more developed European countries this ratio is on average one to 460 thousands inhabitants. Travelers from non-urban areas often have to travel over 200 km using ground transportation to reach the nearest airport. Another significant barrier to air services growth is a centralized airport structure. In the case of Poland in 2006, the Warsaw-Okecie airport served 53 percent of all passengers traveling by air, whereas the second biggest airport served only less than 16 percent. Such a structure reflects the fact that Warsaw-Okecie is the major hub for the LOT group, the Polish flag airline. As a result, the largest Polish international airport has already been facing significant capacity problems, and the addition of the new terminal in 2008 has only temporarily solved the problem.

However, this situation is changing rapidly with the entries of low-cost airlines on the Polish market. These airlines are contributing to the development of passengers air transport in two ways. First of all, by making flying less expensive, they contribute to increased demand for flights and put more pressure on airports to augment their capacity. However, a more important way is the contribution to the development of smaller regional airports that suffer from serious underinvestment. These airports offer in general lower airport fees, which allow low cost airlines to offer their services at lower prices without prejudice to their profits. Thus, low cost airlines often contribute, in a more or less direct way, to the development of smaller regional airports. As an example, one could mention the Hungarian Wizzair that has established its major base in Katowice, servicing the region of Silesia, being up to now almost completely neglected by the Polish flag airline. There are also plans to construct a second major airport servicing Warsaw, positioned in a more remote location, where operating costs should be lower and which could offer an attractive pricing scheme for the low-cost airlines and charters. The airport shall reduce the congestion at the main Warsaw-Okecie airport.

Thus, as it was already mentioned, change of the air transport market structure in favor of low-cost airlines, is promoting a rapid growth of a general airport capacity and a switch towards smaller regional airports, such as Katowice, Krakow, Gdansk or Bydgoszcz. Moreover, this rapid "regional" expansion of air transport services leads to expansion of numerous investment projects in new airports. This regional switch is forecasted by the Polish Civil Aviation Office. A clear dominance of the Warsaw-Okecie airport is very noticeable at present (2006) – it serves 8.1 million passengers, compared to 7,3 million served by regional airports. In 2020, according to ICA forecast, the proportions will be changed. Twenty four million passengers will travel through regional airports and only 16 million through Warsaw-Okecie.

This tendency, though to a lesser extent, can also be observed in freight air transport. The domination of the flag airline that uses luggage compartments of regular passenger aircrafts and operates mainly from Warsaw to Europe and over the Atlantic, is slowly decaying. Its share in overall tonnage transported decreased from more than 72 percent in 2002 to less than 62 percent in 2006. Since the rest of freight transporting airlines tend more to operate from regional airports,

such a change in the structure of the freight air transport should contribute to a dynamic development of regional airports, as well.

The recent dynamic growth of air transport market is well pronounced after Polish accession to the European Union in 2004. To what extent the Single European Sky legislation contributed to this development? Was it a Polish phenomenon, or pan-European one? This will be econometrically tested in the last chapter. Before we shall present market developments in Turkey.

3 AIR TRANSPORT IN TURKEY

In Turkey the first aviation activity started in 1912 as an establishment of two hangars and a small runway in Sefaköy, situated nearby the current Atatürk Airport in Istanbul. It soon became the Yeşilköy flying school. ‘‘Turkish Aeroplane Association’’ was established in 1925, and the name was changed later to ‘‘Turkish Aeronautical Association’’ (THK). In 1933, the first civil air transport company ‘‘Turkish Air Mails’’ started its operations with a small fleet of 5 aircraft. During the same year ‘State Airlines Administration’ was established under the Ministry of National Defense, whose mission was to establish civil air routes and provide civil air transport. Air transport between the principal cities of Turkey for commercial purposes began using aircraft which were bought previously for military purposes.

In 1938 the status of ‘State Airlines Administration’ was changed to ‘Directorate-General for State Airlines’, and it was attached to the Ministry of Reconstruction. In 1943 the rapid development of transport services in civil aviation made it necessary to attach the DG to the Ministry of Transport. But further developments in civil aviation showed that entrusting the management of aerodromes and of aircrafts to the same body had to be given up. As a result the functions were separated. ‘Civil Aviation Department’ has been founded in 1954 attached to the Ministry of Transport. In 1956 air transport was reorganized and the new company operated under a special legislation as Turkish Airlines (THY) with a capital of 60 MILLION TL., while the administration of aerodromes, ground services, air transport, air traffic control and aeronautical communications was placed in 1956 under the responsibility of the ‘Directorate-General for State Airports Authority’.

Currently THY is the predominant provider of passenger and freight services in Turkey’s air transport sector. In 1984, THY was classified as a State Economic Enterprise and capital was raised. In 1990 it was included in the list of the State Economic Enterprises to be privatized and was transferred to the jurisdiction of the Privatization Administration in 1994. In 2005 Privatization Administration had 75.2 percent of THY’s shares and shareholders and institutions 24.8 percent of the shares.

On the other hand as the management of the aerodromes faced problems, a ‘State Aviation and Airports Management Authority’ (DHHMİ) was established beginning operations in 1983. In 1984 an aerodrome operating company with limited responsibility was established attached to DHHMI but with its own legal personality. The Decree-Law No. 233 of 1984 reorganized the financial companies of the State, and closed DHHMİ and the aerodrome operating company under it. The assets, receivables and liabilities of DHHMI and of the attached operating company were ceded to the ‘State Airports Management Authority’ (DHMI). The enterprise is in charge of airport operations, provision of airport services, air traffic control, setting up and operation of the navigation systems and the associated facilities. Currently DHMI operates most of the airports in

Turkey. The remaining airports are those with special status, those used by THK, the military airports used by civil aviation entities under special protocols, military airports and joint military-civilian airports. Major developments have been realized in Istanbul Atatürk and Antalya Airports, making them among the important airports of Europe as a consequence of the increase in the international traffic. DHMİ has 100 percent market share in air navigation services but private firms can operate in other services (operating airports / terminals).

In 1987, the 'Civil Aviation Department' has been restructured as ''Directorate-General for Civil Aviation'' (DGCA) under the Ministry of Transportation. It is tasked with developing civil aviation rules, licensing air transport personnel, authorization of all aviation activities, the coordination of navigation services, monitoring of the implementation of international agreements, the examination of air transport-related accidents, the auditing of all civil aviation systems and determining the contents of civil aviation training programs. DGCA has been restructured in order to enhance air transport safety and to enable it to effectively perform the duties assigned to it by law. Civil aviation activities are conducted in accordance with the Civil Aviation Act, 2920 issued in 1983 and with the related regulations published accordingly. In 2005 DGCA has been changed into a public legal entity with its own budget under the Ministry of Transport. It is assigned with the duty of implementing and enforcing the civil aviation rules and of licensing air carriers. After becoming financially autonomous DGCA started generating revenues from service charges as well as from the issuing of licenses to operators and ground handling organizations. In the meantime it has completed its re-organization, and has recruited new staff.

4.1 Regulatory Framework[108]

In Turkey private air carriers have been allowed to become established since 1983 with the enactment of Law No. 2920 on Turkish Civil Aviation. Authority for approval of new carriers is vested in the Ministry of Transport. Air carriers for domestic or international 'scheduled' flights are authorized to schedule services if they are registered in Turkey and operate a minimum of five registered aircraft with at least 100 seats. However, aircraft can be leased and there is no requirement of ownership. Where there is no company-owned aircraft, a bank letter of guarantee for up to US$ 3 million is required. In the case of non-scheduled domestic and international flights at least three registered aircraft are required, and each aircraft must have at least 100-seat capacity. However, for regional air transport, a carrier should own or lease at least two aircraft registered in the Turkish Civil Aircraft Registry, with a capacity of between 20 and 99 seats. For cargo operations, the aircraft requirement is dropped to one. Provided that these requirements are fulfilled, a market entry license can be obtained. In addition Turkish regulations require that the majority of a company's executive and authorized representatives must be of Turkish nationality, and that Turkish shareholders must have voting majority. Hence, the equity participation ratio of foreign shareholders is restricted to 49 percent. Airlines with a majority of shares controlled by foreigners are not permitted to carry passengers from one national point to another within Turkey. Technical and financial supervision of existing carriers is carried out by DGCA and the rules are enforced by DGCA. Thus, the Turkish licensing system is on the whole compatible with the EU legislation.

[108] This section is based largely on WTO (2008), Centre for Economics and Foreign Policy Studies (2007), UN/ECE (2008) and Official Gazette (2008).

In 2001 as the Turkish aviation sector was undergoing liberalization, an amendment to the Turkish Civil Aviation Code was adopted allowing air carriers to set airfares without the approval of the Ministry of Transport. When setting the tariffs, airline operators should obtain the approval of the Ministry in advance, and they are under the obligation to advertise new tariffs at least 3 days before they are implemented. Thus, the government no longer intervenes in the pricing of non-scheduled or air taxi services, and since the beginning of 2004 air tickets have not been subject to the special transaction tax or education contribution payment. In 2004 some Turkish air carriers started scheduled domestic flights including to and from Istanbul, contributing to the end of the State-owned operator's de facto monopoly in the domestic scheduled flights.

One of the critically important factors in enabling a level competitive field in air transport relates to the question of flight permits and slot allocations. For a flight to be realized, the air carrier must have obtained both a flight permit for that route and a slot allocation for the airport. An appropriate allocation mechanism of flight permits and landing slots, especially at busier airports, is instrumental in preventing market closure by the traditionally dominant players and thus creating room for new entrants. In Turkey flight permits are awarded by the Ministry of Transport, and the Ministry maintains that no additional flight permits will be issued for any route until the load factor on average reaches 85 percent on that route. Because slots are finite, the objective should be to set the conditions for the creation of a contestable market in specific routes. In Turkey landing and take-off rights are allocated on slot time basis, and slot allocation is applied at Atatürk, Antalya, Adnan Menderes, Dalaman, Bodrum, and Esenboga airports, and Kayseri during the summer months.

With the approval of the Ministry of Transportation in 2005, slot coordination responsibility in Turkey has been placed under the authority of the 'Commission for Evaluation of Slot Allocation' (CESA) established under the presidency of the DGCA. CESA is a consultative body comprised of representatives of national and international air carriers, of the 'State Airports Management Authority'and of ground handling companies. In addition a slot coordinator post, an evaluation committee and a technical committee in line with the *acquis* have been established. Given the importance for maintaining a contestable market, the current slot allocation procedures allow for new market entry by defining and protecting the rights of 'new entrants', and new entrant means an air carrier requesting slots at an airport on any day and holding or having been allocated fewer than four slots at that airport on that day. After slots are allocated to the historic slots and hour changes in the slots, 50 percent of the remaining capacity is allocated to new entrants. Finally, in order to increase the efficiency in slot allocation, fines have been introduced to prevent operators from violating their arrival and departure schedules. The new regulations thus aim to avoid unrealistic slot requests. Operators also face the risk of losing their slots if they fail to comply with allocated slot schedules.

Given the importance of ground handling services for efficient and cost effective air transport services, access to the ground handling market remains a critical issue. In Turkey two private-sector ground-handling companies provide services at all airports open to international civil air traffic. In Sabiha Gökçen airport in Istanbul ground services are provided by the airport operator. Although the presence of two ground handling operators complies with the EU requirements, ground handling at Sabiha Gökçen does not. The Turkish legislation, unlike the relevant EU legislation, does not stipulate a minimum number of service providers. Since it sets forth a maximum number depending on the number of passengers, the scope for competition remains limited. On the other hand catering services at the international airports are provided by four catering firms, of which two are entirely owned by Turkish companies, and two are mixed

foreign-Turkish partnerships. Airlines may also provide ground handling services for their own use at all airports (self-handling). The prices for these services are again market-determined.

Turkey is a member of the International Civil Aviation Organization (ICAO), European Civil Aviation Conference (ECAC), European Organization for the Safety of Air Navigation (EUROCONTROL), Joint Aviation Authority (JAA), and it is party to a large number of international conventions such as the Chicago Convention.[109]

Safety regulations for civil aviation has its legal basis through (i) the organization and functions of the Ministry of Transport, (ii) Turkish Civil Aviation Law, (iii) Law on the Organization and the Duties of the DGCA, (iv) the Chicago Convention, and (v) the EUROCONTROL Convention. Implementation of EUROCONTROL Safety Regulatory Requirements (ESARRs) has been delayed in Turkey although some are already being enacted in practice. In fact three new regulations in compliance with ESARR 5.1 (general requirements), ESARR 5.2 (air traffic control officers) and ESARR2 (reporting and assessment of safety occurrences in air traffic management (ATM)) have been enacted and promulgated in the Official Gazette in 2007.[110] DHMİ and DGCA have prepared draft texts for the remaining ESARRs and it is expected that these will pass into legislation shortly. They will be enacted into law and applied in practice.

The DHMİ Safety Commission which is responsible for all ATM safety matters has been established in relation with the Safety Management System (SMS). Generic Safety Management Manual guidelines are used for updating Local Guidelines for SMS and Quality Management Systems (QMS) adapted to Turkish requirements. The DHMI Safety Commission promotes awareness and implementation of Single European Sky (SES) safety provisions within DHMİ and in accordance with Turkish legislation. Oversight activities conducted by DGCA were presently confined to airports and ATM units.

Regarding runway safety, Local Runway Safety Teams have been formed for all airports, and a reporting and dissemination structure to DHMİ and to the DGCA have also been formed. Airport related personnel have been kept fully aware of all runway incursion matters. Suitable training in line with EUROCONTROL Action Plan for the prevention of runway incursions and Airport Runway Incident (APRI) guidelines has been prepared. Local Runway Safety Teams have also been carrying out the trainings and awareness campaigns in accordance with ICAO Runway Safety Toolkit in all aerodromes. Finally, we note that the Implementing Regulation on Approved Overhaul Administrations in line with the *acquis* has been published in 2004.

[109] See DGCA (2008a) for more information.

[110] By-Law on Reporting and Assessment of Safety Occurrences Related to Air Traffic Management Services, SHY-65-02 (revised according to ESARR 2) was published in the Official Gazette no: 26419 dated 30 January 2007. This by-law is aligned with Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation and partially (the ATM related parts) aligned with the Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents. By-Law on Air Traffic Controller Licensing and Rating, SHY 65-01 (revised according to ESARR 5 version 2.0) was published in the Official Gazette no: 26420 dated 31 January 2007. This by-law is aligned with the Directive 2006/23/EC of the European Parliament and of the Council of 5 April 2006 on a Community air traffic controller license. On the other hand the By-Law on Certification and Licensing of Air Traffic Safety Electronics Personnel was published in the Official Gazette no: 26420 dated 31 January 2007 (prepared according to ESARR 5 version 2.0).

Similarly in 2005 the instructions on licensing of plane and helicopter pilots have been issued in line with the *acquis*.

In Turkey, the public service obligation (PSO) used to be fulfilled by THY. After the liberalization of the market, PSOs were imposed on other carriers in a less than transparent way. More often than not, these obligations were enacted by linking the permit to fly requested routes to the obligation to fly to government imposed destinations. Thus, actual practice is not compatible with the EU rules. Harmonization with the EU rules will require that state authorities determine the specific routes that will fall under the PSO regime, allocate and disclose the planned amount of state aid, and launch competitive tenders for servicing these routes.

Air carriers operating international scheduled services to Turkey are authorized on the basis of reciprocity within the framework of bilateral agreements. As emphasized by the WTO (2008) charter services are authorized on the basis of reciprocity under the rules of the European Civil Aviation Commission (ECAC), of which Turkey is a member. Cargo transport is under the provisions of Law No. 2920 and relevant articles of the Regulation on Commercial Air Transport Operations, as well as the applicable provisions of bilateral air transport agreements signed by Turkey. Turkey has signed bilateral air transport agreements with 88 partners. Under these agreements, 63 foreign airlines are operating scheduled services to Turkey, and THY is operating scheduled services to 77 cities abroad. Some of these agreements restrict market access to the signatory states' respective national carriers. A legal duopoly has therefore been created for the specific international routes covered by these Agreements. These restrictions benefit the Turkish Airlines to the detriment of all the other domestic carriers who are prevented from flying to the international destinations covered by these Agreements.

An open skies agreement has been concluded between Turkey and the United States. A de facto open sky agreement also exists between Turkey and Germany. EU Commission maintains that under the bilateral agreements signed with the EU Member States, Turkey should allow Community air carriers to operate from EU Member States to Turkey and not discriminate between Community air carriers on the basis of nationality. Cabotage in air transport in Turkey is not open to competition from foreign companies.

Although major steps have been taken in Turkey to liberalize the aviation sector since 2001, European Commission's 2008 Regular Report on "Turkey's Progress towards Accession" still maintains that progress is limited. It states that preparation of regulations on slot allocation, ground handling services, passenger rights and maintenance systems is advancing. Although the European Aviation Safety Agency (EASA) has accredited the DGCA in the field of aircraft maintenance, the report notes that the implementation capacity of DGCA in technical areas is lagging behind. Preparations for a single European sky are still at an early stage, and air traffic management is suffering from a lack of regional cooperation. On the other hand the European Commission's 2007 Regular Report had reported that implementing legislation in line with the *acquis* had been adopted on liability insurance for air carriers, on occurrence reporting in civil aviation, on licensing and rating of air traffic controllers, on certification and licensing of safety electronics staff, reporting and assessment of safety incidents, approved maintenance organizations, and on commercial air transport operators.[111] But Turkey had not engaged with

[111] In fact the By-Law on Liability Insurance for Turkish and Foreign Aircrafts that Land or Take-off within the Borders of Republic of Turkey was published in the Official Gazette no: 26347 dated 15 November 2006. This by-law is partially aligned with the Regulation (EC) No 785/2004 of the European Parliament and of the Council

the Commission in negotiations on a "horizontal air transport agreement", and did not accept Community designation, a fundamental requirement under Community law. According to the report air traffic management is suffering from a lack of regional cooperation, and the risks to air safety in the South East Mediterranean region have not been addressed.

The '2008 National Programmes for the Adoption of the Acquis', published in the Official Gazette at the end of 2008, states that Turkey over the period 2009-2013 intends to align its legislation by adopting Regulation (EC) No 549/2004 of the European Parliament and of the Council laying down the framework for the creation of the single European sky, Regulation (EC) No 550/2004 of the European Parliament and of the Council on the provision of air navigation services in the single European sky, Regulation (EC) No 551/2004 of the European Parliament and of the Council on the organization and use of the airspace in the single European sky, Regulation (EC) No 552/2004 of the European Parliament and of the Council on the interoperability of the European Air Traffic Management network, Commission Regulation (EC) No 2150/2005 laying down common rules for the flexible use of airspace, Commission Regulation (EC) No 2096/2005 laying down common requirements for the provision of air navigation services, Commission Regulation (EC) No 730/2006 on airspace classification and access of flights operated under visual flight rules above flight level, Council Regulation (EEC) No. 3922/91 on the harmonization of technical requirements and administrative procedures in the field of civil aviation, Council Regulation (EEC) No. 2407/92 on licensing of air carriers, Council Directive 96/67/EC on access to the ground handling market at Community airports

Full harmonization with the EU *acquis* would mean the incorporation of Turkey within the Single European Space. As a result, EU carriers would begin to service the Turkish market including flying between domestic destinations, and Turkish carriers would be able to operate between and within EU countries without any discrimination. This freedom would translate into increased competition over Turkish skies with ensuing benefits for the Turkish consumer in terms of still lower prices and wider consumer choice as witnessed by the experience in EU countries as regards the liberalization of air transport services. The external dimension of the EU's Single Sky policy also requires the amendment and re-negotiation of the EU Member States' bilateral air transport agreements so as to eliminate designation clauses reserving routes to national carriers. This clause is to be replaced by a reference to all EU carriers. In addition price fixing arrangements should also be abolished. Harmonization with the EU *acquis* in this area would then mean that Turkey should also review its range of bilateral air transport agreements so as to implement these changes. As a result, the external market for privately held Turkish carriers would also be liberalized. They would then have the possibility of flying to hitherto closed destinations. The competition impact of the possible ending of the block exemption granted by the Commission to International Air Transport Association (IATA) tariff conferences should also be addressed. Turkey's integration with the Single European Space would require such a regulatory harmonization. In that case, tariff fixing between EU and Turkish destination would also become illegal, ushering in a period of increased price competition for EU-Turkey routes. A full regulatory harmonization would also allow a more competitive ground handling services market to emerge. The necessary changes in the Turkish legislation would enable the market entry of new competitors.

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of 21 April 2004 on insurance requirements for air carriers and aircraft operators and the Council Regulation (EC) No 2027/97 of 9 October 1997 on air carrier liability in the event of accidents.

4.2 Developments[112]

With the steps that were taken in 2001 to liberalize the aviation sector and the commencement of scheduled flights by the private sector, the Turkish civil aviation sector has entered into a rapid growth period. Although the growth rate has been decreasing lately, it was still high and well above the European average. In 2007 traffic volume increased by 9.8 percent compared to 2006 and the number of controlled traffic reached 935,667, representing an increase of 83,296 flights over the previous year.

Over the period 2002-2007, traffic has increased by 76 percent. While domestic flights during the same period increased by 132 percent, international arrivals and departures increased by 48 percent. According to the EUROCONTROL/STATFOR, Turkey is the 6th biggest country in Europe in terms of additional Instrument Flight Rules (IFR) movements per day with approximately 150 additional IFR movements (excluding overflights). The increase in the number of controlled flights is expected to continue in the near future. Although the traffic growth is expected to amount to about 3.5 percent per annum for Europe as a whole, a growth rate of 6.1 percent is expected for Turkey. It should also be underlined that the traffic volume is higher in the summer period due to tourism activities. The following figures further illustrate the growth in the sector: (i) number of large airplanes increased from 150 to 250 in 2007, while 29 of these are cargo planes and 217 are large passenger planes, (ii) number of domestic passengers increased from 8.5 million in 2002 to 32 million in 2007, (iii) number of international passengers increased from 25,1 million in 2002 to 38.4 million in 2007, (iv) and amount of cargo transported has increased 880,133 tons in 2002 to 1,546,025 tons in 2007.

The public-private partnership model and in particular the build-operate-transfer (BOT) option has been espoused by Turkey as the favorite method for developing the airport capacity of the country. As a result, private sector investments in airport construction have increased considerably. Currently there are 62 airports among which 15 are being used for both domestic and international flights, while the rest are utilized purely for domestic flights. It is also interesting to note that Istanbul Atatürk Airport which is the hub of THY is among the leading airports in Europe in terms of passenger traffic. It has been also the European leader in terms of traffic growth in the past year. On the other hand DHMİ transferred the operating rights of Antalya Airport to a private company for a total amount of € 2.37 Billion in 2007. Domestic and International Terminal Buildings, Multi-Storied Car Park and General Aviation Terminal of Istanbul Atatürk Airport was rented out for 15.5 years and for US$ 3 Billion in 2005. The airports of Tokat, Uşak, Sivas, Siirt, Çanakkale, Kahramanmaraş, Adıyaman, Amasya, Merzifon and Hatay which were closed or were not active have been opened to the civil air traffic again by DHMİ. BOT tender for International Flights Terminal of Milas Bodrum Airport was realized in 2006 and Teknotes Inc. won the tender for an operating period of 45 months.

However during the peak tourist season İstanbul Atatürk Airport experienced some delays due to the large increase in the traffic. Although these delays were eliminated through common actions taken, additional measures were taken to enhance and better manage the capacity. The measures have been effective in increasing air traffic management (ATM) capacity. In 2007 delays were decreased compared to 2006 while total delays have increased by 17.4 percent over 2006 for the whole European Network.

[112] This section is based largely on DHMI (2008), DGCA (2008a) and DGCA (2008b).

Lately, DHMI has taken measures to ensure that the airport systems have the capacity and redundancy to work in a safe and reliable way. Communications infrastructure and surveillance infrastructure have been improved substantially and additional controllers were recruited. Together with EUROCONTROL airside capacity assessment and enhancement studies for İstanbul Atatürk Airport were completed by taking into account the new runway and taxiways. New theoretical capacity and the bottlenecks have been identified, and bottlenecks have been investigated further. In addition to the airside capacity studies, Collaborative Decision Making (CDM) GAP Analysis studies were commenced to enhance the productivity of the airport. In the meantime, it was noted that the continuous traffic growth has resulted in erosion of reserve capacity, meaning that the existing system was no longer capable of economic upgrading to satisfy the extra capacity needs. In the light of this fact, Turkey has accelerated its SMART (Systematic Modernization of ATM Resources) Project to allow an early implementation of an interim upgrade of the ATM systems.

Regarding safety inspections we note that the number of Safety Assessment of Foreign Aircraft (SAFA) inspections increased from 150 in the year 2006 to 379 today and the number of Safety Assessment of National Aircraft (SANA) inspections increased from 85 in the year 2006 to 192 today.

4 THE LEVEL OF AIR SERVICES' LIBERALIZATION

There have been only few studies estimating the level of market liberalization in air transport services. One of the first was made by Gonenc and Nicoletti (2000), who examined the effects of bilateral air service agreements on prices of air passenger transport in thirteen OECD. Their index of air service restrictiveness was also used by Doove et al. (2001) who estimated the positive and significant effects of restrictiveness on airfares.

The most recent study was made by Piermartini and Rousova (2008) who used the Air Liberalization Index (ALI) constructed by the WTO Secretariat (WTO, 2006). This index was defined in consultation with a group of experts with the view to capture the relative importance of each provision in liberalizing the sector. The weights assigned to the different provisions of air services agreements (ASA) were set by experts.

The ALI index identifies seven features of air services agreements as being the most relevant for openness of scheduled air passenger services market. These include agreements and clauses referring to the grant of rights, capacity, tariff approval, withholding, designation, statistics and cooperative arrangements.

With respect to the *grant of rights* to provide air services between two countries, the WTO analysis focused mainly on the fifth freedom, the seventh freedom[113] and cabotage. *Capacity clauses* are used to the limit capacity of a given air service; they usually refer to the volume of traffic, the frequency of a service or to aircraft types. Capacity clauses can take the form of various regimes, classified according to the degree of their restrictiveness. Under *predetermination* regime, an agreement on capacity is required before the service commencement, while so called *Bermuda I* regime grants limited rights to the airlines to set their capacities without a governmental prior consent. Finally, free determination clause allows airlines to set their capacity without any regulatory control. On the other hand, *tariff approval*

[113] Both freedoms have already been described.

refers to the price setting regime. Dual approval setting, being the most restrictive one, requires that both parties approve the tariff before its application. Country of origin disapproval is slightly less restrictive, since tariffs can be disapproved only by the country of origin. Then, dual disapproval is the regime where both countries have to disapprove the tariffs to make them ineffective. Another regime, zone pricing, consists in setting reference points delimiting the possibility for pricing. Finally free pricing allows price setting without the requirement of approval by any party. The fourth feature refers to w*ithholding* indicator which sets necessary ownership requirements the air operator has to fulfill. Substantial ownership and effective control means that only the flag carrier is allowed to operate on a given route. Community of interests and principal place of business are less restrictive, although the former still requires vested substantial ownership and effective control of the carrier in one or more countries, while the latter removes the substantial ownership requirement. The fifth feature is the d*esignation* indicator which refers to the right to designate one or more carriers to operate on a route. Single designation allows one airline to operate on a route, whereas multiple designation allows more than one airline to operate on a route. The sixth feature is the s*tatistics* which define rules of statistics exchange between countries or airlines. Setting a unified tool with the purpose of monitoring peers performance is viewed as being restrictive in an agreement. Finally, *cooperative arrangements* define the right for given airlines to enter into cooperative marketing arrangements. Such a feature, allowing for various commercial advantages, is perceived as liberal in an agreement.

Basing on these features, two indices of air service liberalization were constructed, each of them using different approach to the choice of weights attributed to each of the above mentioned features. In the case of the first (ALI) index, constructed by the WTO (2006), weights were attributed to each feature, are basing on an expertise-knowledge. On ALI basis the second (FA) index has been constructed. It differs only in the choice of weights, which is based on the use of factor analysis, as introduced by Nicoletti et al. (1999). The Spearman correlation coefficient, based on the countries-pair ranking of two indices, is close to 84 per cent for all cases.

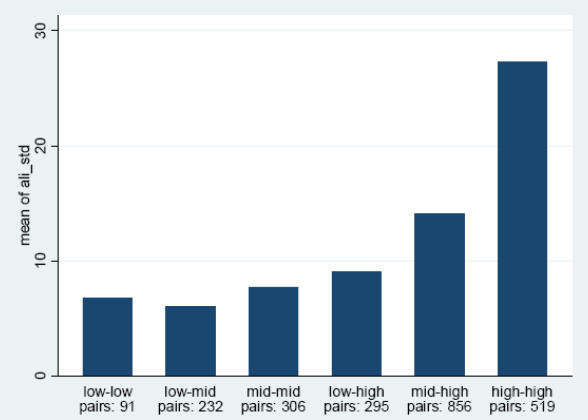
The ALI index can therefore be used as a robust proxy representing the degree of liberalization of air services. The ALI index ranges between 0 and 50, where 0 is associated with the most restrictive agreement and 50 denotes the most liberal agreement. The analysis of the indices demonstrates that more developed countries are having far more liberal air service regimes (see Figure 1). The ALI index for bilateral air services agreements (ASA) among low income countries is close to 8, while among high income countries exceeds 27. The more detailed individual indices for European Union's members and Turkey are shown in the Table 2.

The European Union members have the most liberal air services regime among all countries. The EU average level (25.05 according to ALI index) is very close to that of United States (24.96). The most liberal regimes existed in small new members states of the EU (Estonia, Slovak, Rep., Lithuania and Latvia) and the least liberal in Bulgaria and Romania (6.57 and 6.78 accordingly). But ALI indices were measured in 2006, i.e. before accession of the latter countries to the European Union. Assuming, that after accession of EU, the indices of Bulgaria and Romania, will be very close to the average, it means that the implementation of Single European Sky legislation raises the ALI index by about 22 points. This change will be used as a reference point for estimation of possible trade effects of air services liberalization in Europe.

Poland, according to both indices, has a very liberal air transportation regime and ranks among 167 to 169-th position among 184 countries. The value of ALI index for Poland (26.65) is above

EU average level and slightly above the value of the same index for United States (24.96). The latter country, has always been considered as pioneer in liberalization of air transport services.

Figure 1: The extent of liberalization of aviation market by income levels



Source: Piermartini and Rousova (2008), p. 11.

The degree of air transport services liberalization in Turkey, similarly as in the case of other MENA countries, is much lower. The ALI index had a value of 8.89, far below EU average level. Turkey had the 88-th position, placing the country somewhere in the middle of the world ranking. The restrictions limiting the access to the Turkish air services market have already been discussed in the previous section.

Thus, taking for granted the measures of ALI indices, we note that legislation of single European market, adopted gradually in three packages, had significantly liberalized the air transport market. By now EU members have the most liberal regimes in the world, reinforcing competition, lowering prices and benefiting passengers and cargo transportation users. The degree of market liberalization is much lower in Turkey and other MENA countries.

Table 2: The ALI and FA indices of air services liberalization (absolute values and ranking among 184 countries), selected countries

Country	Air Liberalization Index (ALI)		Statistical FA Index	
	rank	Average	Rank	average
Bulgaria	43	6.57	49	0.12
Romania	51	6.78	42	0.11
Austria	152	17.42	152	0.31
Germany	154	17.77	151	0.31
Netherlands	155	17.83	154	0.32
Spain	156	17.98	153	0.32
U. K.	158	18.93	157	0.34
Belgium	159	19.17	156	0.33
France	160	20.13	159	0.35
Sweden	161	21.53	160	0.38
Italy	162	22.78	161	0.41

Czech Rep.	163	22.93	164	0.42
Denmark	164	23.09	162	0.41
Cyprus	167	24.9	165	0.43
United States	168	24.96	176	0.60
Poland	169	26.65	167	0.47
Finland	170	26.75	168	0.48
Greece	171	28.67	169	0.50
Portugal	172	28.87	171	0.52
Hungary	173	28.89	170	0.51
Luxemburg	174	30.57	172	0.55
Malta	175	32.92	173	0.59
Slovenia	176	33.74	174	0.60
Latvia	177	33.75	175	0.60
Ireland	180	35.00	178	0.63
Lithuania	181	35.55	179	0.63
Slovak Rep.	182	35.88	180	0.64
Estonia	184	41.43	182	0.74
EU average		25.05		0.45
Turkey	88	8.89	99	0.17

Notes:
1. The ALI index ranges between 0 and 50, 0 being the most restrictive and 50 the most liberal agreement
2. The FA index ranges between 0 and 1, 0 being the most restrictive and 1 the most liberal agreement.
Source: Piermartini and Rousova (2008), Table A3, p. 27-30.

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ANNEX

Table 1: Bilateral Air Services Agreements (ASA) brought into legal conformity since ECJ judgments on 5 November 2002

Community designation agreed bilaterally with at least one EU MS		Community designation agreed under the Community Agreement with the EC or through formal Record of Consultations		Discussions ongoing with the EC
Third country	Nr of bilateral ASAs amended	Agreement initialled/signed	Total nr of bilateral ASAs amended	
Afghanistan	1	Albania	13	*Argentina*
Algeria	6	Armenia	15	*Bangladesh*
Antigua & Barbuda	1	Australia	14	*Brazil*
Argentina	4	Azerbaijan	18	China
Bahrain	7	Bosnia-Herzegovina	9	Colombia
Bangladesh	1	Bulgaria[1]	22	*Egypt*
Barbados	1	Canada	17	*Indonesia*
Belarus	1	Chile	10	*Jamaica*
Belize	1	Croatia	25	Libya
Bolivia	1	fYRoMacedonia	14	*Macao*
Brazil	1	Georgia	14	Namibia
Brunei	2	India	26	Russian Federation
Cambodia	1	Israel	26	*South Korea*
Cape Verde	2	Jordan	21	
Costa Rica	1	Kazakhstan	15	
Cuba	5	Kyrgyzstan	5	
Dem. Rep.of Congo	2	Lebanon	19	
Dominican Republic	2	Malaysia	21	
Ecuador	4	Maldives	8	
Egypt	4	Mexico	12	
Fiji	1	Moldova	17	
Gambia	1	Mongolia	11	
Ghana	1	Morocco	20	
Granada	1	Nepal	7	
Guinea-Bissau	1	New Zealand	12	
Indonesia	1	Pakistan	16	
Iran	3	Panama	6	
Ivory Coast	1	Paraguay	6	
Jamaica	1	Romania[1]	21	
Japan	1	Serbia and Montenegro	20	
Kuwait	1	Singapore	23	
Liberia	1	**UEMOA[2]**	47	
Macao	3	Ukraine	27	
Madagascar	3	United Arab Emirates	23	
Mauritius	3	United States	21	
Mongolia	1	Uruguay	9	
Netherlands Antilles	2	Vietnam	17	
North Korea	1			
Oman	1			
Peru	2			
Philippines	1			
Qatar	10			
Saint Lucia	1			
Senegal	4			
South Korea	1			
Sri Lanka	1			
Suriname	1			
Syria	1			
Tajikistan	1			
Tanzania	2			
Thailand	7			
Togo	2			
Trinidad and Tobago	1			
Turkmenistan	2			
Uganda	1			
Uzbekistan	2			
Venezuela	1			
Zambia	1			
Total: 58	**118**	**Nr of agreements: 37**	**627**	
TOTAL nr of third countries that accepted Community designation:				**97**

Source: Air transport portal of the European Commission: http://ec.europa.eu/transport/air_portal/international/pillars/horizontal_agreements_en.htm

Chapter 4

Liberalization of Railway Services

Jan Michalek, Aleksandra Zieminska, Subidey Togan, Jan Hagemejer

The railway industry in a large number of countries was historically in the hands of vertically integrated operators owned usually by the governments. Over time as more air, land and sea transport options developed, passenger and freight traffic by railways declined mainly because of the poor performance of the rail. Concern about the performance of rail in turn led to a number of railway reforms during the 1990s.

The paper, studying the liberalization of railway services, is structured as follows. While section 1 introduces the basic characteristics of railway services, section 2 discusses the international regulations in the rail transport sector including those undertaken under the World Trade Organization's (WTO) General Agreement on Trade in Services (GATS) and the liberalization packages implemented by the European Union (EU). Section 3 considers the history, market structure and regulatory issues in the railway sector in Poland, and section 4 the history, market structure and regulatory issues in the railway sector in Turkey. Finally, section 5 measures the extend of liberalization in the railway sectors of the member countries of the EU.

1. RAILWAY SERVICES

The railway sector has several characteristics that, according to traditional main-stream economists, make it a perfect case for a natural monopoly. These elements are the "multi-product nature of the activity, the particular cost structure of railroad companies, the role played by infrastructures and networks, the existence of indivisibilities in inputs and outputs, the organization of the rail transport as a public service, and the existence of externalities in the transport system as a whole"[1].

Rail companies are usually multi-product firms. They provide different types of freight (cargo wagons or trains, parcel and postal services), and different passenger (long-distance traffic usually coexists with local traffic) transport services. In consequence, it is often difficult to allocate total operating costs among services. Thus, cost interdependence complicates the task of any external regulatory body. In addition, rail companies face usually a sub-additive cost function[2], i.e. a single firm providing services has a lower unit cost in comparison to the same services provided by two or more companies. Therefore, it may be argued that a single firm, rather than more companies, shall supply both infrastructure and transport services for efficiency reasons. On top of that, the substantial fixed costs contributed to the belief widespread in the 1970's that the railway sector was a natural monopoly.

Historically, the facts suggested just the opposite. The railway network in developed countries was set up and operated in the 19-th century as competing private companies. Only in the early 20th century they were consolidated and, in many cases, nationalized. The railroads were indeed the first mass transportation system, particularly for passengers, beginning in the years of the

[1] Campos and Cantos, 1999, p. 5, after (Button, 1993). This section is based largely on Campos and Cantos (1999).
[2] Baumol (1977).

industrial revolution. The urban railway transport systems developed in urban areas, were also set up and financed by government or local authorities. The large necessary investment in railway infrastructure were rarely profitable on a commercial basis. On the other hand they were creating important positive social and economic externalities. In consequence in the majority of developed countries, classic public monopolies operated railway infrastructure and trains. Rail transport was believed to have high infrastructure costs, generate substantial externalities and to be indivisible[3].

However, the idea of "natural" monopoly was challenged in 1980's by the theory of contestable markets[4]. This concept implies that the cost relating to the operation of rail transport services, once the network has been deployed, can be efficiently provided by more than one company, which can be viewed as composed of actual or potential competitors.

The rail industry is considered to be capital-intensive with several indivisibilities within its productive process. The capital units (rolling stock, track and stations) can be expanded only in indivisible increments, whereas demand may fluctuate in much smaller units. This can have implications for investment and pricing. The transportation costs of an additional unit of freight or passengers may be insignificant when there is excess capacity, but may be substantial when the infrastructure or rolling stock is at the limit of its full use.

Finally, there is a question of relative modal efficiency and externalities. The railroad transportation is relatively fuel efficient and cheap. The policy goal of public service obligation is often supported with the idea that rail transportation contributes less to the rise of negative externalities than other modes of transport, especially road transport. There is empirical evidence showing that the external costs derived from congestion, accidents or environmental impact could be reduced if a substantial part of the road traffic market was handled through the railway sector.

In the past, the monopolistic market structures excluded completely any sort of international and national competition and led to many economic inefficiencies. In the majority of cases there were governmental controls over entry, withdrawal, capital, formation, pricing, the financial structure and financial practices[5]. Apart from that, the companies were usually vertically integrated, i.e. the single company was responsible for the infrastructure and operation of trains. The theoretical advantage of this integration, results from the above described characteristics. In practice, the major disadvantages of vertical integration are failure to respond to the market, which results in the absence of incentives to control costs and poor economic performance. In Europe, revenues from transport (passenger and freight) only represented 20 to 70 percent of the railways' companies income, with an average of 50 per cent. The rest was covered by compensations for the performance of a public service for retirement indemnities, and other forms of state subsidies. The unbalanced position was even more pronounced in the case of urban rail transport, mainly due to high cost of infrastructure.[6] Secondly, despite some clear advantages, such as being an environmental friendly or efficient for massive goods especially on long distances, the market share of rail in passenger and freight transportation, was and still is gradually declining in almost all developed countries.

[3] WTO Secretariat, 2000, *Guide to the GATS*, p.479.
[4] Baumol, Panzar and Willig (1982).
[5] OECD,1998, Railways: Structure, Regulation and Competition Policy 1997.
[6] WTO Secretariat, 2000, *Guide to the GATS*, p.482.

The political pressure for deregulation, privatization and opening-up of railway sector for competition started in 1980's in developed countries, due to increased inefficiencies and increased competition from road transportation. The concept of contestable markets provided an intellectual support for the deregulation processes. Many European countries have sought to increase the efficiency of national railroad companies through a range of reforms: separating infrastructure and operations, creating independent regulatory institutions and providing access to the network to third parties. At the same time the World Bank was encouraging countries in transition and the developing countries to liberalize their railway transport systems. The road market has already been largely opened, while the rail sector lagged behinds in terms of modernization and liberalization. The modal split (which will be discussed later) is also increasingly dominated by road transportation.

The declining share of rail transport of goods and passengers, at the expense of road transportation is visible, at least since the 1970s. In the European Communities the railways share in terms of passenger/kilometers fell from 10.3 percent in 1970 to 8.5 percent in 1980 and further to 6.2 per cent in 1994. After the period of stabilization it has slightly increased to 7.1 per cent in 2006[7]. The downward trend was also visible in the case of freight transport. The share of rail transport in modal split (measured in terms of tones/kilometers) has decreased from 31.7 per cent in 1970 to 24.9 percent in 1980 and further to 18.9 percent in 1990 and 14.9 per cent in 1994. In the same time the share of road transport increased from 48.9 percent to 71.9 per cent[8]. This downward trend reflects not only the decreasing relative efficiency of rail against road transportation, but also the changing nature of national and international trade in goods. There is a growing proportion in transportation of light goods, with a high unit value that have to be delivered rapidly. It gives better chances to road transportation. Thus, the railway transport and its share is confined largely to bulk and heavy traffic. But the raising role of containerization and development of intermodal terminals, that link road with rail, improves chances of rail transport to remain economically viable. Finally, the downward trend of rail transport is reinforced by the pattern of infrastructure investments. Road transport in the EU-15 receives about 110 billion of Euro in subsidies, while the subsidies for rail were close to 37 billions[9]. The length of rail lines in the EU-15 decreased by 3 percent between 1970 and 2004, while the length of motorways increased three and a half times in the same period. This pattern of investments encourages further development of road traffic.

The technical progress in road transport has been much more rapid in comparison to rail. Despite this it is argued rail has some clear advantages over road transport, as being environmentally friendly and long distance efficient mode of transportation. The low rolling resistance of steel wheels on steel rails makes railway transportation fuel efficient. Comparing heavy or spacious cargo, short or long-haul, rail is the most energy efficient transport mode if used appropriately. For example the total primary energy consumption from transporting 100 tons of average goods from Basel, Switzerland to the port of Rotterdam, Netherlands requires 1779 liters of diesel fuel if transported by modern Lorry Euro 4, and 770 liters of diesel equivalents if transported by rail. On average rail is two to five times more energy efficient that road, shipping or aviation[10]. Furthermore, rail generates the lowest specific CO_2 emissions compared with road, air, and even waterborne transport. For example the transport of 100 tones of freight from Basel to the port of Rotterdam generates 4.7 tones of CO_2 if transported by road and 0.6 tones if transported by rail.

[7] WTO Secretariat, 2000, *Guide to the GATS, p. 480* and Eurostat data base.
[8]. The share of rail in freight has decreased further in the next years. White Paper on transport policy (*European Transport Policy for 2010: Time to Decide*).
[9] *Rail Transport and environment. Fact and Figures* (2008), p.26.
[10] *Rail Transport and environment. Fact and Figures* (2008), p. 8-10.

Thus, rail emissions are almost eight times lower than truck emissions and four times lower than inland waterway emissions[11].

The analysis of total external costs of transportation provides a fuller picture of externalities. External costs are the negative effects of transport that are not internalized into the price paid by the user and are therefore not taken into account by users when they make a transport decision. However, they cannot be disregarded as they give rise to real costs to society, such as global warming, health bills, and delays. Although the estimation of external costs has to consider several uncertainties, there is consensus at scientific level that external costs of transport can be measured by best practice within reliable bandwidths. Having in mind these reservations we can quote a comparison of yearly external costs in the EU-15 caused by rail and road transportation (Table 1).

Table 1: Total external costs (billion Euro) for Road and Rail in the EU-15 and Switzerland and Norway (2007)

EXTERNAL COSTS	ROAD	RAIL
Congestion	268	-
Accidents	156	0.3
Noise	40	1.3
Climate Change	70	2.1
Air Pollution	164	2.4
Total	698	6.2

Source: Rail Transport and environment. Fact and Figures (2008), p.27.

The data in Table 1 show that the external costs of road transportation are more than one hundred times higher, while railway transports little bit less than 10 per cent of goods in Europe. Thus, per unit external costs of rail transport are about ten times lower in comparison to truck transportation. This is a strong argument in favor of rail in the society that cares about long term sustainable hence environmentally friendly growth. But it might be less relevant in periods of economic crisis.

The decreasing share of rail in modal transportation has already been shown. The decreasing relative efficiency of rail ignoring the external costs reflects many weaknesses. Among them there are (i) infrastructure being not suitable for modern transportation and interoperability, (ii) poor information systems, (iii) opaque costing, (iv) uneven productivity, and (v) mediocre reliability.

2. INTERNATIONAL REGULATIONS

International regulations are discussed under three headings. While the first subsection considers the regulations under Intergovernmental Organization for International Carriage by Rail (OTIF), the second sub-section discusses the international regulations undertaken under the WTO's GATS. Finally, the third sub-section concentrates on the discussion of the liberalization packages implemented by the EU

.

[11] *Railways and the Environment, Building on Railway's Environmental Strengths* (2008), p.10. The inland waterway transport would generate 2.4 tones of CO_2.

2.1 Intergovernmental Organization for International Carriage by Rail (OTIF)

The first International Convention concerning the Carriage of Goods by Rail dates from the year 1890. This Convention created an Administrative Union according to the rules of international law of that time. The administrative unions of the 19th century were institutionalized continuations of international diplomatic conferences. In 1956, the supervisory function was transferred to an Administrative Committee, made up of representatives from some of the Member States. At the 8th revision conference in 1980, the institutional provisions of the original Conventions were fundamentally reformed which led to the creation of an international intergovernmental organization of a modern structure. With the entry into force on 1 May 1985 of the 'Convention Concerning International Carriage by Rail' of 9 May 1980 (COTIF), the 'Intergovernmental Organization for International Carriage by Rail' (OTIF) was born. At present 43 States are Members of OTIF including all of the European States, excluding the successor States of the Soviet Union, but including the Baltic states and the Ukraine, as well as four Near Eastern States and three North African States.

The territorial scope of OTIF covers international carriage by rail on around 240,000 km of railway lines and the complementary carriage of freight and passengers. The headquarters of the Organisation are in Berne, Switzerland. Its organs are the General Assembly, the Administrative Committee and other bodies[12]. The main objective of this Governmental Organisation was principally to develop the uniform systems of law which apply to the carriage of passengers and freight in international through traffic by rail. These systems of law have been in existence for decades and are known as the CIV and CIM Uniform Rules

The old rules of the Convention were reflecting a "traditional" approach to railways systems. Under that systems the national railways had monopolistic position and were closely related with state administration. The railway infrastructure was usually managed by national, usually state owned, railway companies. The new challenge for traditional rail transport law OTIF came from the European integration on one hand and, on the other, the general move towards liberalization in the transport policy of numerous countries, and within the railway companies themselves[13]. The separation of railways from the state administration, as well as the separation of infrastructure management from the transport of passengers and goods, required a fundamental revision of the international rail transport law currently in force.

After preparatory work, a decision was taken by the 5th General Assembly of the OTIF, held from 26 May to 3 June 1999 in Vilnius, to adopt the new version of Convention (COTIF, 1999). Under the new COTIF (1999), regional economic integration organizations may also accede to COTIF . Previously, there were only individual members states. At the beginning of 2002, the European Community (EC) declared accession to COTIF as one of its aims. At present almost all EU members ratified the COTIF (1999), which came into force in majority of them in 2006.[14]

The main elements of the present rail transport law (COTIF, 1999), regarding uniform rules, are concentrated in the following areas:

[12] Revision Committee, the Committee of Experts on the Transport of Dangerous Goods, the Committee of Technical Experts and the Rail Facilitation Committee. The Secretary General provides the secretariat services. See: http://www.otif.org/en/publications.html.

[13] This process will be described in detail in the section on EU legislation.

[14] OTIF: State of the signatures, ratifications, acceptances, approvals, accessions and entry into force Protocol of 3 June 1999 for the Modification of the Convention concerning International Carriage by Rail (COTIF) of 9 May 1980. 8.01.2009.

- "Uniform Rules concerning the Contract of International Carriage of Passengers by Rail (CIV)", forming Appendix A to the Convention,
- "Uniform Rules concerning the Contract of International Carriage of Goods by Rail (CIM)", forming Appendix B to the Convention,
- "Regulation concerning the International Carriage of Dangerous Goods by Rail (RID)", forming Appendix C to the Convention,
- "Uniform Rules concerning Contracts of Use of Vehicles in International Rail Traffic (CUV)", forming Appendix D to the Convention,
- "Uniform Rules concerning the Contract of Use of Infrastructure in International Rail Traffic (CUI)", forming Appendix E to the Convention,
- "Uniform Rules concerning the Validation of Technical Standards and the Adoption of Uniform Technical Prescriptions applicable to Railway Material intended to be used in International Traffic (APTU)", forming Appendix F to the Convention,
- "Uniform Rules concerning Technical Admission of Railway Material used in International Traffic (ATMF)", forming Appendix G to the Convention."[15]

The uniform rules listed above are aimed at facilitating cross border rail traffic and expansion of rail services among Member States of the OTIF. In the above areas they are aiming at setting general uniform rules, facilitating transportation of passengers and goods between member states.

Looking into specific regulations the uniform rules concerning the contract of international carriage of passengers by rail (CIV - Appendix A) define the obligations regarding liability of railway undertakings (RU's) in case of death or personal injury to passengers (Title I of the Appendix). Next, they set out the conditions regarding conclusion and performance of the contract of carriage (Title II). The definition of contract of carriage and ticket is given. The Annex describes (i) payment and refund of the carriage charge; (ii) right to be carried and exclusion from carriage; (iii) administrative formalities and (iv) provisions regarding cancellation and late running of trains and missed connections[16]. The Title III of the Annex A defines rules regarding carriage of hand luggage, animals, registered luggage and vehicles. It defines administrative formalities regarding registration and marking of the luggage, payments and charges, right to dispose and conditions of carriage of vehicles. Finally, Title IV defines liability of the carrier (RU). The liabilities are defined in case of death of, or personal injury to passengers (basis of liability, damages, compensation). The liability of the carrier is also defined in case of failure to keep to the timetable and in respect of hand luggage, animals, registered luggage and vehicles. In those cases the limit of damages in case of loss of or damage to articles the basis of liability and burden of proof is defined.

The uniform rules concerning the Contract for International Carriage of Goods by Rail (CIM), Appendix (B to the Convention) have a similar form to passenger rules but are in a way complemented by: (i) Annex I: Regulation concerning the International Carriage of Dangerous Goods by Rail (RID); (ii) Annex II: Regulations concerning the International Haulage of Private Owner's Wagons by Rail (RIP), (iii) Annex III: Regulations concerning the International Carriage of Containers by Rail (RICo) and (iv) Annex IV: Regulations concerning the International Carriage of Express Parcels by Rail (RIEx).

[15] The Article 6 of the Convention. The detailed regulations are contained in the above mentioned appendices to the Convention. The Organization can also develop new elements of uniform law (Article 2 § 2, letter a).
[16] Appendix A to the OTIF convention.

The development of the regulations concerning the carriage of dangerous goods by rail is one of main tasks of OTIF. RID (Regulation concerning the International Carriage of Dangerous Goods by Rail) has about 1000 pages and is reissued every two years. RID has become an independent Appendix to COTIF. This means that the application of RID no longer depends on the existence of a CIM transport contract. RID now has a more user-friendly presentation and now only differs from ADR (European Agreement concerning the International Carriage of Dangerous Goods by Road) and ADN (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) in the mode-specific parts.

One of the major tasks of the OTIF is to facilitate of border crossing in international rail transport. OTIF has made numerous proposals and recommendations at improving border crossing procedures for the international transport of passengers and goods by rail (Facilrail program).

The smooth border crossing requires technical uniformity in the rail sector, technical approval and supervision. The APTU appendix to COTIF (1999) deals with this issue. The aim of APTU is to ensure the interoperability of the technical systems in international rail transport. The APTU lays down the procedures according to which technical standards and uniform technical provisions for railway equipment, to be used in international transport are validated or adopted. These technical standards provisions should contribute to achieving safety, reliability for international transport and to taking account of environmental and public health issues. The elaboration of technical standards and uniform technical provisions remains in the competence of the national or international standards organizations (e.g. CEN, CENELEC, ETSI etc.) or of the international associations working in the railway sector, especially the UIC[17].

On the other hand the ATMF Uniform Rules lay down the procedure under which railway vehicles (and other railway equipment) are approved for use in international transport. "Technical admission" (technical approval) is the task of the competent national or international authorities according to the laws and regulations of the respective State. Technical approval must be based on the validated standards and uniform technical provisions adopted in accordance with APTU.

Finally, there are uniform rules concerning the contract of use of infrastructure in international rail traffic (CUI). They regulate exclusively the contractual relations, especially liability, between the infrastructure manager and the carrier as well as the claims of the infrastructure manager's agents or those of the carrier against the respective other party in the contract of use. Regulations under public law, e.g. European Community (EC) directives concerning access rights and their conditions are not affected. The regulations concerning liability and the statute of limitations are mandatory.

The uniform rules set by OTIF and COTIF create an international framework for EU policy in the international railway transportation. All these provisions are applicable by EU Members States. On the other hand the new initiatives of the EU, aiming at creation of the single European railway market affected, in a visible way, the new rules of COTIF (1999). They aim at departure from classic "natural public monopolies" in railway systems, at opening up domestic railway networks and at increased efficiency. Before discussing EU regulations and their impact on trade

[17] APTU creates for the railway sector a legal basis similar to the Geneva Homologation Convention of 1958 concerning road transport.

in services, we will briefly describe the global efforts to liberalize railway services in the framework of the GATS.

2.2 GATS Commitments in Railway Services

The completion of GATT Uruguay Round (1993) resulted in the emergence of the General Agreement on Trade in Services (GATS). For the first time the liberalization at world scale covered not only trade in goods but also services as well. But the results of services' negotiations were fairly limited[18]. The commitments were undertaken in the four modes of supply of the GATS: (i) cross-border supply, (ii) consumption abroad, (iii) commercial presence, and (iv) movement of natural persons.

The relative importance of different modes of supply is closely related to the structure of railway companies. Traditionally, at times when national railway monopolies functioned in all countries, cross-border supply (mode 1) for international transportation meant cooperation between national railway companies both in terms of fares and technical responsibility for transport. But in general there was no competition, except in the rare cases of transit between two points using different routes[19]. The commercial concepts of competition emerged when high-speed international trains and freight-ways (freeways) started operation, first of all, in some European countries. The number of technical problems involved in crossing the border is potentially very large: different gauges and signaling systems, types of electric power, breaking systems, commercial speed limits to name just a few. Some of these problems have already been solved through the OTIF initiative.

The second mode of supply, i.e. consumption abroad, is almost never restricted. So there is no special need to undertake any specific commitments in this field. On the contrary, some European countries, in-cooperation with others, introduced preferential systems in order to attract certain customers to use the international railway network such as Euro-rail cards or young people rail passes.

In the past there was no mode three trade (commercial presence) since railway companies were state owned in almost every country. In late 1990's, when railway services liberalization process started, companies from one country started to provide services in the other countries or purchase shares of existing companies in those countries. Examples of such activities will be presented in the case study of Poland. But in early nineties, when Uruguay Round was in the last phase, such activities at the world scale were almost non-existent. Finally, mode four (movement of natural persons), had also a very limited importance in the past. It covered a marginal flow of railway technicians, mainly towards developing countries. At present, it is becoming more important due to liberalized access to railway infrastructure in European countries. All in all, the railway sector in early nineties was not a priority in negations regarding services liberalization. Therefore the results of negotiations in this sector are fairly limited.

According to the services sectoral classification of the WTO (MTN.GNS/W/120) the railway services are divided, in the GATS[20], into five subcategories: (i) passenger transportation

[18] There is a large literature analyzing results of negotiations in services. The most comprehensive overview is probably presented in WTO Secretariat, 2000, *Guide to the GATS.*
[19] WTO Secretariat, 2000, *Guide to the GATS*, p.489.
[20] Document GATT: MTN.GNS/W/120/CPC

(interurban and urban and suburban); (ii) freight transportation[21]; (iii) pushing and towing services, (iv) maintenance and repair of rail transport equipment and (v) supporting services (terminal services, cargo handling, other support services). Under this classification passenger transportation includes both interurban and urban rail services. The former can expected to mostly compete with road transportation. The latter competes with busses, tramways and trolley-busses, however those systems can complement each other and are often coordinated in a single, non-competing system of public urban transport. The urban services frequently benefit from operating subsidies and public financing of investment while subsidies to interurban railway transportation are becoming more scarce.

The number of commitments undertaken during the Uruguay round is very limited. Only 22 countries (EC counted as one) have undertaken any commitments in the railway sector. The majority of liberalization commitments are offered in the subsector of maintenance and repair of equipment, which clearly is not the most important one. The summary of commitments is presented in Table 2. The commitments were undertaken mainly by developed, European countries. The only non-OECD non-European countries that offered some liberalization in the rail sector were: Brazil, Nicaragua, Nigeria, Philippines, Sierra Leone and Thailand.

Table 2: Rail transport services: summary of specific commitments (members of the EU, other European countries and Turkey only)

Countries	Passenger transportation	Freight	Pushing and towing services	Maintenance & repair of rail equipment	Supporting services
Bulgaria				X	
Czech Rep.				X	
European Com.				X	
Finland				X	
Hungary	X	X		X	
Slovak Rep.				X	
Slovenia				X	
Sweden					X
Switzerland	X	X	X		X
Turkey	X	X			
Total	10	10	5	18	4

Source: Guide to GATS (2000), Annex II, p. 495.
Note: Probably the column four and five have been exchanged in the original text.

The European Communities have undertaken to liberalize maintenance and repair services for second and third mode of supply (consumption abroad and commercial presence). On the other hand there are no commitments in the first mode (unbound) and fourth mode of supply (unbound except as indicated in the horizontal section).

Poland did not make any commitments in the GATS in the analyzed sector. The other members of the EU (Bulgaria, Czech Rep. Finland, Hungary, Slovak Republic and Sweden) gave very

[21] It is further divided into: (i) transportation of frozen or refrigerated goods, (ii) transportation of bulk liquids and gases; (iii) transportation of containerized goods; (iv) Mail transportation and (v) Transportation of other freight.

similar concessions to that of the EC in the sector of maintenance and repair of rail transport equipment. Hungary, as the only country in the region, made significant commitments regarding passenger and freight transportation during the Uruguay Round. Similar commitments were made later by Estonia and Latvia, which acceded to the WTO in 1999, after the Uruguay Round. On the other hand, Turkey made commitments regarding passenger and freight transportation. There are no limitations regarding national treatment. But there are limitations regarding market access for the first (cross border supply) and third mode (commercial presence) of supply. Namely the Turkish authorities indicated that the "internal rail transportation is a public monopoly". The sectoral analysis commitments undertaken by all WTO members are shown in Table 3. They seem to confirm that the scope of services' liberalization agreed during the Uruguay Round negotiations was fairly limited.

Table 3: Analysis of sectoral commitments made by WTO members on railway transport services

	Mode I: Cross border supply			Mode II: consumption abroad			Mode III: Commercial presence			Mode IV: Presence of natural persons		
	F	P	N	F	P	N	F	P	N	F	P	N
Railway passenger transportation	4	1	5	10	0	0	2	7	1	2	8	0
Railway Freight transportation	4	1	5	9	0	1	2	6	1	1	9	0
Railway pushing & towing services	3	0	2	5	0	0	3	2	0	0	5	0
Maintenance & repair of rail trans equip.	4	0	13	16	0	1	12	3	2	1	16	1
Supporting services for railwa transport	2	0	2	4	0	0	2	2	0	0	4	0

Comments: F – full commitment (none), P – Partial commitment (limitation recorded), N – No commitment (unbound)
Source: Guide to GATS (2000), Annex II, p. 496.

The most frequent commitments were made in the case for maintenance and repair. Full market access in consumption abroad has been granted in 16 out of 18 and the commercial presence in 12 cases. Full commitments regarding passenger transportation are made in 10 cases. Similar pattern of commitments exist in the case of railway freight transportations. The liberalization of pushing and towing services and of supporting services are rare. Thus, the worldwide liberalization in the railway sector is very limited, even among developed countries.

Poland, after accession to the EU, like other new Central-European members states, has accepted all of the GATS commitments made by the EC. Poland will also undertake additional commitments if Doha Round is going be to completed. But the changes in the level of liberalization of the EU will probably be very limited. There are no new commitments in the passenger services in the EC revised offer on railway services[22]. The only commitments offered are made in modes two to four by Hungary, being a continuation of Uruguay Round GATS commitments. The same situation exist in freight transportation.

[22] WTO: document TN/S/O/EEC/Rev.2, (2006).

More significant commitments exist in maintenance and repair of rail equipment services. There are no proposed general commitments in mode 1, with the exception of Hungary and Estonia. On the other hand all EC members proposed liberalization of consumption abroad (with exception of Austria, Cyprus, Malta, Latvia and Poland). There is also an offer to liberalize commercial presence for other WTO members, but once again with an exception of six members (four above mentioned countries plus Slovakia and Sweden). There is also an unbound proposal regarding movement of natural persons (mode four of supply)[23]. Finally, there is a very limited offer regarding supporting services in the case of rail freight agency and forwarding services. Here again the offer is unbound with the exception of Latvia. Thus, there will be no significant liberalization of EU external trade in railway services, even if the Doha Round is successfully completed. The main liberalization of services trade takes place within the EU.

2.3 Liberalization of Railway Services in the European Union

In the EU the share of railway services in overall transportation of passengers and freight gradually declined after the II World War. However, railway transportation has certain characteristics which potentially make it an increasingly attractive form of transport.

The idea of the single European market for railway services, emerged in early 1990's. It was part of the Single European Market plan. The network services, have been regarded as crucial in promoting economic competitiveness of the EU. In order to reach the genuine internal market it was necessary to eliminate market access barriers, limited up to that date by state monopolies, and harmonize technical and safety requirements. Some of these standards and technical regulations have already been implemented, in the framework of OTIF uniform rules.

2.3.1. The early EU legislation (1990 – 2001)

The Council Directive 91/440 on the development of the Community's railways, created the first and probably the most important step towards this goal[24]. According to the Directive, the creation of the single railway market in the EU, should be achieved by:

- ensuring the management independence of railway undertakings;
- separating the management of railway operation and infrastructure from the provision of railway transport services, separation of accounts being compulsory and organizational or institutional separation being optional,
- improving the financial structure of undertakings, and
- ensuring access to the networks of Member states for international groupings of railway undertakings and for railway undertakings engaged in the international combined transport of goods.[25]

To achieve management independence, the railway undertakings (shall) have independent status in accordance with which they will hold, in particular, assets, budgets and accounts which are separate from those of the State. They shall be managed according to the principles which apply to commercial companies and shall determine their business plans, including their investment

[23] In the Doha round the offers of commitment regarding movement of natural persons are divided into several categories like: ICT and BV (intra corporate transfers and business visitors), CSS (contractual service suppliers) and IP (independent professionals).
[24] The Directive 91/440 contains quite general provisions, which have been amended by subsequent Directives (see next pages).
[25] Council Directive 91/4400, Article 1.

and financing programs.[26] It was also stated that Member States shall ensure that the accounts for the provision of transport services and the management of railway infrastructure be kept separate. They may assign the manager of the railway infrastructure. The manager shall charge a fee for the use of the railway infrastructure for which he is responsible, payable by railway undertakings and international groupings using that infrastructure.[27] According to the Directive 91/440 international groupings shall be granted access to railway infrastructure, on equitable conditions, and transit rights in the Member States for the purpose of operating international combined transport services.

The basic provisions of Directive 91/440 were supplemented by two other Directives issued in 1995 and two in 1996. The Directive 95/18 sets out the criteria, on a uniform and non-discriminatory basis, for obtaining the license of railway undertakings[28]. A license is valid throughout the territory of the Community but railway undertakings limited to the operation of urban, suburban or regional services can be provided without the license. The applicant for a license has to have a management organization which possesses the knowledge and experience necessary to exercise safe and reliable operational control and supervision of the type to be provided. A railway undertaking shall be adequately insured or make equivalent arrangements to cover its liabilities in the event of accidents.

The second Directive 95/19/EC regulates the allocation of railway infrastructure capacity and the charging of infrastructure fees. It states that each country shall designate the allocation body which shall be informed of all train paths available. The body shall ensure that railway infrastructure capacity is allocated on a fair and non-discriminatory basis and that the allocation procedure allows optimum effective use the infrastructure[29]. Both Directives state that Member states shall designate national independent bodies responsible for granting licenses and ensuring the access to railway infrastructure.

The Directive 96/48/EC sets provisions on the interoperability of the trans-European rail system. The interoperability means the ability of the trans-European high-speed rail system to allow the safe and uninterrupted movement of high-speed trains. This ability rests on all the regulatory, technical and operational conditions which must be met in order to satisfy essential requirements.

Finally, the last Directive 96/49/EC is on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail. The purpose of this Directive is to establish national safety standards at the level of the international standards set in the COTIF. It also aims to create a single market in the transport of dangerous goods by rail. As it was already mentioned, all the EU members are Contracting Parties to the COTIF that defines the rules concerning the contract for international carriage of goods by rail (CIM). The CIM constitutes the regulations concerning the international carriage of dangerous goods by rail (RID).

The new ideas regarding further liberalization were presented in the Commission's White Paper 'A strategy for revitalizing the Community's Railways'[30]. The Commission recognized that the railway sector was in decline and its market share was falling, while it had characteristics which could make it an attractive form of transport in Europe. In order to exploit these opportunities, the Community needs a genuine single market. Rail systems are based on national lines, which

[26] Council Directive 91/440, Articles 4 and 5.
[27] Ibid., articles 7 and 8.
[28] The obligation to obtain the license was introduced in Article 10 of Directive 91/440.
[29] Council Directive 95/19, artcile 3.
[30] Commission White Paper: "A strategy for revitalising the Community's railways" [COM(96) 421 final]

results in difficulties in operating across frontiers, planning of infrastructure is inadequate, and markets are fragmented. Integration is therefore far from being complete. The basic idea presented in the Paper was to introduce market forces into rail, which should give incentives to reduce costs, improve service quality and develop new products and markets. In order to reach this goal the railways should be run on a commercial basis and Member States should relieve the burdens of the past.

The Commission, in order to increase the role of market forces, has proposed (i) to extend access rights to railway infrastructure for all freight services and international passenger services, (ii) to examine options for improving the institutional framework for developing domestic passenger transport of the future, (iii) to modify Community legislation in order to separate infrastructure management and transport operations into distinct business units, and (iv) to promote the creation of a number of trans-European rail freeways for freight. On the other hand the Commission stressed the role of public services. The citizens should receive satisfactory mobility thanks to continuity and quality of transport services. The Commission proposed to improve the quality/price ratio in the transport sector and to generalize the use of public service contracts agreed by the State and the transport operator. Finally Commission recognized that the integration of national systems was needed. Therefore Commission proposed (i) to examine the scope for improving interoperability on major international routes in cost-effective ways, (ii) to study how to eliminate delays at frontiers for freight traffic, and (iii) to assess what improvements had to be made to infrastructure to develop freight transport.

In the follow up to the White Paper the Commission put forward the idea of "Trans-European rail freight freeways"[31]. In its communication the Commission advocated the introduction of rail corridors to operate on the following principles: (i) access to freeways must be fair, equal and non-discriminatory for all train operators licensed in the Community; (ii) the granting of licenses, allocation of infrastructure capacity and charging fees within the framework of these freeways should be in compliance with Directive 95/18/EC; (iii) freeways should be open to cabotage; and (iv) freight terminals should be open for non-discriminatory access to all train, road haulage and waterway operators.

2.3.2 First Railway Package

As a follow up in 1998 the Commission proposed the package of reforms. Finally it has been adopted as the First Railway Package by the Council of Ministers and European Parliament on 26 February 2001. The package consists of three Directives and should have been implemented by 15 March 2003. The key idea of this package is to open the access to the rail network even further. This should mainly be realized by separating four functions: (i) giving a license to railway undertakings, (ii) decisions concerning an infrastructure usage fee; (iii) the declaration of certain security standards and (iv) the route-assignment decision.

The first one was the Directive 2001/12/EC, amending Directive 91/440/EEC on the development of the Community's railways. It was amended in order to facilitate its implementation and to take into account the developments in the railway sector since its adoption. This Directive sets out the general framework for the development of European railways. It includes (i) separation of certain essential functions: granting licenses, decisions on charging for track access, capacity allocation, (ii) production of separate profit and loss accounts

[31] Communication from the Commission [COM(1997) 242 final]

and balance sheets for freight, passenger transport services and infrastructure management[32], (iii) full responsibility of the infrastructure manager for its own management, either as a separate division within a company or as a separate legal entity, and (iv) open access for international freight services on the Trans European Rail Freight Network (TERFN)[33]. The Directive 2001/12/EC was amended by the Directive 2004/51.

The second one was the Directive 2001/13/EC (amending the Directive 95/18/EC) on the licensing of railway undertakings. The Directive introduces a system of licensing to prevent unfit operators from commencing operations and to prevent international operators from facing entry barriers by having a harmonized system of licensing. The Directive defines (i) conditions required for operators to obtain a license to run rail freight services over TERFN and the recognition of any such license in another member state, (ii) framework for financial, economic and safety conditions required in order to obtain a license, and (iii) procedure for notifying the European Commission with respect to the issue of a license.[34]

The third one was the Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification. It aims at ensuring that member states adopt transparent processes in relation to access charging and capacity allocation. The Directive sets the requirement (i) on the infrastructure manager to publish a network statement, (ii) for member states to identify bottle-necks on the network and to address these through route utilization strategies, (iii) to establish an independent regulatory body, and (iv) for safety certification in respect of rolling stock and infrastructure operations.

These general rules require some further clarifications. The determination of the charge for the use of infrastructure and the collection of this charge shall be performed by the infrastructure manager. „Member States shall …. ensure that, … under normal business conditions and over a reasonable time period, the accounts of an infrastructure manager shall at least balance income from infrastructure charges, surpluses from other commercial activities and State funding on the one hand, and infrastructure expenditure on the other"[35]. In addition " the infrastructure manager shall ensure that infrastructure capacity is allocated on a fair and non-discriminatory basis and in accordance with Community law." And a regulatory body "shall be independent in its organization, funding decisions, legal structure and decision-making from any infrastructure manager, charging body, allocation body or applicant."

In addition to the First Package, the Directive 2001/16/EC on the interoperability of the trans-European conventional rail system was adopted. This Directive was designed on the basis of the structure and content of the High-Speed Directive (Directive 96/48/EC). Nonetheless, a number of changes were made, essentially concerning the geographical scope (relevant network), the technical scope (relevant subsystems), the gradual approach to introducing new Community specifications, and the adoption of a work program and priorities for the work of the joint representative body and the committee. The Directive itself, contains essential requirements to be met by the system. In addition it provides the technical specifications for interoperability (TSIs) and all the other European specifications, including European standards from the European

[32] No transfer of public funds provided for passenger services allowed to be used to cross-subsidize freight operations.
[33] Initially – these were the major lines in each Member State shown on the map incorporated into the Directive, plus feeder lines and access to track in ports and multi-user terminals; and by 2008 open access to the entire European rail network for all international freight.
[34] Undertakings which only operate rail passenger services on local and regional stand-alone railway infrastructure; urban or suburban rail passenger services are exempted from licenses.
[35] Article 6 of the Directive.

standards bodies: CEN, Cenelec and ETSI. The Directive stipulates that work on common standards should focus first "on control/command and signaling, telematic applications for freight services, traffic operation and management (including staff qualifications), freight wagons and noise problems." European Railway Agency (since establishment in 2004)[36] has been responsible for drawing up and revising TSIs. The Commission adopted TSI for the six subsystems in 2002[37]. For example the controlling and signaling subsystem (Directive 96/48/EC) required a unified control system, the European Rail Traffic Management System (ERTMS), on the high speed Trans -European network[38].

In 2001 the Commission (2001) published the White Paper on transport policy 'European Transport Policy for 2010: Time to Decide'. The prescriptions of the white paper are based on the assessment of ten years of transport policy pursued until then. The Paper identifies rail as 'the strategic sector". The main weaknesses of railway transportation are listed explicitly. Among them there are (i) infrastructure not suitable for modern transportation and interoperability, (ii) poor information systems, (iii) opaque costing, (iv) uneven productivity, and (v) mediocre reliability. The White Paper proposed many changes which are classified under the following objectives: (i) create an integrated rail transport market, (ii) use the infrastructure more efficiently, (iii) improve quality and safety for users, and (iv) reduce congestion.

The specific measures proposed with the Paper include: opening national rail freight and passenger markets to cabotage and increasing the members' allocation of train slots to freight rather than passenger, which should be more efficiently served by a high speed rail network. In addition, the white paper proposes to include some sections of the European Rail Freight Network (TERFN) into the Trans European Network (TEN) in order to make them eligible for European and national funding[39].

2.3.3 Second Railway Package

The White Paper provided an additional incentive for further liberalization of railway transportation. The Second Railway Package was formally adopted by the Council of Ministers and European Parliament on 29 April 2004. It provided a framework for further liberalization of the freight market and harmonization of the regulation of safety and technical standards across the EU. The Package consists of three Directives.

Probably, the most important is the "Safety" Directive 2004/49/EC (amending Directives 95/18 and 2001/14). The underlying aim of the Directive is to harmonize the safety standards with the objective of reducing entry barriers across the EU.

The Directive sets down general and specific principles regarding safety requirements. It provides a mechanism for harmonizing safety through Common Safety Methods (the methods describing how various safety aspects as required under the Safety Directive are assessed) and

[36] See: Regulation (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004 establishing a European Railway Agency.

[37] The texts of the TSIs were published in the Official Journal L245 of 12 September 2002

[38] The rationale for proposing a uniform control system was the recognition that more than 15 different signaling systems currently operate on the European network. The proposal to establish the ERTMS, set up by European Signaling suppliers, was intended to provide a common rail traffic management system across the entire European network.

[39] Poland will participate in only TEN project (Corridor F). The modernization of shall cover the line of 1934 kilometers from Aachen to Terespol, via Duisburg, Berlin, Franfkurt (Oder), Poznan, Warsaw

Common Safety Targets[40]. The Directive provides further details in relation to the content and process in relation to safety certification and provides that member states must establish binding national safety rules. Member states must annually collect standard safety indicators. Finally this legislation establishes the common principles pursuant to which national safety authorities must regulate safety (any infrastructure manager must obtain a safety authorization) and establishes the common principles pursuant to which accidents must be investigated and the establishment of an independent accident investigation body. All Member States were required to adopt all necessary measures to comply by 30 April 2006.

The Directive 2004/51/EC (which further amends the crucial Directive 91/440) is aimed at further liberalization and opening up of the freight market. The goal was to achieve the opening of entire European market to national freight services no later than January 1st 2006. It means that all railway undertakings established in Member States must be granted access to the Trans-European Rail Freight Network and to the whole network for international freight services. The scope of Directive 91/440 shall be applied to all freight (i.e. also national freight) by January 2007. Finally, all Member States are required to transpose into national legal systems by 31 December 2005.

The last element of the package is the Directive 2004/50 which amends Directive 96/48 relative to the high speed rail system and the Directive 2001/16 relative to the trans-European conventional rail system. It is aimed at completing the interoperability principles. It harmonizes the two Directives, taking into account the new legislation of the Second Rail Package, and extends the application to the whole rail network.

The Directive establishes also the European Rail Agency and sets out the principles in relation to its role and related procedures. In addition the Directive progressively extends the scope of interoperability from the TEN network to the conventional rail network and introduces provisions related to the Safety Directive as far as the checking and registration of new rolling stock are concerned.

2.3.4 Third Railway Package

This "railway package" was published by the Commission in March of 2004. The European Parliament adopted the reports on the proposals of the Third Railway Package in July 2005 and Council of Ministers reached an agreement in December 2005.

The package comprised four new legislative proposals which work towards a fully integrated European rail system by 2010, by revitalizing the passenger market, facilitating the movement of train drivers and enhancing the performance of the freight market. They consisted of:

- A proposal requiring the opening of the market for international passenger services in 2010.
- A proposal concerning the certification of locomotive and train drivers which operate passenger and freight services within the EU.
- A proposal for a regulation concerning passenger rights for international transport,
- A proposal for a regulation concerning the quality of rail freight services, requiring certain minimum clauses in contracts.

[40] The obligatory safety levels as required by the Safety Directive for different parts of a rail system (expressed in terms of risk acceptance criteria).

Before adoption of the third package the Commission published in 2006 the Mid-term review of the European Commission's 2001 Transport White Paper entitled 'Keep Europe moving - Sustainable mobility for our continent' (COM(2006) 314 final). This mid-term review argues for a comprehensive, holistic approach to transport policy. Mutually complementary action will be needed at different levels of authorities. A European sustainable mobility shall shift to more environmentally friendly modes, especially on long distance, in urban areas and on congested corridors. All modes must become more environmentally friendly, safe and energy efficient. This Paper documents a declining role of the railway transportation and calls for further liberalization in the railway and other sectors.

The Third Railway Package accepted in October 2007 consists mainly of two Directives and one Regulation. The Directive 2007/58/EC (amending Directive 91/440/EEC) is on the allocation of railway infrastructure capacity and the levying of charge for the use of railway infrastructure. Railway undertakings shall be granted by 1 January 2010 the right of access to the infrastructure in all Member States (Art 3)[41]. Railway undertakings must, in the course of an international passenger service, have the right to pick up passengers at any station located on the international route and set them down at another, including stations located in the same Member State.

The second element is the Directive 2007/59/EE on the certification of train drivers operating locomotives and trains on the railway system in the Community. The main aim of this Directive should be above all to make it easier for train drivers to move from one Member State to another. The Directive defines the very detailed conditions and procedures for the certification of train crew operating locomotives and trains on the Community's network. Each train driver shall have a license demonstrating that the driver satisfies minimum conditions with respect to medical requirements, basic education and general professional skills.

The last piece of legislation is the Regulation (EC) No 1371/2007 on rail passengers' rights and obligations. A regulation defines passenger rights for international transport, requiring minimum information for passengers, and establishing a minimum set of rules concerning delays and treatments of complaints. For example, the passenger is entitled to be reimbursed or re-routed when he/she has missed a connection due to delay or there has been a cancellation of services. A passenger may also request compensation for delays. The minimum compensations for delays shall be as follows: (a) 25 percent of the ticket price for a delay of 60 to 119 minutes, (b) 50 percent of the ticket price for a delay of 120 minutes or more[42]. This regulation sets minimum requirements for information to be provided to passengers relative to their journey, contract conditions, and the liability of railway undertakings in cases of accidents, delays or cancellations of services.

It is also worth mentioning that there are further plans to liberalize the market and standardize railway services. The Commission proposes simplifying the procedures for the approval of locomotives and enforcing the mutual recognition principle in this sector[43]. There is also a proposal for a regulation on compensation in cases of non-compliance with contractual quality requirements for rail freight services.

2.3.5 Concluding Remarks

[41] Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 4 June 2009.
[42] Regulation 1371/2007, Article 17.
[43] Communication from the Commission: "Facilitating the movement of locomotives across the European Union" [COM(2006) 782 final].

Despite minimal liberalization of railway services achieved within the GATS, the European Union managed to build gradually a good basis for a genuine single market for railway transportation. The basic Directive 91/440 has been amended and expanded through three subsequent liberalization packages. The last one, adopted in 2007, is coming into force.

The EU significantly liberalized the access to the common rail market (network) through rules regarding allocation of railway infrastructure capacity and the levying of charge for the use of railway infrastructure. There are also rules regarding interoperability of trans-European conventional and high-speed rail systems. The progress has been reached in standardization of licensing of railway undertakings and train crews operating locomotives and trains. The safety of transportation has also increased through rules regarding the transport of dangerous goods by rail European and granting rail passengers' rights and obligations. The new proposals are waiting for discussions and approval.

Despite this significant progress in the process of creation of the single European market in rail services, the share of rail freight and passenger transportation is gradually declining in comparison to other modes of transportation. There are some potential explanations to that finding.

One of the problems is the proper transposition and implementation of legislation among Member States. In June 2008 the European Commission (EC) sent letters to 24 European Union member states urging them to start effectively implementing the legislation of the first railway package. The EC vice-president in charge of transport Antonio Tajani said: "Proper transposition of the first railway package is essential for creating competition in the European railway markets and increasing the competitiveness of railways in relation to other modes of transport."

3. RAIL TRANSORTATION IN POLAND

The first private company Warsaw-Vienna Railway was set up in 1844. The first section of the line from Warsaw to Skierniewice was opened in 1845. Opening of the complete Warsaw-Vienna Railway connecting Warsaw and the southern border (328 km totally) was completed in 1948. Connections between Warsaw - Cracow, Berlin (via Breslau), and Vienna (via - Gliwice – Kozle - Bohumin - Breclav) and Dresden were completed by the end of the same year.

Since that period the development of railways on the Polish territory was dynamic, but very uneven. The best infrastructure was developed in the German-occupied territory, less progress was made over the Austro-Hungarian partition and the least developed infrastructure appeared in the Russian partition.

After 123 years the Polish State regained independence in November of 1918. Formation of first Government of the Polish Republic led to creation of Railway Department in the Ministry of Communication. At that time the name of the sole railway company in Poland was accepted: the Polish State Railways (PKP). The company was public and militarized. The process of regaining railway infrastructure in former Russian and Austrian partitions from military use started in 1918 but was completed only in 1921. In 1922 Polish railways administration took over the railways in Upper Silesia. The main task of new Polish administration was to reconstruct and unify the railway infrastructure. The Russian gauge was large (and standard in German and Austrian territories), signaling systems and railway rolling stock was incompatible, and there were no direct connections between different parts of new Polish state.

The initial rapid development of railways was stopped by the Great Depression in the 1930's. In 1930 the revenues of PKP dropped by 50 percent, and 23 thousand employees of PKP lost their jobs between 1930 and 1933. The new wave of railway development materialized in 1933-39. The main achievement was the Coal Corridor connecting Silesian mines with the new Polish harbor in Gdynia. The new lines connected Warsaw with Katowice and Cracow. Poland had also three quite modern factories producing passenger railroadcars (Lilpop, Rau & Loewenstein in Warsaw), wagons and locomotives (H. Cegielski in Poznan), steam and diesel locomotives (Fablok in Chrzanow).

A very large share of Poland's railway infrastructure, cars and locomotives was destroyed during the Second World War. After the war Poland received several hundred of locomotives from the USA and the UK under UNRRA program and regained some wagons from Hungary and Austria as a part of repatriation process. The domestic reconstruction was relatively rapid. The Polish State Railways (Polskie Koleje Panstwowe: PKP) regained its monopoly over the whole Polish territory.

The main modernization investments under communist regime were aimed at the electrification of existing rail lines. The production of steam locomotives was stopped in 1957, and production of relatively modern electric locomotives took over. Till 1988 10 thousand of railway lines (almost 50 percent of total) were electrified. The main Coal corridor has been further modernized and the maximum speed was increased to 160 km/h. In 1995 the total length of Polish rails lines was equal 23.3 thousand kilometers, of which almost 50 percent were electrified.

The beginning of the transition process towards a market economy in 1990 affected adversely the Polish State Railways (PKP). The initial important drop of GDP (in 1990-1991), combined with rapid growth of privately owned motor cars and trucks, reduced the demand for cargo freights and passengers very significantly. The investment funds of PKP were reduced and first strikes of railways workers started in 1993. The number of railways passengers dropped from 784 millions in 1990 to 400 millions in 1998 and further to 263 millions in 2006.

Thus, in Poland, similarly to many European countries, rail transport's share of the modal split has decreased abruptly in recent years. In the freight transport market, rail's share dropped from 51 per cent to just under 27 per cent between 1995 and 2005, while rail's share of passenger transport fell from 15 per cent to just under 8 per cent between 1995 and 2004. During the same time the share of road transport increased dramatically overcompensating for the drop in railway transportation.

3.1 Implementation of EU Directives

The first element of early reforms in Poland was the Railway Transport Law, from 27 June 1997[44]. It transposed the 95/19/EC Directive on the allocation of railway infrastructure capacity and the charging of infrastructure fees. The Law states that authorities shall designate the allocation body which shall be informed of all train paths available. The body shall ensure that railway infrastructure capacity is allocated on a fair and non-discriminatory basis and that the allocation procedure allows optimum effective use the infrastructure. But no specific provisions were adopted.

[44] Ustawa o Transporcie Kolejowym z dnia 27 czerwca 1997 r (Dz.U.97.96.591).

The serious preparations to the accession of Poland to the EU in the railway sector started with the "Law on privatization, restructuring and commercialization of state company Polish State Railways (Polskie Koleje Państwowe: PKP)" from September 2000[45]. As of this date the Polish Railways are independent form the state. The Polish incumbent PKP was transformed into Polskie Koleje Państwowe S.A. (PKP join stock company under normal commercial law), which has a holding structure. The State Treasury holds 100 per cent of the shares of PKP S.A. The ten subsidiary holding companies include PKP PLK S.A. (infrastructure operator), PKP Cargo Sp. z o.o. (freight transport), PKP Intercity Sp. z o.o. (long distance passenger transport), PKP Przewozy Regionalne Sp. z o.o. (short distance passenger transport) and PKP Linia Hutnicza Szerokotorowa Sp.z o.o. (freight transport on one broad gauge line). Separated accounts for the restructured PKP SA group subsidiaries, infrastructure, freight and passenger sectors were elaborated since 2002. PKP has a number of financial difficulties

The most important legal development was the second Railway Transport Law ("Ustawa o transporcie kolejowym") of 28 March 2003[46]. The purpose of that law, implemented just before the accession, was to enact into Polish legal system the key EU directives regarding railway legislation. In particular it aimed at implementation of (i) Directive 91/440 on development of Community's railways (ii) Directive 95/18 on licensing of railway systems, (iii) Directive 96/48 on interoperability of the trans-European high-speed rail system, (iv) Directive 2001/12 on development of the community railways, (v) Directive 2000/13 on licensing of Railway Undertakings and (vi) Directive 2001/14 on allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification.

The next piece of transposition of the EU legislation was the Law on Transportation of Dangerous Goods by Rail of 31 March 2004[47]. It implemented the Directive 96/49[48] on the approximation of the laws of the Member States. The main goal of this Law is to assure safety standards at compatible level with the international standards set in the Convention concerning International Carriage by Rail (COTIF).

The Law on Financing the Land Transportation Infrastructure of 16 December 2005[49] constituted the next element of enacting the EU legislation. It amended the Railway Transport Act of 2003, stating that the construction and maintenance of the railway infrastructure should be financed by the manager of infrastructure. It enables also the co-financing of the construction of infrastructure by the EU Cohesion Fund.

The last, important element of the legal transposition is Law on Railway Fund of 16 December 2006[50]. It amended the first Railway Transport Law (1997). The new Law establishes the Fund for constructing, modernizing and maintaining existing railway infrastructure. It should cover the losses suffered by railway undertakings' in the years 2002-2003,when passengers fees were set by the administration. The Fund can gather financial resources from the fuel charge, assets issued by the State Treasury, loans and other sources.

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[45] Ustawa z dnia 8 września 2000 r. o komercjalizacji, restrukturyzacji i prywatyzacji przedsiębiorstwa państwowego "Polskie Koleje Państwowe" (Dz.U. z 2000 r., Nr 84, poz.948). This law has been amended afterwards.

[46] Ustawa o transporcie kolejowym z dnia 28 marca 2003 (Dz.U. 2003, Nr 86. poz. 789). The Law has been amended afterwards.

[47] Ustawa z dnia 31 marca 2004r. o przewozie koleją towarów niebezpiecznych (Dz.U. z 2004 r., Nr 97, poz.962).

[48] The other directives regarding railway safety standards are: 96/87; 99/44, 2000/18, 2000/62,

[49] Ustawa z dnia 16 grudnia 2005r. o finansowaniu infrastruktury transportu lądowego (Dz.U. z 2005, Nr 267, poz. 2251).

[50] Ustawa z dnia 16 grudnia 2005 r. o Funduszu Kolejowym (Dz.U. z 2005, Nr 12, poz. 61).

In addition several Regulations have been issued enacting EU *Acquis communataire* in many specific areas, and especially in the field of safety, network standardization and licences[51]. Some of them will be discussed in the further elements of the report.

3.2 The Organization of Poland's Railways and Market Access

The independent regulator operating in Poland, foreseen by Directive 2001/14/EC, is The Urząd Transportu Kolejowego (Office for Railway Transport, UTK), which was created on the basis of the Railway Transport Act on 1 June 2003. The UTK, in line with the Directive, is responsible for the regulation of railway transport, for railway transport licensing, for the technical supervision of rolling stock, for railway tracks exploitation and maintenance and for the supervision of railway traffic security. It should provide an appeal body for capacity allocation decisions made by the infrastructure manager (see next section). The UTK shall also set disputes among stakeholders.

The issue of the safety certificate lies also within the responsibility of the UTK. A safety certificate is valid for the entire network for both passenger and freight transport and does not lose its validity, if not used[52].

The competencies of the UTK can be rated as transparent and procedures in the case of legal proceedings and sanctions as clear[53]. However, the political independence of the above authority is not obvious, as its director can be recalled by the Minister of Transport at any time. In case of complaints relating to train path allocation procedures, the charging system or the level and structure of infrastructure charging, the UTK is obliged to initiate investigations. However, it investigates only the results, and not the process of drawing up these charges. Objections to UTK decisions, which can also be made ex-ante, have a suspensive effect. The UTK is entitled to impose coercive measures and is able to fine up to a level of two per cent of the annual profit of the company concerned.

Thus, the regulatory body in Poland is embodied within a traditional Railway Authority. The primary responsibility is not access regulation, but licensing, safety certificates, etc. It does have decision-making authority, however, as it is a leading body in the case of disputes. The similar regulations exist in Switzerland, Czech Republic, Hungary, Portugal, Sweden, and Slovakia[54].

The majority of the countries have only implemented the minimum EU requirements, but some of the new members, in comparison with many old Member States, had already set up more modern regulatory bodies[55]. Poland is among this group of countries and its progress in the opening up of the rail market has been recognized. Indeed, only three countries, i.e. Germany, Austria and the UK, had regulatory bodies that had specialized staff prepared to deal exclusively

[51] These regulations are issued by the Minister of Infrastructure.
[52] The regulations regarding safety and transport of dangerous goods are published in Journal of Laws in year 2004 (Dz. U. nr118, poz. 1239, nr 164, poz. 1717, Dz.U. nr 135, poz. 1445 and 1446) and 2007 (Dz.U. nr 139, poz. 1400). All titles of these regulations (Rozporzadzenia) are listed in the bibliography.
[53] Rail Liberlisation Index 2007, page 175. All statements in this paragraph are based on the cited study (page 175-180).
[54] Rail Liberalisation Index 2007, p. 34.
[55] Rail Liberalziation Index 2007, p. 34.

with regulatory matters and were provided with far-reaching powers to enable them to enforce their decisions[56].

The UTK is also responsible for licensing Railway Undertakings, i.e. for the issue of licences, safety certificates and homologation of rolling stock. A licence issued by UTK is valid for the entire network. There are three types of licences: for freight transport, passenger transport and for the disposal of traction vehicles.

Licences are valid for an indefinite period of time. However, periodic verifications are performed upon decision by the UTK. A maximum period of two months is prescribed by law for the issue of licences.[57] They are valid for an indefinite period of time, but expire after six months if unused. Licences from other EU countries are recognized only for freight transport, not for passenger transport. The fees for issuing of a licence amount to an equivalent of EUR 1,750.[58] There is neither a legal instrument prescribing insurance nor any specification of the required paid-up capital. Third-party liability insurance for RUs is available in the national market.

The applications for the issue of a safety certificate have to be processed, by law, within three months[59]. Part A of safety certificates issued in other EU Member States is recognised without any further examination. Part B of foreign certificates is examined within three months. A safety certificate is valid for five years and has to be verified every one to two years. Safety certificates expire after twelve months if unused[60]. The maximum fees for issue amount to an equivalent of EUR 5,000.

By law, the homologation process for rolling stock has to be completed within two months of submission of all the required documents[61]. The degree of detail required can be rated as high. The level of fees is limited to a maximum of EUR 25,000. Homologation certificates from other EU Member States are not recognised[62].

The other body regulatory which is, by law, involved in the market regulation is the Office for Competition and Consumer Protection (Urzad Ochrony Konkurencji i Konsumentow). The Department of Industry and Infrastructure of the Office monitors and enforces competition in Poland. The Chairman of the Office is responsible for handling complaints relating to competition. The Office is an independent authority in Poland and the President of the Office is appointed by Prime Minister.

The infrastructure manager, as required by the EU legislation, is *PKP Polskie Linie Kolejowe S.A.* (PKP PLK SA). PKP Polish State Railway Lines (PKP PLK SA) is a joint stock company that is responsible for provision of track access. PKP PLK defines the infrastructure charges,

[56] These countries had already accumulated experience with regulatory cases. Rail Liberalisation Index ,2007, p. 176.
[57] However, empirical values show that that period can take up to three months.
[58] Rail Liberalisation Index, 2007, p. 176. Comparison with other fees is made in the next section.
[59] in practice it frequently takes five to six months until the UTK issues safety certificates. The degree of detail required is average in a European comparison, Rail Liberalisation Index ,2007, p. 176.
[60] The relevant regulations issued by the Minister of Infrastructure are published in Journal of Law from 2006 (Dz. U. nr 230, poz. 1682) and from 2007 (Dz. U. nr 57, poz. 386, Dz. U. nr 60 poz. 407and Dz.U. nr 247 poz. 1830). All titles of these regulations (Rozporzadzenia) are listed in the bibliography.
[61] Ibidem.
[62] According to information supplied by the managing director of a private rail freight operator, homologation of new rolling stock classes is a time-consuming and bureaucratic process, in contrast to the simple process for the homologation of vehicle types which are already in use in Poland. Rail Liberalisation Index, 2007, p. 177.

which are then approved by the UTK. The manager also collects the infrastructure charges and solves disputes related to theses charges, subject to appeal to the Office of Railway Transport (UTK). The PKP PLK SA is a structural part of the PKP SA group organization, although, as required by law, has separate accounting reporting.

Train path access is usually regulated in a standard contract with the RUs, but framework agreements are also possible. A lead time of six months is required for applications for a regular train path. Train path allocation during the year is possible[63].

The linear infrastructure charging system is published in the network statement and the same system applies to all market players. The average infrastructure charges per train path kilometre, converted into EUR, were as follows: (1) EUR 4.25 for rail freight transport; (2) EUR 3.20 for long-distance rail passenger transport and (3) EUR 1.36 for regional rail passenger transport[64]. These fees are relatively low, and comparable to those practiced by other countries.

Finally, there are three Ministries involved in the functioning of railway services in Poland. The Ministry of Finance shall finance the development of railway infrastructure. It shall provide financial subventions for development of infrastructure, financing new railway investments and purchase of rolling stock in line with the principle of fair competition, non-discrimination and economic efficiency[65]. The Ministry can also provide financial guarantees for financial obligations undertaken by the PKP holding. The Ministry finances also the activities of the Office for Railway Transport (UTK).

The Ministry of Treasury is the only shareholder of the PKP (Polish State Railway) group. The Ministry is responsible for privatization and commercialization of PKP[66]. In particular the Treasury is responsible for transferring the financial means collected by the Railway Fund to PKP. These funds are aimed at covering previous debts (2002-2003) and financing the maintenance of railway infrastructure.

Finally, the Ministry for Regional Development is responsible for coordination and management of financial means received from the structural funds of the European Union. Some project financed by structural funds can be used to co-finance new railway infrastructure investments.

Since 2004, the new tasks have been allocated to regional authorities, according to Article 40 of the Railway Transport Law (2003). They are now responsible for organizing and subsidizing local railway communication under a public service contract. Regional authorities shall restructure own local railway undertakings and can create new cooperative RUs (e.g. Koleje Mazowieckie or WKD in Warsaw province). Till 2013 local authorities will become the owner for local railway infrastructure and will be obliged to undertake new investments necessary to upgrade the quality of the railway network.

3.3 The Railway Market and Competition

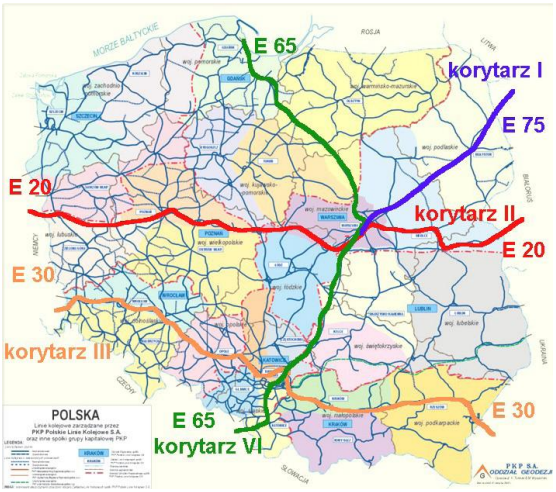
The length of railway standard gauge lines in Poland amounted to 22 734 km in 2003. This is the third largest railway network in Europe (after Germany and France) but its economic

[63] Information about available train paths is published on the Internet.
[64] Recent regulations are published in Journal of Law of 2008 (Dz.U. nr 47, poz. 276). The depreciation of Polish currency against EUR in late 2008 diminished the amount of fees in terms of Euro.
[65] Article 38, paragraph 8 of Railway Transport Law of 2003.
[66] These activities are mandated to the Minister of Transport.

attractiveness is limited. The number of operational lines was 20545 kilometers in 2004, and was slowly decreasing over the time (slightly above 19000 in 2007)[67]. The standard gauge lines constituted 94.5 percent of the operated ones, while those of large gauge: 2.3 percent and narrow gauge lines 3.2 per cent. The total track length of the operated lines was equal to 38918 kilometers in 2004. This number included (i) 25177 electrified lines; (ii) 9620 station tracks, and (iii) 23410 lines with one block.

In Poland there were 1697 functioning railway stations in 2004. The average density of the railway network is 6.6 km/100 sq. km, ranging from 3.3 km/100 sq. km in the Podlaskie voivodship (province neighboring to Eastern border of Poland) to 17.4 km/100 sq. km in the Silesian voivodship. The main railways lines and major path corridors are presented at the Figure 1.

Figure 1: Main railway lines and six railway "corridors" in Poland.



Unfortunately, the railway infrastructure is in dilapidated condition. Some 30 per cent of the network is classified as being in an "inadequate" condition (i.e. being subject to major speed restrictions or suspended for use) and a further 45 percent is in adequate condition, but still requiring backlog of repair work to be addressed. Time delays due to speed limits have increased significantly.

Table 4: The maximum speed at PKP PLK Polish State Railways Lines

Year/speed (v)	V<40 km	40<v<80 km	80<v<120	120<v<160	V over 160
2004	6 percent	36 percent	41 percen	13 percent	4 percent
2006	6 percent	36 percent	38 percen	15 percent	5 percent

Source: Office of Railway Transport (2005) Functioning of Polish Railway Transport in 2004 and updates.

[67] Office of Railway Transport (2005) Functioning of Polish Railway Transport in 2004, page 5. The number of standard lines decreased from 22560 kilometers in 2000 to 20546 in 2004.

Despite some efforts undertaken, due to long lasting underinvestment, the technical condition of the infrastructure was still worsening in early 2000's. According the report presented by the Office of Railway Transport (2005) the major challenges for the infrastructure were as follows:

- "It is estimated that the backlog in main repair amounts to 9600 km of tracks and 16,600 crossovers, while yearly needs resulting from the repair cycles amount to 950 km of tracks and 1370 crossovers. In 2004, only 179,8 km of tracks and 149 crossovers were replaced.
- The number of train restrictions introduced to the time tables remains at a constant level: in 2004 – there were 4324 restrictions – (decrease by 4.2 per cent in comparison to the previous year).
- The number of rail fractures, especially in heat-treated rails continues to be very large: fracturing of rails brings about an threat to train traffic safety.
- There are 14,848 level crossings and pedestrian level crossings including 4903, i.e. approximately 33.02 percent with automatic safety equipment.
- 82 percent of civil engineering facilities (there are more than 32,500 of them in the PKP network) are more than 80 year old.[68]"

The enduring underinvestment in railway infrastructure started already under communist regime in 1980's but continued in 1990's as well. The plans to increase significantly the amount of infrastructure investments in 2000's did not materialize so far[69]. The situation should change with large scale investments co-financed by structural funds of the European Union. At present the economic attractiveness of Polish railway infrastructure remains rather potential than real. This can explain rather limited scope of competition at the domestic railway market.

Regrettably, the rolling stock owned mainly by the PKP (Polish State Railways) and other Polish RU's is of rather poor technical condition as well. Inventory level of the freight rolling stock increased slowly while the size of passenger rolling stock declined in early 2000's. In 2004 there were about 115 thousand freight cars and about 9 thousand passenger wagons owned by Polish railway undertakings. The structure of rolling stock and average age of freight cars were as follows in 2004: (1) box cars 12.6 percent 27.7 years, (ii) coal cars 68.3 percent 22.1 years and (iii) flat cars 14.9 percent 24.3 years. The situation regarding the technical condition of locomotives was similar. The basic electric locomotives for passenger traffic are: EP09 (average age of 11.2 years) and EU07 (average age of 26.1 years).

"The passenger rolling stock features an old average age, obsolete technology and a low level of travel comfort. This refers especially to the electric traction units, design of which dates back to the sixties of the past century. They feature large power consumption, low acceleration and a long braking distance. … An improvement of the technical condition of locomotives and passenger cars requires significant investments into their maintenance and repairs as well as an implementation of a program of modernisation performed during major overhauls"[70].

An overwhelming majority of the freight rolling stock is owned by the operators. Some of the entities use other forms of usage (leasing, rental and others). These entities have a technical base for the rolling stock maintenance.

[68] Office of Railway Transport, 2005, p. 8.
[69] The investments In railway infrastructure amounted only to 938 millions of zloty in 2004 (about 200 milions Euro). Office of Railway Transport, 2005, p.8
[70] Office of Railway Transport, 2005, p. 12.

The opening up of the market to the domestic and international competition appears to be not so fast and complicated process. Basing on Railway Transport Act (2003),.by end of 2004, fifty-five business entities were granted 88 licenses including: (i) 18 licenses for passenger transport; (ii) 46 licenses for freight transport and (iii) 24 licenses for making traction vehicles available. At that time out of the licensed operators 4 were not providing passenger transport while 10 were not providing freight transport.

There are currently (2008) 29 active external rail freight operators and ten active rail passenger operators. According to the UTK, however, a total 48 external railway undertakings are licensed[71]. In 2008 the main RUs active in freight transport were as follows (in parenthesis their shares in tkm): (i) PKP Group (Cargo and others): 81.2 percent; (ii) CTL Logistics: 6.2 percent; (iii) PCC Rail: 3.1 percent; (iv) Lotos Kolej: 3.1 percent; (v) PTK Holding: 2.1 percent; (vi) PTKiGK Rybnik: .3 percent; (vii) PKN Orlen: 1.1 percent, Pol-Miedz-Trans: 0.9 percent; Rail Polska: 0.5 percent and others: 0.8 percent[72].

The activities of incumbent PKP Cargo group covers large scope of services in different areas of freight transport, while the other, smaller RUs are specialized in transportation of massive, standardized goods. For example Lotos Kolej and PKN Orlen transport almost exclusively liquid fuels, PTKiGK Rybnik coal, PKP LHS iron ores and Pol-Miedz-Trans transports copper alloy.

There are also two new European RUs being active in the Polish market. CTL Logistics S.A. is the largest privately-owned logistics company in Poland, operating in the area of rail transportation. The Group incorporates 20 companies registered in Poland and Western Europe (Germany). In 2006, the CTL Logistics Group handled 40 million tons of freight and posted sales of EUR 250 million. The second one is the PCC Rail, being a subsidiary of PCC with headquarters in Duisburg (Germany). The PCC purchased a local licensed Polish RU (Kopalnia Piasku Szczakowa S.A., later PCC Rail Szczakowa S.A.) initially transporting sand for building industry.

The market for specialized non-massive deliveries is growing slowly. Using frequently intermodal transportation it requires a network of intermodal terminals and logistic centers. In 2008 there were 23 intermodal terminals in Poland, five of them being located at sea harbors. These terminal enable to combine railway, sea and truck modes of delivers of goods in a door-to-door service. This segment of the market is still relatively underdeveloped in Poland, in comparison to old EU members.[73]

The incumbent PKP is increasingly faced with competition, not only in the rail freight market, but also in the rail passenger segment. In 2006, the share of external RUs in the rail passenger market was between nine and eleven per cent.

Transport passenger services were provided by 14 licensees including four ones from the PKP Group. Among them PKP Intercity Sp.z.o. is responsible for long-distance rail passenger transport and PKP Przewozy Regionalne Sp.z.o.o for regional rail passenger transport. PKP draws up separate balance sheets for freight and passenger transport.

PKP group operators transported in total 271.19 million passengers in 2004. But the number of passenger is declining gradually The dominating operators in 2004 were companies of the PKP

[71] Rail Liberalization index 2007, p. 168.
[72] Transport Szynowy nr 2(3)/2008, Kwiecien.
[73].The share of intermodal transportation in total railway transports was equal to 1.2 percent on 2001.

Group, i.e. PKP Przewozy Regionalne, that transported 221.27 million passengers, PKP SKM – 35.4 million passengers, PKP INTERCITY – 7.95 million passengers and PKP WKD – 6.19 million passengers. The PKP SKM and PKP WKD are sub-urban railway undertakings operating in the Gdansk and Warsaw agglomerations.

As from December 2007, regional rail passenger services in the voivodship of Kujawsko-Pomorskie (approx. 1.75 million train kilometres per annum) is no longer served by PKP, but by a consortium Arriva PCC. The consortium is consisting of British Arriva plc and German PCC Rail, with equal (50 percent each) shares. The consortium won a first voivodship contract for servicing this region and is using mainly non-electric "bus-trains", being competitive on local lines[74].

The access to the local railway market is based, in principle, on fixed charges for the use of rail infrastructure. But the systems existing in many European countries are fairly different for freight and passenger traffic. One of the main variables, having impact on charges is the quality (category) of a given line and a level of traffic intensity, affecting possible level of congestion.

With respect to cargo, the gross tonne-km measure is a possible basis for calculation of charges for marginal wear and tear, that is, wear and tear that is related to traffic. It is may be also adjusted for different line categories (or line speed) and for types of rolling stock. But gross tonne-km is does not reflect the costs of congestion (line capacity).If charges are based on tone-km, they give the operator an incentive to run lighter trains or trains with a high ratio of net to gross weight, with no particular incentive as to train length. Since only two systems in Europe attempt to use gross tonne-km alone as a basis for charges, the limitations of this approach are recognized.[75]

By contrast, train-km might be usefully correlated with congestion costs, but would not be a good variable for infrastructure wear unless all trains in a particular service category have the same weight. Thus, train-km alone, though it has the virtue of simplicity, cannot be an accurate indicator of marginal wear and tear unless all trains are the same size– which they generally are not. In general, train-km charges cause the operator to run fewer but longer trains consistent with market needs. There are more systems that use only train-km for charging than those using gross tonnes only.

Thus, optimally, there could be a combination of gross-tonne and train-km based charges that should provide a better balance of incentives to run trains that are operated at the right frequency and at the weight that minimizes access charges while maximizing the demand/operating cost tradeoffs. In fact, more systems (11) use a combination of gross tonne-km and train-km measures, presumably in order to capture the potential advantages of the two-variable approach. Of course it makes direct international comparisons direct comparisons quite difficult[76].

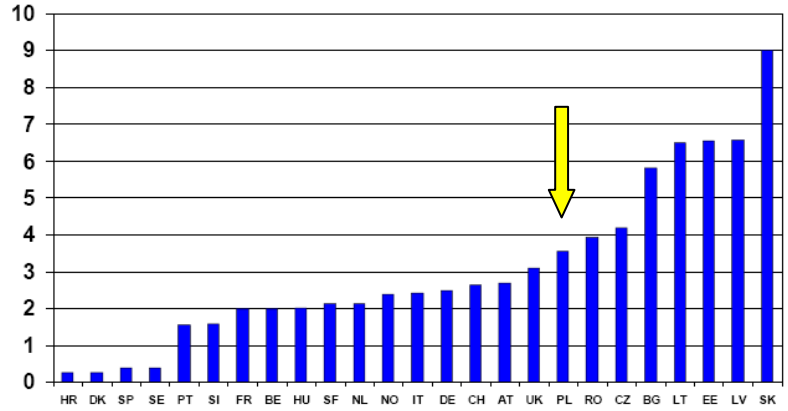
Therefore, several models have been developed, aiming at estimation of access costs to railway infrastructure. The Rail Net Europe has developed an interactive, web-based tool for estimating access charges (EICIS model). Italian Federal Railway Network (RFI) also has made available on the web an interactive model ("Pedaggio 2004") for calculating access charges on the RFI network. This model requires similar inputs to the EICIS model, and it was possible to use it to calculate example access charges. Finally, the German network operator (DB Netz) makes

[74] The information and time table of this RU in Poland is available at: www.arrivapcc.pl.
[75] This section draws heavily on Thompson (2008) Railway Access Charges in the EU, p. 14.
[76] By now, all the network statements (except for Ireland and Bulgaria) are available on the web.

available on the web an interactive model from which potential users can develop an estimate of access charges for various services[77]. A comparative study was recently prepared by OECD Transportation Forum (2008), and the results provides a good basis for international comparisons.

Having in mind all the above mentioned reservations, we can attempt to describe the relative level of access fees for cargo freights in the case of Poland. The access charges for a typical 960 Gross Ton Freight Train (Euros/Train-Km) are shown in Figure 2. According to these data the level of approximately 3.5 Euro per train-km appears to be relatively high by European standards. But it probably reflects one important phenomenon. The EICIS model, used here for Poland relates only to the main (most costly) lines. The EICIS model does not yet permit passenger train calculations for Poland.[78]

Figure 2: Access Charges For Typical 960 Gross Ton Freight Train (Euros/Train-Km). EICIS model.

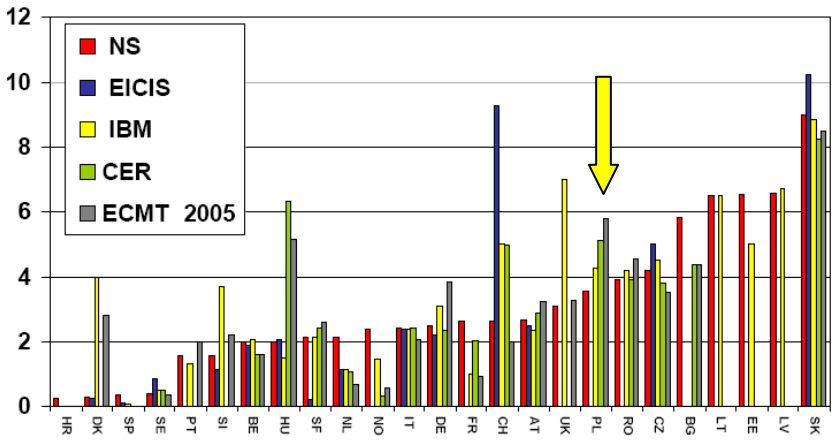


Source: Charges for the Use of Rail Infrastructure 2008. OECD, International Transportation Forum, Figure 4 p. 29.

This "overestimation" phenomenon becomes more clear if one compares the estimations of access fees with those obtained from different models. According to data presented in Figure 3. Poland's fees are among average, in the sample of European countries.

Figure 3: Freight Access Charge Euros/train-km, 960 Gross Tonne Train (according to different models of estimation)

[77] Ibidem, p. 9-10.
[78] Ibidem, p. 11.

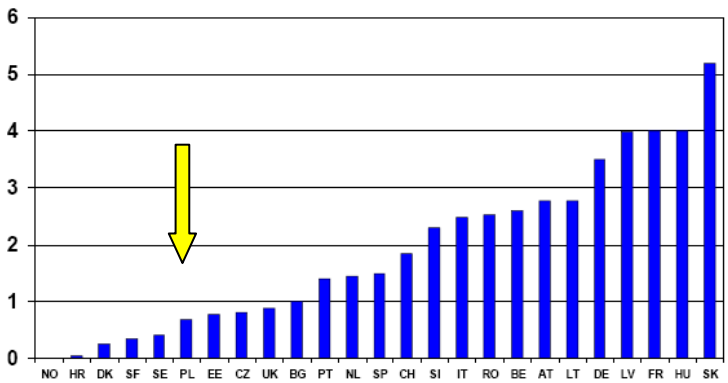


Note: Poland (EICIS) and Lithuania (CER) outlying points removed. The IBM approach is discussed in the next section.
Source: Charges for the Use of Rail Infrastructure 2008. OECD, International Transportation Forum, Figure 10 p. 29.

The data presented Figure 2 and Figure 3 indicate also that the new Member States of the EU have usually higher fees than the "old" Western members. It reflects the fact that new Member States, being poorer and having more limited budget in per capita terms, try to finance a majority of their expenditure on railway infrastructure by funds collected from access charges. By contrast, in the case of more developed countries majority of spending on railway infrastructure covered by public support.[79] For example, the target percent of total cost covered by infrastructure charges with remainder to be covered by public support was as follows in 2008: Estonia, Latvia and Lithuania: 100 percent, Poland 92 percent, Hungary 80 percent, while the relevant figures for some Western countries were approximately as follows: Norway: 1 percent, Sweden: 5 percent; the Netherlands: 12 percent.

Switching to passenger rail market it appears that fees charged by Poland's infrastructure manager are quite competitive in comparison to other European countries. The access charges for a typical local and suburban train are less than one Euro per train kilometer, which is well below the EU average. The comparison of charges used in other countries, for comparable access to the infrastructure is shown on Figure 4.

Figure 4: Access Charges For Typical Local and Suburban Trains (Euros/Train-Km)

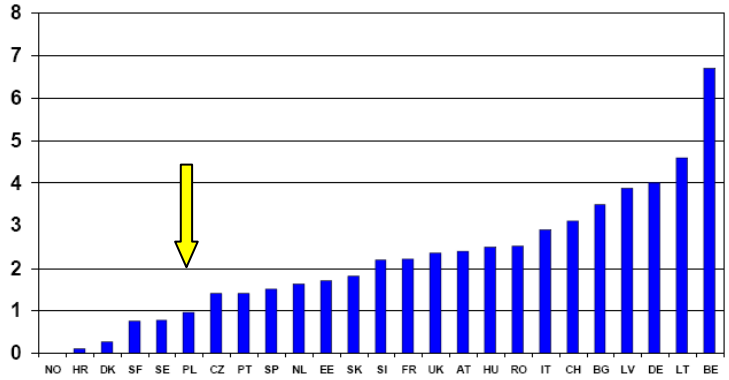


[79] Ibidem, Figure 14.

Source: Charges for the Use of Rail Infrastructure 2008. OECD, International Transportation Forum, Figure 1, p. 29.

Also, the access for a typical inter-city passenger trains in Poland appears to be reasonably well priced. The relevant comparisons are shown in Figure 5. It is close to one Euro per train/Km, well below the EU average. The highest charges are in case of congested Belgian and German railway networks, and somewhat surprisingly, in Lithuania[80].

Figure 5: Access Charges For Typical Inter City Passenger Trains (Euros/Train-Km)



Source: Charges for the Use of Rail Infrastructure 2008. OECD, International Transportation Forum, Figure 2, p. 29.

We have to be aware that access fees are the crucial, but not the only determinant affecting the real access costs to the railway network. The limits on train path allocation for freight and passenger transports can also constitute a barrier to the market.

According to the IBM study,[81] "on the attractive, western train paths near the border (incumbent) PKP Cargo reserves a disproportionately high number of train paths, which means that hardly any capacities remain available for other RUs. It is interesting to note that the proportion of ordered but unused train paths in freight transport is very high, at more than 55 per cent.[82]" "The system envisages discounts for bulk bookings in passenger transport for volumes of 132 million train kilometres or more." This constitutes preferential treatment for the incumbent PKP.[83].
Another minor barrier reported in the same study refers to cross-border transports. A regulation requires that foreign train drivers who do not speak Polish have to be replaced by a colleague who speaks Polish at specially designated stations shortly before, rather than after the Polish border.[84]

Summing up, it seems that Poland made a very significant progress in opening-up its railway market to domestic and foreign competition. The increase in competition is obvious in the case of freight transport. The progress is less visible in the case of passenger transport services provided usually under public service contracts, or is simply not possible in fact, since the train paths operate at full capacity with services provided on the basis of exclusive public service

[80] According to authors of the study the number for Lithuania is probably incorrect. Ibidem p.11.
[81] Rail Liberlsiation Index 2007, p. 175
[82] Cancellation fees amounting to 50 percent of the infrastructure charges are withheld for cancellations at fewer than three days' notice prior to the first day of operations, 20 percent for 90 days' notice, and 2 percent for longer periods.
[83] Rail Liberalisation Index 2007, p. 177.
[84] This regulation leads to frequent traffic congestion at Frankfurt Oderbrücke station at German-Polish border. See: Rail Liberalization Index 2007, p. 176.

contracts. But first changes did happen, when the Arriva PCC railway undertaking won a public contract in Kujawsko-Pomorskie province. The same model of market liberalization and similar problems exist in the large group of European countries, including Bulgaria, Denmark, Romania, Slovenia, Slovakia and the Baltic states[85].

The key question is whether the liberalization process undertaken by Poland and majority of EU members stimulated the growth of rail services? We will try to answer this question empirically in the last section of this section of the report. Before doing this we will present the specific features of railway market in Turkey.

4. RAIL TRANSPORTATION IN TURKEY

The first railway line in Turkey was the 130 km Izmir – Aydin line built in 1856 by a British company. Thereafter, the following railway lines were built on the territories of the then Ottoman Empire until the formation of the Turkish Republic in 1923: (i) Rumeli Railways (2383 km standard gauge), (ii) Rousse - Varna (223 km), (iii) Anatolia – Baghdad railways (2424 km, Baghdad railways), (iv) Izmir – Kasaba (695 km standard gauge), (v) Izmir – Aydin and its branches (610 km standard gauge), (vi) Damascus – Hama and its extensions (498 km narrow and standard gauge), (vii) Jafa – Jerusalem (86 km standard gauge), (viii) Bursa – Mudanya (42 km narrow gauge track), (ix) Ankara – Yahsihan (80 km narrow gauge, and (x) Damascus – Medina (1300 km narrow gauge Hejaz railways). These railways were essentially privately financed. With the declaration of the Republic in 1923 Turkey inherited 4138 km railway lines.

After 1923 a Turkish State company called 'Chemins de fer d'Anatolie Baghdad' was formed to take over the railways that were under German ownership and lying in Anatolia under Turkish control. On the other hand all railways belonging to the French or the British during the Ottoman period were returned after 1923 to their former owners. During the French occupation of Cilicia and Syria a separate company had been created by the French to take over the part of the Baghdad railways that was in the area controlled by the French. This company was reorganized when the French withdrew from Cilicia and part of the area was left to Turkey. In 1924 all of the railways in Turkey were nationalized. In 1927 ports were connected to railways and general Administration of State Railways and Ports were formed.

By 1938 the length of railway lines increased to the 7153 km as a result of the railway oriented transport policies followed during the first years of the Republic. This policy was pursued until 1950s when the length of railways reached 9204 km, and within the indicated period the share of railways in total transport sector increased to 42 percent for the passenger and 68 percent for freight. In 1953 Turkish National Railways (TCDD) was set up as a State Economic Enterprise, which had monopoly rights on any railways related activities. Today, Turkey has 10,991 km total rail network.[86]

The rail industry in Turkey is dominated by TCDD which is a state owned, vertically integrated company that not only deals with provision of infrastructure, but also with the supply of both freight and passenger services. It is responsible for operating and renewing railways, ports, and piers, guiding and coordinating affiliated companies, carrying out complementary activities regarding rail transport such as land transport that includes ferry operations. TCDD also manufactures rolling stock and similar vehicles, sets up warehouses and passenger facilities, and

[85] Rail Liberalization Index 2007, p. 61.
[86] See Turkish National Railways (2008).

undertakes railway construction works as a contractor in Turkey as well as abroad. TCDD, affiliated with the Ministry of Transport, benefits from monopoly rights concerning the operation of railway services in Turkey. The three affiliated companies of TCDD are TULOMSAS (locomotive, motor and freight wagons), TUVASAS (passenger cars), and TUDEMSAS (railway machines and freight wagons). There are a total of four factories that are active in the railway sector, and they include a switch factory, two concrete sleeper factories, and a rail-welding factory.

In Turkey railway services include passenger transport, freight transport, and port handling as shown in Table 5. The rail network is single track operation over 95 percent of the network. With respect to rolling stock there are as of 2007 15,384 active freight wagons, 20,387 active other type of wagons, 522 active diesel mainline locomotives and 67 active electric mainline locomotives, as well as 129 other locomotives (shunting locomotives, diesel multiple units, and electric multiple units).

Table 5: Services TCDD

	2001	2002	2003	2004	2005	2006
Passenger Transport (million persons)	52	48	50	51	52	60
Passenger Transport Revenue (Million Euro)	58	56	62	62	77	104
Freight Transport (Million Tons)	14.6	14.6	15.9	17.9	19.2	20.4
Freight Transport Revenue (Million Euro)	89	105	125	146	173	208
Port Handling (Million Tons)	34.6	36.3	41.5	46.7	44.6	50
Port Handling revenues (Million Euro	179	186	195	195	212	242

Source: Secretariat General of EU Affairs (2006)

Currently, TCDD tariffs for carrying goods are determined based on distance, type and weight of load. Prices are published on the TCDD website and apply equally to all customers. A protocol may be drawn between the customer and TCDD for regular transportation of goods by TCDD rail cars, or rail cars can be arranged upon request. Firms wishing to use their own rail cars to carry goods apply to TCDD to obtain approval. TCDD evaluates applications based on operational and technical criteria. Today, around 30 firms have signed contracts with TCDD to obtain their own rail cars, and there are 3,173 rail cars active on TCDD rails. Large logistics companies are building their rolling stock and providing services both domestic as well as international transport. In addition within the framework of agreements signed with different countries, block trains, pulled by TCDD locomotives, are operated towards Europe (Germany, Hungary, the Netherlands and Slovenia), Iran, Syria, Iraq and Central Asia (Turkmenistan and Kazakhstan).[87] Currently, 170 block trains per day, both domestic and international, are in operation. Most of these companies also own and operate railway stations and warehouses that they use for storing and handling freight. Private companies account for about 20 percent of total freight transport by rail in 2006. Thanks to block freight train transportation, an increase of 35 percent in freight transportation quantity and an increase of 109 percent in freight transportation

[87] Block trains are trains where freight is transported uninterruptedly, from the loading to the unloading station, without changing locomotive and wagons, and without interval freight loading and unloading.

income have been achieved in 2006 in comparison to the figures of 2002. The cost accounting system of TCDD does not allow for calculation of unit costs related to infrastructure. Since there is no accounting separation between infrastructure management and transportation services, or between transportation of freight or passenger, there is no information available on true costs of rail transportion. Consequently, corporate customers have no understanding of whether or not TCDD prices actually reflect the costs.

TCDD revenues from passenger transport and freight transport have been increasing steadily over the past five years. The increase in the revenues from freight transport is significantly higher than that for passenger transport. TCDD also has revenues from port handling. But TCDD is a large money loser. The loss amounted to 267.6 million TL in 2006 and 635.9 million TL in 2007. Although the profitable port revenue is helping to cross subsidize the TCDD, the revenues from operations do not cover the costs. It receives four types of subsidies for track maintenance and repair from Ministry of Transport, for some uneconomic lines from the Undersecretariat of Treasury, for some express trains from the Undersecretariat of Treasury, and for ferry traffic on Lake Van again from the Undersecretarit of Treasury. According to the World Bank (2006) the railways cost the government during 1993-2004 US$9 billion, averaging about US$750 million a year. In 2004, total support from public finance to cover losses as well as capital investment amounted to US$1,023 million, or 0.4 percent of GDP.

A major deficiency of the Turkish railways is the low density of the network. As emphasized by the Centre for Economics and Foreign Policy Studies (2007) Turkish railway infrastructure connects only 37 of 81 provincial centers, 28 percent of the population does not have access to railways, and some major industrial or commercial centers like Bursa, the 4th largest city in Turkey, do not have a railway connection. Even though traditionally ports have been operated until recently by TCDD some ports such as Trabzon on the Black Sea, Antalya on the Mediterranean, and Tekirdağ on the Aegean Sea lack railway connections. Furthermore, the quality of railway tracks is not fit for modernization of railway transportation. Of the 10,991 km of railways, only 5 percent are double or triple track, only 21 percent of tracks are electrified, 28 percent of tracks have signalization, 38 percent of tracks are non-standard, and 34 percent of the rails are older than 25 years. As a result of the situation of the railway network and operations, transport of goods or passengers by rail in Turkey is significantly less than by road as one can see from Table 6.

Table 6: Transport modes in Turkey

		2001	%	2002	%	2003	%	2004	%	2005	%
Road	Freight tons km	151,421	90	150,912	92	152,163	91	156,853	94	166,770	95
	Passenger km	168,211	95	163,327	95	164,311	95	174,312	95	181,983	95
Maritime	Freight tons km	8,100	5	5,738	3	5,400	3	0	0	0	0
	Passenger km	31	0	21	0	22	0	0	0	0	0
Railway	Freight tons km	7,562	5	7,224	4	8,669	5	9,417	6	9,152	5
	Passenger km	5,568	3	5,204	3	5,878	3	5,237	3	5,036	3
Air	Freight tons km	285	0	275	0	276	0	321	0	392	0
	Passenger km	2,859	2	2,706	2	2,752	2	3,223	2	3,992	2
Total	Freight tons km	167,368	100	164,149	100	166,508	100	166,591	100	176,314	100
	Passenger km	176,669	100	171,258	100	166,508	100	182,772	100	191,011	100

As emphasized by United Nations Economic Commission for Europe (2007) the shares of transport modes have fluctuated in a narrow band and hence they can be considered relatively stable because of the fact that the ongoing share increase of roads has stopped. This outcome particularly results from investments made in railways and from development of passengers transport at airways. According to the 2005 figures in Turkey, the share of railways in freight transportation was approximately 5 percent, while the share of railways in passenger transportation was 3 percent.

As of 2009 TCDD has some major projects that it intends to complete over the next few years. There are projects of fast trains between major cities for passenger traffic (Ankara – Istanbul, Ankara – Konya, Ankara - Sivas, Ankara – Afyonkarahisar - İzmir) and a project for connecting Turkey to Georgia (Kars – Tblisi). For freight, railways are planned to connect organized industrial zones to markets. Sincan and Gaziantep organized industrial zones have thus been connected by rail, Manisa and Konya are next in line. Turkey's most important ongoing rail project is Marmaray which is connecting Europe with Asia via railway tunnel under the Bosphorus. With Marmaray the rolling stock of 440 cars will be deployed on the city's rail system, on a 76 km railway line that connects Halkali on the European side of the city with suburban Gebze on the Asian side, sharply reducing travel time between the two sides of Istanbul and helping relieve the city of the growing traffic congestion, and carrying 75000 passengers an hour. The project is scheduled for completion in April 2009.

Turning to railway legislation we note that the relevant legislation includes the Law on the Organization and Duties of the Ministry of Transport No 3348 (Official Gazette, April 17, 1987; no 19434) regulating tasks and duties of the Ministry of Transport, the Decree Law on State Economic Enterprises (SEEs) No 233 (Official Gazette, June 18, 1984; no 18435) defining the legal status of SEEs, and TCDD's Incorporation Statue on TCDD's Rights and Obligations (Official Gazette, October 28, 1984; no 18559) defining the responsibilities and competences of TCDD.[88, 89] The Ministry of Transport, which includes the DG Construction of Railways, Ports, Airports (DLH) and DG Land Transport (DGLT), and the TCDD are the responsible authorities. The Ministry of Transport is responsible for determining and planning according to the transport needs, defining the basic principles regarding the arrangement of rail transport systems, and regulating relations with international railway organizations. While DLH is responsible for constructing new railway lines, and preparing the plans and programs of the railways, and facilities and equipment of the railways, DGLT is responsible for ensuring that railway transport is carried out in accord with national security, economic, technical, social needs, that rail transport is in harmony with other modes, and coordinating international activities in the field of railways. Finally, we note that TCDD (i) operates and renews railways, ports and piers, (ii) guides and coordinates affiliated companies, (iii) carries out all kinds of complementary

[88] Expenditure on construction, operation, and administration of infrastructure is in line with the EU Acquis. With respect to financial transfers to TCDD, the responsible authorities are General Directorate of State Owned Enterprises (SOEs) in the Undersecretariat of Treasury, and the Privatization Administration. The responsibilities of the Undersecretariat of Treasury include the owndership of SOEs, providing financing to SOEs, and planning and monitoring the annual budgets of SOEs. The TCDD received capital from the Undersecretariat of Treasury and the Privatization Administration. Legislation on this front is Article 37 of the Decree Law on State Owned Enterprises No. 233 (Official Gazette, June 18,1984; no 18435) which states that the Treasury will transfer capital for investment and operational deficits of SOEs, and Article 10 of the Law on Privatization No. 4046 which states that capital obligations of the Privatization Administration can be met by the sources in the Privatization fund. Other financial transfers include subsidies for track maintenance/repair from the Ministry of Transport (Decree Law No. 233 and TCDD's Incorporation Statute).

[89] This part relies heavily on Secretariat General for EU Affairs (2007).

activities regarding rail transport such as maritime and land transport including ferry operations, (iv) manufactures rolling-stock and similar vehicles, sets up warehouses, depots and passenger facilities, and (v) undetaes railway construction works as a contractor in Turkey and abroad.

Regarding the transportation of dangerous goods we note that DGLT is responsible for setting rules on the transportation of dangerous goods by rail and for supervision, while TCDD is responsible for the carriage of these goods. Domestic legislation on the transportation of dangerous goods by rail includes 'Internal Operational Instruction on Carriage of Dangerous Goods by Rail', issued by TCDD, No 505 April 28, 2005. Technical studies on 'By-Law on Transport of Dangerous Goods by Rail' is underway.

TCDD and DLH set and enforce safety rules and standards with respect to the construction, maintenance and management of the rail infrastructure as well as the provision of rail transport services. Railway safety rules and standards have not yet been made public. We note that in addition investigations of accidents are done by ad hoc committees within TCDD, where the investigation includes a technical as well as an administrative component. The technical component defines the causes of the accident and finds the appropriate measures that must be taken to prevent future accidents, and the administrative component tries to find those people who are responsible for the accident. Then, there is also a judicial investigation by legal authorities who are independent from TCDD. Thus, currently there is no central office that is responsible for overall rail safety; responsibilities pertaining to interoperability and safety are divided between departments of the TCDD, and there is no national implementation plan for the Technical Specifications for Interoperability.

The five main units of TCDD are the Installations Department (electrification, signaling, telecommunication, traffic), Permanent Way Department, Freight Transport Department, Passenger Transport Department, and the Rolling Stock Department. The Permanent Way Department is responsible for maintenance and repair of permanent way.[90] The Traction Department deals with the standards and compliance regarding rolling stock. The Office of Train Operators responsible for safety of the Rolling Stock is also associated with the Traction Department. Traction Inspectors also perform internal inspections. The Freight Department defines the principles for loading, labeling, and sealing of freight, plans demands, allocation, distribution, and transport of freight wagons, defines principles of loading, unloading, transferring and labeling of dangerous gods. Finally, the Installations Department deals with railway traffic management deals with radio communication, telecommunication, energy, DRS signaling system, and control-command and signaling systems etc.

Lately, it has been noted that TCDD does not operate on commercial principles, has a monopoly on management of the infrastructure and on the provisions of rail transport services. It is not unbundled vertically, does not have separation of accounts, does not have a proper accounting scheme to calculate unit costs with respect to infrastructure, and does not have a charging or performance scheme. Moreover, there is no independent regulatory body, or a network statement. As a result there has been commitment on the part of government to change the TCDD, both in terms of structure, as well as technology, in order to make it a more competitive player in the market, and to increase the modal share of railways in the transport sector. Both the 8th Five Year Development Plan for 2001-2005 prepared by the State Planning Organization in

[90] Technical specifications and regulations are specified according to 'International Union of Railways' (UIC) standards, and there are technical standards on track gauge, axle load and speed etc. Bridges and culverts are built according to BE German Railways Steel Bridge Calculation Basics and EUROCODE standards. Tracking infrastructure, and projects and applications are also issues that are taken up by the Permanent Way Department.

2000 and the 9th Seven Year Development Plan for 2007-2013 clearly put forward the goals of separation of infrastructure management from provision of transport services, the restructuring of the TCDD with a commercial mindset, in order to increase its performance and to allow for private sector enterprises to compete in provision of transport services. On the other hand the TCDD Business Plan for 2005-2010 aims to improve financial situation, establish a client oriented structure, increase competitiveness and market share, integrate the network into the European and Asian networks, and provide a secure and economic service.

In 2005, a project was launched by the TCDD to open the railway market, to establish the legislative framework in accordance with the EU *acquis* and to re-structure the TCDD. This is a 4,2 Million € project, funded by the EU. The project has three parts: Twinning Project with Germany, Service Project and Financial Management Information System. The objectives of the project are to (i) establish the legislative and institutional framework for the rail sector in accordance with the EU *acquis*, (ii) define a stable financial relationship between TCDD and the Government that satisfies the requirements of the *acquis*, and (iii) develop / customize a Financial Management Information System, and provide the necessary information technology platform for the functioning of the system, measuring financial performance (profit and loss) and monitoring actual performance. The project also entails (a) training of TCDD managers for increasing level of knowledge and gaining new capabilities to be eligible on commercial conditions, (b) preparing proposals for capacity improvement of employee, training programs and budgets, (c) defining employee and sources to be transferred to new business units and programming mobility of such personnel, (d) defining targets and aims of business units and management, (e) defining budgets and 5-year activity plans of business units, (f) defining Public Service Contracts between Government and TCDD and preparation of draft contracts, and (h) defining separate accounting for infrastructure, operations and Public Service Obligations with principle of non-transferability of funds between services.

Within the context of the twinning project a draft law entitled "Railway Framework Law" was prepared to establish the legislative and institutional framework in accordance with the EU acquis. It aims to deregulate the railways market and harmonize legislation with the EU. TCDD is hence to be renamed Turkish Rail (Türk Demiryolları – TD) and restructured as an independent and commercially managed railway undertaking. The task of infrastructure capacity allocation and charging will be separated from the bodies or firms that provide rail transport services. Infrastructure Management and Operations will be separate Directorates General under the common roof of a holding structure Infrastructure Manager (Network and Rolling-Stocks Business Units) and Railway Undertaking (Passenger and Freight Business Units). The Framework Law establishes the 'railway authority', independent from any railway undertaking, to ensure fair competition in the rail services market, supervising the railway companies and infrastructure manager on safety issues, licensing and interoperability. The Framework Law also establishes a 'Regulatory Body of Access to Infrastructure'. It will be independent from Allocation and Charging Body (Infrastructure Manager) and railway undertakings; it will ensure free, fair and non-discriminating access to railway infrastructure, and it will solve disagreements concerning capacity allocation, charging between Infrastructure Manager and Railway Undertakings. The second body that will be established within the Framework Law will be the 'Safety and Licensing Body'. This body will be independent from Railway Research and Accident Investigation Department, infrastructure manager and railway undertakings, and it will define Railway Safety Framework and monitor, and issue a Safety Authorization to and Safety Certificate to and furthermore it will issue operational licenses to infrastructure manager and railway undertakings. Finally, the third body that will be established within the Framework Law will be the 'Railway Research and Accident Investigation Department'. It will be independent

from Safety Authority, Infrastructure Manager and Railway Undertakings, will investigate serious railway accidents and incident in order to prevent railway accidents.

Furthermore General Railway Framework Law will determine (i) the safety requirements for railway undertakings and safety managers, (ii) the basic principles for organization of railway undertakings and infrastructure managers, and (iii) provisions for public service obligations and access rights to railway infrastructure. Bylaws have been drafted on safety, license, interoperability and free access regulation. The 'safety regulation' regulates safety requirements for railway undertakings and infrastructure managers; establishment of a safety management system, safety certificate and safety authorization, access to training facilities. The 'license regulation' sets out provisions necessary for obtaining licenses. The 'interoperability regulation' sets out processes to be observed in order to get an authorization of technical interoperability and the necessary Turkish Standards annex to this regulation. The 'free access regulation' provides for regulation on free access as a cornerstone of the legislative package, free access to the infrastructure and lays down the process of train path allocation and sets the rules for charging.

Thus, the future plans include among others the strengthening of the administrative capacity in regard to safety and interoperability, in particular analyzing current railway safety rules for gap analysis, examining Technical Specifications for Interoperability for preparing National Safety Rules, training the staff about interoperability, establishing a safety unit at TCDD, and preparing a Safety Management System. The existing Railway safety rules are to be rearranged. These rules include provisions for preparation of trains operating on all railway lines, management of traffic, safety conditions at work, environmental protection clauses. The rolling stock, tracks, track components, signaling, etc are under the supervision of TCDD. It should further be emphasized that the affiliated companies TUDEMSAS and TULOMSAS of TCDD manufacture wagons for the transportation of dangerous goods incompliance with the 'Regulations Concerning the Reciprocal Use of Wagons in International Traffic' (RIV Regulations), and that the 'Regulations Concerning the International Transport of Dangerous Goods by Rail' (RID Regulations) have recently been translated into Turkish.[91] Studies on the transport of dangerous goods by rail concentrate on issues such as investigation of serious railway accidents, making related safety recommendations, and defining clearly the various responsibilities within TCDD. Moreover, there is a TAIEX workshop on the transportation of dangerous goods that informs the related railway staff about EU legislation, and provides an opportunity to teach them the experience of the EU Member States.

The service component of the Twinning Project has a section on "New TCDD Organization, Financial Relations with Government and Financial Management Information System". The expected outcomes of the project include reorganization and the separation of railway management from infrastructure, separation of accounting for infrastructure, transport services (passenger and goods) and public service obligation, free and non discriminatory access to rail network, and independent allocation of capacity and charging, fully commercial operation of transport activities, provision of long term financial viability of the Infrastructure Manager, and the preparation of the network statement under responsibility of Infrastructure Manager.

For combined transport, the institutional capacity of Ministry of Transportation will be strengthened. There is priority for harmonizing with the relevant Acquis. Furthermore, Ro-Ro Transport has been used intensively (Mediterranean, Black Sea, and Marmara Sea) Turkish

[91] Although the TCDD has specialized staff for the carriage of dangerous goods, it has no specialized staff for regulatory and supervisory activities related to the transport of dangerous goods by rail.

hauliers where the number of total vehicles carried by hauliers in 2005 was 112,361. There is also some preparation for a regulation on combined transport.

In addition to the Twinning Project a Technical Assistance to Transportation Infrastructure Needs Assessment (TINA) project was conducted within the National Pre-accession Financial Assistance Program for Turkey. The objective of the project was to assess the infrastructure needs, in order to develop a multi-modal transport network within Turkey and the extension of the European Union's TEN-T to candidate countries to enable sustainable transport mobility across Europe. Furthermore, the 'Turkish Rail Sector Re-Structuring and Strengthening' project financed from EU funds aims to restructure the railway sector and restructure the TCDD.

5. MEASURING THE MARKET ACCESS LIBERALIZATION: THE LIB INDEX

In the EU, the degree of implementation of various directives and regulations into national legislation has been relatively differentiated among the member states. The overall progress in market access liberalization in the EU countries is measured by the LIB index prepared by IBM Consulting Services. The LIB index consists of three sub-indices, reflecting various aspects of liberalization. The first level (LEX Index) shows the existing legal framework (law in the books). The second level investigates the status of the actual access opportunities and barriers (ACCESS Index) and reflects the "law in action". The third level shows the progress in market opening process and market dynamics (COM Index). While the first and third levels are important, it is the second level which is treated as being crucial for market opening.[92] Initially, in 2002, the LIB index consisted of three sub indices with the following weights: (i) LEX index 25 percent, (ii) ACCESS Index 50 percent and (iii) COM Index 25 percent. In 2004 the methodology used was revised and as a result the weights of LIB index were significantly modified. The weight of LEX amounted to 30 percent, while the ACCES index counted for 70 percent. In the 2007 survey, the share of ACCESS index was further increased to 80 percent, while the weight of LEX index was decreased to 20 percent. Due to these significant methodological changes, the comparison in time among the level of indices should be treated with caution.

The country coverage of indices has changed over time as well. In 2002 the study covered 15 EU members plus Norway and Switzerland. Since 2004 the scope of the analysis was extended to the new Member States. In 2007 it covered also Romania and Bulgaria. In that year the indices were calculated for 25 EU members and two additional European countries[93].

If it was possible to distinguish between scores, freight transport is included at 50 per cent, local and long distance passenger transport at 25 per cent each. The data for the LIB Index has been collected by means of questionnaires derived from the determinants used in the concept. The acquired data has been verified by recent scientific publications, further secondary sources and expert assessments. Paired comparisons and plausibility checks were also conducted to validate the data[94].

In 2004, the LEX sub-index consisted of five "subject areas" (and much more determinants), which were given the following weights:

[92] Rail liberalization Index 2002, page 6.
[93] Norway belongs to European Economic Area ((EEA), while Switzerland has signed a number of bilateral agreements regarding rail liberalization. There is no railway network in Cyprus and Malta.
[94] Rail liberalization Index 2002, page 30.

I. Organisational structures of the (former) state railway of the national railway system (25 per cent)

1. Independence from the state (5 per cent)
2. Degree of vertical separation (80 per cent)
3. Degree of horizontal separation (15 per cent)

II. Regulation of market access (45 per cent)[95]

1. Market access for foreign railway undertakings (50 per cent)
2. Market access for domestic railway undertakings (50 per cent)
3.

III. Competencies of the regulatory authority (30 per cent)

1. Existence of a regulatory authority (50 per cent)
2. Object of regulation (25 per cent)
3. Competencies of the regulatory authority (25 per cent)

The crucial ACCESS index analyzed four aspects of market access liberalization with the following weights:

I. Information barriers (5 per cent)

1. Process duration for obtaining information (40 per cent)
2. Quality of available impersonal information (30 per cent)
3. Quality of available personal information (30 per cent)

II. Administrative barriers (20 per cent)

1. Licence (35 per cent)
2. Safety certificate (25 per cent)
3. Approval of rolling stock (40 per cent)

III. Operational barriers (50 per cent)

1. Train path access conditions (25 per cent)
2. Train path pricing system (50 per cent)
3. Other service facilities and services according to Directive 2001/14/EC, Annex II (25 per cent)

IV. Proportion of accessible domestic market per sub-market – 2003 (25 per cent)

1. Freight transport (50 per cent)
2. Long-distance passenger transport (25 per cent)
3. Short-distance passenger transport (25 per cent)[96]

Since 2004, the COM index, reflecting the current market structure analyzed three aspects with the following weights:

[95] In 2002 version there were explicit references to the market access provisions pursuant to Directive 91/440/EEC as amended by Directive 2001/12/EC.
[96] Rail liberlziation index 2004, page 22.

I. Development of the modal split 1991-2001 (5 per cent)

1. Development of the modal split in freight transport (50 per cent)
2. Development of the modal split in passenger transport (50 per cent)

II. New RU (Railway Undertakings) 2003 (45 per cent)

1. Approved RUs (without incumbents) in relation to the network length (40 per cent)
2. Active RUs (without incumbents) in relation to the network length (50 per cent)
3. Ratio of active RUs to approved RUs (10 per cent)

III. Market shares of External RUs 2003 (50 per cent)

1. Market shares of External RUs in the transport services in percent (75 per cent)
2. Market share growth of External RUs in percentage points from 2000/1 to 2003/4 (25 per cent)

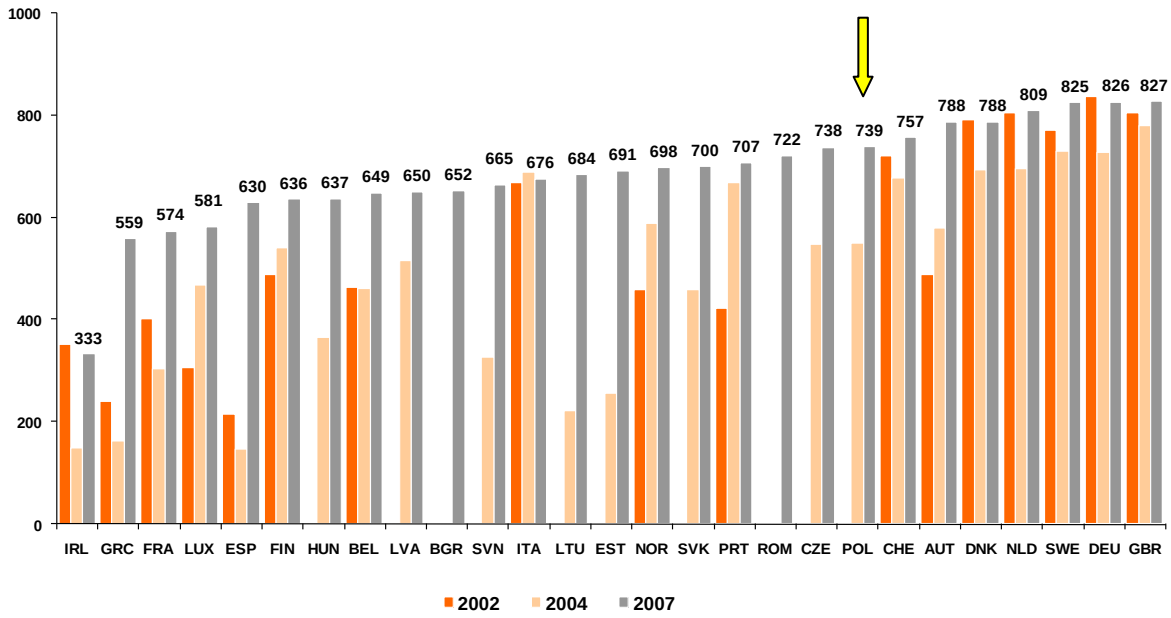
In 2002, the weights described above amounted to respectively 10 percent, 30 percent and 60 percent.

In majority of cases the "subject areas" listed above, were divided into more specific determinants describing various aspects of market access liberalization. For example in the case of licence and safety certificate (the component of ACCESS index in 2002, later merged into administrative barriers) the following specific determinants were analyzed: (1) decision makers regarding issue of licences; (2) duration of the process for the issue of licences; (3) scope of the licence; (4) recognition of foreign licences; (5) time required for the examination of foreign European licences; (6) period of validity of the licence; (7) required amount of insurance; (8) required paid-up capital; (9) licence costs; (10) additional conditions for the issue of licences; (11) clarity regarding contacts and (12) safety certificate.[97]

The authors of the study described the progress in implementation of EU legislation and market access liberalization achieved by different European countries on the basis of constructed indices. The changes in the level of overall LIB indices, (aggregating LEX and ACCESS indices only) are shown in Figure 6.

Figure 6. The values of LIB indices for years 2002, 2004 and 2007

[97] Rail liberalization Index 2002, page 19.



The values of index varies from 0 to 1000 points, with 0 being the most restrictive regime and 1000 the most liberal one.
Source: Based on IBM Business Consulting Services IBM Corporation (Rail Liberalization Index 2002, 2004, 2007)

The liberalization of the European rail transport markets continues to develop. In almost all countries the value of indices has increased over analyzed time, indicating a visible progress in the liberalization of the market access. The average score of the LIB index increased from 544 points in 2002 to 688 points in 2007[98]. This development is driven largely by reforms which the Member States have undertaken on the basis of the new EU railway legislation. But despite the uniform EU legislation, the liberalization happens at a differentiated pace. Overall, the rail sector still has some backlog compared with other network industries, such as telecommunications or the energy sector.

In order to show the differences in the implementation of legislation among EU members the authors have created the following classification of countries. The first group, in which the liberalization is already well advanced, the indices were evaluated with scores of 800 or more points in 2007. Great Britain, Germany, Sweden and the Netherlands are the countries with the most liberal market access railway regimes. It is worthwhile to mention that the methods of market liberalization were fairly different among these countries. For example, in Germany there is no complete vertical separation between the infrastructure manager and the service provider as all the companies belong to the Deutsche Bahn AG holding. However, the provisions of Community law for separating infrastructure and transport are fulfilled. On the other hand, in Britain the former incumbent British Rail has been split up into more than 100 companies. Infrastructure has been separated from transport in institutional terms and allocated to Railtrack[99]. Now the Network Rail is organised as a "not for dividend company" and is under control of the British government.

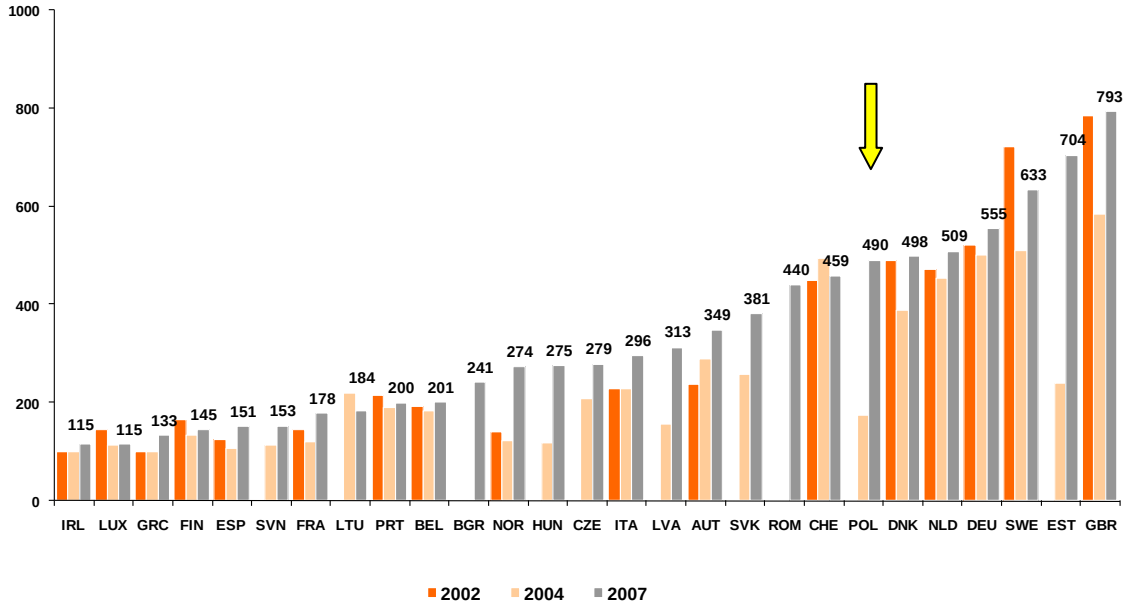
[98] One should treat this increase with caution due to already described changes in the aggregation methodology of LIB index.
[99] After the Rail Track company went into insolvency, infrastructure management of the British rail network was taken over by Network Rail.

Countries in the second group are "on schedule" with implementing the railway EU legislation. The LIB indices were evaluated with scores between 600 and 800 points. This is the most numerous group consisting of all new members states, which accessed the EU in 2004 plus Portugal, Spain and Switzerland. Poland had fourth best score (739 points) among these countries. The Polish score is by 35 points higher than the EU average and has increased by 184 points in comparison to year 2004. This change reflects a significant progress achieved in the recent years, diminishing distance to the most liberal economies. It is worth to mention that Poland moved from "delayed" to "on schedule" countries between 2004 and 2007.

The third group, with scores from 300 to 599, embraces the countries with "delayed" implementation of the EU legislation. Ireland, Greece, France and Luxemburg belong to this group of countries. Despite limited access to their market, some liberalization progress has also been made in the recent years, especially in Greece and France.

The real progress in market opening and market dynamics is measured by COM Index. The relevant changes measuring the progress are shown in Figure 7.

Figure 7.The values of COM indices for years 2002, 2004 and 2007



The values of index varies from 0 to 1000 points, with 0 being the most restrictive regime and 1000 the most liberal one.
Source: Based on IBM Business Consulting Services IBM Corporation (Rail Liberalization Index 2002, 2004, 2007)

The scores of COM indices are correlated with LIB indices, but are much more differentiated among analyzed countries, reflecting wider discrepancies in the market structure. The lowest score was in Ireland (115 points) and the highest in U.K. (793 points), with an average of 336 points. The increase of these indices reflecting real progress in market opening is fairly small. The average value of the COM indices increased only from 308 in 2002 to 336 in 2007.
The score of Poland in 2007 490 is well above EU average and has been rapidly increased in the last three years (it was 175 in 2004). It reflects real progress in market opening after the country's accession to the EU. This progress can be measured by the number of licences granted to Railway Undertakings. The relevant data is presented in Table 1

Table 7: The number of licenses granted to RU in the analyzed countries (March 2007)

Countries	No. of licences	Countries	No. of licences
DEU	350	DNK	12
POL	72	HUN	11
GBR	56	LVA	9
ITA	41	FRA, ESP	8
ROM	27	NOR	6
EST	23	LTU, BEL	4
CZE, SWE	19	BGR	3
NLD	16	FIN, LUX, PRT, SVN	1
AUT	15	CHE, GRC, SVK, IRL	0

Source: Eurostat data.

Taking into account the number of granted licenses, Poland has the second most open railway market after Germany[100]. The high position of Poland reflects probably mainly the transit opportunities of the country and a large number of railway tracks in terms of kilometers. On the other hand, the number of active Railway Undertakings in Poland and the scope of their business operations are still relatively limited. Summing up, we note that the indices presented here show that the members of the EU are gradually implementing liberal legislations leading to the opening of railway markets.

[100] In Germany "the greater part of the freight transport services handled by external RUs are provided by only eight companies. The market share of external rail freight operators increased significantly from 6.9 per cent to 16.4 per cent between 2003 and 2006". Rail Liberalization Index 2007, p. 107.

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Chapter 5

Liberalization of Road Freight Transport Services

Sübidey Togan, Jan Michalek, Jan Hagemejer, and Sare Arıcanlı

Road transport represents between 2 and 6 percent of countries' gross domestic product and employment, depending on the structure of their transport networks, and the geography. Studies show that freight transport by road is the principle mode of freight transport for a large number of countries. According to Vaillancourt and Wingender (2006) road network is used by 60 and 80 percent of passenger and freight movements in any given country, and according to European Conference of Ministers of Transport (ECMT) (2001) road haulage measured in tonne-kilometres represents 75 percent of Europe's freight transport. While road haulage activity has increased by a factor of three from 1970 to 1998, other modes of transport on land have stagnated during the same time period.

The road freight industry is geared to distribution, logistics and basic physical transport. As emphasized by Boylaud (2000) it is a key sector of the economy, playing a major role in market integration and having a direct impact on transaction costs for economic agents. WTO Secretariat (2001) emphasizes that because of the downstream nature of road transport activity, the steadily increasing complexity of production methods and the generalization of just-in-time production, road transport has considerable impact on GDP and employment. Transport benefits the economy as a whole, and whenever its functioning is impaired, then it is the economy as a whole that suffers. It is also a secondary activity in the sense that an increase in GDP results in more than proportional increase in the demand for transport.

In the 1980's many countries turned to liberalization of road freight transport sectors for improving the safety, security and efficiency of transport operations and development of efficient transport networks. Liberalization requires first the removal of legal or administrative provisions restricting market access and commercial presence, and second the harmonization of rules and regulations in the sector with those of the major trading partners. In this paper we consider the liberalization of road freight transport services in Turkey and Poland. In the case of Turkey the harmonization of rules and regulations in the sector can be achieved largely by adopting and implementing the global rules and regulations prevailing in that sector. On the other hand aiming for active convergence with the rules and regulations in the road freight sector of the European Union (EU) is a must for Poland.

The paper is structured as follows. While section 1 considers the international and EU rules and regulations in road freight transportation sector, section 2 is about the Turkish rules and regulations. Section 3 considers the Polish rules and regulations, and section 4 quantifies the barriers to trade in road freight transportation services. Finally, section 5 concludes.

1. ROAD FREIGHT TRANSPORT SERVICES

The road freight transportation industry is divided into two segments. While the first segment consists of a large number of small firms providing basic transport services, the second segment incorporates a limited number of major hauliers providing more sophisticated logistics services.

Firms in the first segment compete mainly in prices, and barriers to entry into the sector are low because in general little start-up capital is needed. This segment of the sector is competitive as it has small economies of scale with low entry and exit costs. On the other hand firms in the second segment compete in both prices and in the range and quality of services. Here, economies of scale are important, and increasing use is being made of information and communications technologies such as electronic data transfers and tracking systems as they enable hauliers to provide better quality services to a much wider range of destinations.

The regulation of issues such as market access and prices has been motivated in a large number of countries by concerns that competition could cause instability and lead to bankruptcies in the sector. Furthermore, according to Boylaud (2000) the main rationales for regulating the road freight business relate to road safety, the environment and infrastructure congestion. There are two broad categories of regulations: regulations on traffic and vehicles and regulations on the operation of the market. The first category includes the vehicle standards, highway codes, labor regulations, regulations on social conditions, regulations on the carriage of hazardous substances and traffic restrictions. The second category covers mainly market access conditions and price regulations.

The vehicle regulations concern the regulations on how motor vehicles should be manufactured. They are numerous and apply to a great many technical points such as fittings, roadworthiness tests, and to the specific characteristics of the vehicles. The United Nations Economic Commission for Europe (UNECE) has set up a Working Party on the Construction of Vehicles (Working Party 29 (WP29)) in 1953 and agreed upon its first regulation in 1958. The 1958 UNECE Agreement and Regulations under it set out the technical norms with which road vehicles must comply. The scheme was, as emphasized by Braithwaite and Drahos (2000), such that if e.g. a German factory would get approval from the German government to manufacture vehicles of a design, other European states would grant mutual recognition to the type approval. The job of WP29 was to ensure that the grounds for type approvals in different states converged sufficiently to make mutual recognition acceptable. Recently European Commission helped to develop new standards. Once the Commission decides on a standard that can be agreed among the experts in its member states, then a member state is delegated to take it to WP29. In this way the European Commission uses WP29 to attempt to globalize a direction for standards.

1.1 International Regulations

Historically, the transport sector has had many regulations with respect to entering and exiting the market as in the case of Mexico prior to 1989. During that period the country had extreme degree of rigid regulation in the road freight transportation sector with a high degree of government interference. As emphasized by Dutz et al. (2000) "important government-imposed barriers to competition included entry restrictions to operate on federal highways, discretionary allocations of freight among truckers, and strong restrictions on moving cargo outside the established transport corridors. Official tariffs applied to all cargo and a semipublic company held a monopoly in handling containers. Regulations did not allow companies to charge higher rates for better service and hence no incentive to offer better services. Neither did they allow them to compete with one another by offering lower rates. As a result, the trucking industry was characterized by a limited number of firms operating with minimal competition. Moreover, to maintain this highly inefficient and archaic system, the government employed a sizeable bureaucracy." Thus, the effect of restrictions on itineraries or distances, the need to pass through freight centers, the impossibility of transporting a load on the return journey was to diminish the productivity of the undertakings. These undertakings were protected from the full effects of

competition, and as a result they could enjoy higher returns. Hence, the consequence of quantitative regulations was to limit gains in productivity and technical and organizational innovations, thereby preventing a downward trend in transport prices, whether in relative or in absolute terms. With liberalization all these restrictions were eliminated. Currently a license or permit is required in most countries to set up a new road freight company, as well as registration. When deciding on the entry of new operators requirements such as financial soundness, moral soundness and public safety requirements are taken into consideration, and decisions are made on a transparent basis.

The European Conference of Ministers of Transport (ECMT), which is an inter-governmental organization established by a Protocol signed in 1953, is a forum in which Ministers responsible for transport, and more specifically the transport sector, can co-operate on policy. ECMT's role primarily consists of (i) helping to create an integrated transport system throughout the enlarged Europe that is economically and technically efficient, meets the highest possible safety and environmental standards and takes full account of the social dimension, and (ii) helping to build a bridge between the EU and the rest of the continent at a political level.[1] Over the last fifty years ECMT has developed a set of agreements and resolutions on general transport policy, market integration, trade facilitation, road freight transport, intermodal transport and logistics, infrastructure, and road safety, to which countries can subscribe to. According to the rules accepted by the international community individual transport operations may be undertaken without authorization in any ECMT Member country.[2] But the vast bulk of European international transport, outside the EU, is still subject to authorization. Transport operations other than individual transport operations, to or from countries that do not belong to the EU, require an international transport license of which there are two distinct types: (i) the "bilateral" license, which may be used both for transport on own account and for transport for hire or reward, and (ii) the ECMT multilateral license, only available for transport for hire or reward.[3]

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[1] The European Conference of Ministers of Transport (ECMT) has recently been transformed to International Transport Forum, which is an inter-governmental organization within the OECD family. Its founding member countries include all the OECD members, as well as many countries in Central and Eastern Europe. The aim of the Forum is to foster a deeper understanding of the essential role played by transport in the economy and society.

[2] The list of individual transport operations comprises: (i) transport of vehicles that are damaged or have broken down, (ii) unladen runs by a vehicle sent to replace a vehicle that has broken down and also the return run, after repair, of the vehicle that had broken down, (iii) transport of goods by motor vehicle whose total permissible laden weight, including trailers, does not exceed 6 tonnes, or whose permitted payload, including that of the trailers, does not exceed 3.5 tonnes, (iv) transport of supplies to meet medical and humanitarian needs, (v) transport of goods, on an occasional basis, to airports in the event of services being diverted, (vi) transport of works and objects of art for fairs and exhibitions or for non-commercial purposes, (vii) transport for non-commercial purposes of properties, accessories and animals to or from theatrical or circus performances, (viii) transport of spare parts and provisions for ocean-going ships and for aircraft, (ix) funeral transport, (x) transport of livestock in special purpose-built or permanently converted vehicles for the transport of livestock, recognized as such by the Member Countries' authorities concerned, and (xi) transport of goods on own account

[3] Transport for hire or reward consists of a range of transport operations such as postal transport, transport vehicles that are damaged or have broken down, transport of goods by vehicles whose authorized payload does not exceed 3.5 tonnes, transport of medicinal products or medical equipment, transport of emergency equipment. Transport operations for hire or reward other than those just listed require an operating certificate, namely the Community license, which replaces bilateral licenses at European Union Level (Council Regulation EEC N° 881/92 of 26 March 1992).

The purpose of bilateral agreements is to ensure the right balance of traffic between transport operators from the concerned countries. The agreements establish the authorized annual number of journeys. The contracting states exchange blank licenses, which each issues to its transporters on behalf of the other. Bilateral licenses cover the activity of both own account transport operations and public transport operations. Moreover, these licenses are the only ones to which own-account operators are entitled for carriage outside the EU. Bilateral licenses cover the major part of transport between two countries when one of them is not an EU Member. Bilateral licenses can be valid for one journey, and thus for a return journey undertaken within a given time (a maximum of 3 months from the date of issue), or for a period of one year and an indeterminate number of journeys. Moreover, it may turn out that the foreign issuing country only makes a certain license valid for transit, whereas others make them valid for both the return journey and/or transit. The bilateral licenses, granted according to the principle of reciprocity, present the apparent advantage for the issuing countries of enabling them to control the flow of traffic and, in principle, of producing a certain balance of national operators.

On the other hand a quota for multilateral permits was put in place in 1974 to the benefit of undertakings engaged in regular carriage for hire or reward between ECMT Member States.[4] Since 1st January 1999, States have been able to trade in a traditional license in exchange for two "green" lorry licenses or four "greener and safe" licenses. These licenses are valid for one year but each country is entitled to transform part of its quota into short-term licenses valid for thirty days. The ECMT licenses, when they do not contain qualifications, may be used for all public road haulage operations, including transit but excluding carriage within a country, on all infrastructures connecting ECMT Member countries that subscribe to the system. Lastly, it should be observed that these licenses, owing to their limited number, only cover a small part of the trade between the countries concerned even if they do have an essential role, especially with respect to the crossing of certain countries, which is a serious limitation for bilateral quotas.

According to the Final Resolution of the XXVIth Congress of the International Road Transport Union held at Marrakesh on March 20, 1998 there are different types of barriers to cross border trade. The first of these barriers is the blocking of roads and motorways as a result of political conflicts.[5] These problems are in general very complex. Although the resolution of them is important, as it represents a prerequisite for enabling any kind of border crossings to be made, we abstract from consideration of these problems and turn to consideration of the second type of barriers to border crossing. These barriers are considered under the headings of standardization of documents required at the customs, customs declaration and clearance procedures, and infrastructure and equipment at border points.

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[4] The Member countries of ECMT are Albania, Austria, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Federal Republic of Yugoslavia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom. There are six Associate member countries (Australia, Canada, Japan, New Zealand, Republic of Korea and the United States) and two Observer countries (Armenia and Morocco).

[5] As examples of blocking roads as a result of political conflicts consider the closure of borders between Lebanon and Syria on the one hand and with Israel on the other hand; and the closure of borders between Morocco and Algeria.

Regarding the level of standardization of documents we note that the use of the single administrative document by customs authorities facilitates trade. It constitutes a standard form that can be commonly shared by all involved border authorities, thereby enabling significant time savings to be made in crossing the borders and clearing cargo.[6] On the other hand regarding the automation and computerization of customs declaration and clearance procedures we note that large number of countries make use of Information Technology (IT) packages. But as long as these packages do not support the implementation of modern risk management techniques and they are not linked to the overall port management systems, they do not allow Electronic Data Interchange (EDI) interaction to be made with the services providers and economic operators such as the freight forwarders and customs. As a result the actual rate of inspections at the customs continues to be much higher than the rate in the countries where these facilities are used.[7] When different parties involved in the process of clearing cargo could be connected through IT and EDI, then full automation of customs declarations, cargo manifests, drawings illustrating cargo distribution on board ships, cargo invoices, certificates for payment of taxes and duties, and certificates issued by the monitoring authorities could be achieved. Furthermore, the infrastructure and equipment at border points may often be insufficient or in need of upgrading. The main issues here are the lack or underdevelopment of offices for the inspection and control agents, laboratories, warehouses, road approaches to the border, border gates, vehicle parking areas, reliable electricity and power sources, and reliable telecommunications services. Elimination of all these shortfalls would improve the efficiency of customs services and procedures and decrease the barriers to trade in road freight services. According to WTO Secretariat (2001) the annual cost of these barriers has amounted to 1 to 7 percent of total transport costs in Western Europe and between 8 to 29 percent of total transport costs in Central and Eastern Europe.

Because hauliers move internationally, there is a strong need to standardise those aspects of national road freight transportation rules and regulations that are related to the international operation of hauliers. These rules and regulations are developed besides the ECMT through the European Neighbourhood Policy, and the United Nations Economic Commission for Europe (UNECE). Finally, the World Trade Organization (WTO) commitments, and the services negotiations at WTO provide important forum for the liberalization of road transport services.

The European Neighborhood Policy identifies priorities such as transport and customs, and works on Action Plans with partner countries in order to improve issues such as international transport. Action Plans in transport focus on improving competition, efficiency, security, safety, promoting changes in structure of policy, developing modern regulatory structures, and promoting interoperability. This includes institutional reform, removal of non physical barriers such as simplification of customs procedures, and promoting interoperable satellite radio navigation systems. Specifically with respect to road transport, issues include designing and implementing a Regional Road Safety Master Plan on licensing, infrastructure, safety checks, upgrading road network, and replacing bilateral agreements with comprehensive

[6] The single administrative document (SAD) used in the EU within the framework of trade with third countries and for the movement of non-EU goods within the EU is aimed at ensuring openness in national administrative requirements, rationalize and reduce administrative documentation, reduce the amount of requested information and standardize and harmonize data.

[7] While the rate of inspections at the customs is about 2 percent in the EU, the rate in other countries not using the facilities is much higher

multilateral agreements. The application of relevant safety and environmental issues need to be taken into consideration while implementing transport regulations.

On the other hand UNECE Inland Transport Committee, since its creation in 1947, has been working towards the facilitation of international transport while improving its safety and environmental performance. There are almost 56 international agreements and conventions which provide the international legal and technical framework for the development of international transport in the UNECE region. These international legal instruments, some of which are applied also by countries outside the UNECE region, address a wide array of transport issues which fall under the responsibility of Governments and which have an impact on international transport. This includes coherent international infrastructure networks, uniform and simplified border-crossing procedures and uniform rules and regulations aimed at ensuring a high level of efficiency, safety and environmental protection in transport. Some of the important international conventions that have an impact on facilitating the crossing of borders include the Convention on Customs Containers, the Convention on Harmonizing the Frontier Control of Goods, the Convention on Customs Pool Container, the Convention on the International Carriage of Dangerous Goods by Road and the Agreement on the International Carriage of Perishable Foodstuffs.

UNECE produced also the TIR Convention, the most recent provisions of which entered into force on February 17, 1999.[8] The TIR customs transit procedure permits the international carriage of goods, as long as a road leg is involved, in international journeys from a customs office of departure to a customs office of arrival, through as many countries as necessary, without any intermediate frontier control of the goods carried. This facilitation of international goods transport requires a number of measures to be fulfilled and applied by customs authorities and transport operators. They include the use of customs-approved vehicles and containers, the use of the TIR Carnet as an international customs document, the provision of an international TIR guarantee and the mutual recognition of customs control measures in the countries involved.

Finally, it should be noted that the negotiations at the WTO in Geneva are of significant relevance to road freight transport's fortunes. Although the WTO document W/120 identifies five subcategories under road services (passenger, freight, rental, maintenance and supporting services), many countries have given commitments using the more detailed CPC classification which distinguishes 25 types of road transportation services. The freight transportation is distinguished into seven types consisting of road transport services of freight by refrigerator vehicles, road transport services of freight by tank trucks or semi-trailers, road transport services of containerized freight by trucks equipped with a container chassis, road transport services of freight by man- or animal-drawn vehicles, moving services of household and office furniture and other goods, road transport services of letters and parcels, and other road transport services of freight.

In the case of freight transportation 25 countries according to WTO Secretariat (2001) have given commitments within the context of WTO multilateral negotiations. Table 1 shows the market access commitments by modes of supply. The first of these modes, mode 1 or cross-

[8] The TIR Convention has 64 Contracting Parties, including the European Community (EC). It covers the whole of Europe and reaches out to North Africa and the Near and Middle East. The United States of America and Canada are Contracting Parties as well as Chile and Uruguay in South America.

border supply, applies when service suppliers resident in one country provide services in another country without either supplier or buyer/consumer moving to the physical location of the other. Mode 2, consumption abroad, refers to a consumer resident in one country moving to the location of the supplier(s) to consume a service. Mode 3, commercial presence, refers to legal persons (firms) moving to the location of consumers to sell services locally through the establishment of a foreign affiliate or branch. The fourth mode of supply, mode 4 or movement of natural persons, refers to a process through which individuals (temporarily) move to the country of the consumer to provide the service.

{Insert Table 1}

The table reveals that for freight transportation the most liberalized mode is mode 2, where full commitments have been given in four fifth's of cases. In the case of mode 4 all countries preferred to remain unbound except as indicated in the horizontal commitments. In more than three quarters of cases there are no commitments in the case of mode 1. Only five Members have taken full commitments for mode 1 and there are two cases of partial commitments. Mode 3 is evenly split between full commitments and partial commitments. Restrictions listed are typically economic need test, foreign ownership restrictions, incorporation required, nationality of the board of directors, citizenship requirement, authorization required but not extended to foreign-registered vehicles, emergency safeguards on the number of services suppliers, services operations and services output, and limitations on the use of leased vehicles. Only two Members have undertaken no commitments for this mode.

In the case of national treatment for freight transportation we note that there are few specific restrictions: requirement of establishment in the country concerned to provide cabotage services, prior approval, cargoes confined to containerized cargoes to be exported or imported, and requirement on established entities to use vehicles with national registration.[9] Finally, the MFN exemptions have an important bearing on the extent of the commitments undertaken.[10] Out of the 25 countries having given commitments on freight transportation, ten also have one or more MFN exemptions regarding cargoes. Five members including the EU have felt it necessary to lodge separate exemptions for preferential fiscal treatment on VAT, vehicle tax and income tax. In other instances the preferential tax treatment has been combined with cargo-sharing provisions in a single derogation, either by mentioning the preferential tax treatment specifically or by referring more generally to the operating conditions. The cargo–sharing provisions are mainly bilateral, although there are cases where they are regional or both bilateral and regional. In six cases they are unilateral and in five of those cases they are based on reciprocity. In nearly all cases they cover all countries and existing and future agreements, although sometimes accompanied by a detailed list of beneficiaries.

As far as auxiliary road transport activities are concerned, rental services of commercial freight vehicles with operators have been offered by only a few Members but with nearly no restrictions. Finally, supporting services for road transport covering bus station

[9] "National treatment" requires that once products have entered the market, they must be treated no less favourably than the equivalent domestically produced products.

[10] MFN stands for "most favoured nation". According to MFN clause, members are bound to grant to the products of others treatment no less favourable than that accorded to the products of any other country.

services/highways, bridges and tunnel operation services, and parking services have attracted very few commitments.

1.2 EU Rules and Regulations

In Europe liberalization of the road freight transportation sector was possible only with the single market reform in 1993. As the main objective in the EU is to create a single open market with freedom of establishment and freedom to provide services through liberalization, the main concerns were market access, competition, and the harmonization of legislation. Therefore, EU regulations aim to ease entry into the market, and liberalize the prices and supply of transport. Attention is being paid to moving toward a functionally homogeneous transportation system that can take safety, efficiency, social conditions, and environmental factors into account. Thus, the objective of the EU road transport policy is to create a competitive, safe and efficient transport system with minimal environmental effects. But, in the EU non-EU firms in general do not have the same rights as the EU firms. In the case of foreign firms a number of limitations apply. For example, cabotage in the EU was fully liberalized only in July 1998, but it applies only to EU member states and excludes non-member countries. Finally, we note that although state ownership is becoming a relatively minor phenomenon, there are nevertheless several countries with state-controlled companies operating in the road freight haulage sector. Often they are subsidiaries of state-owned companies in other sectors, such as the railways or post office and they concentrate on only a few activities.

The main international rules that regulate commercial operations and practices, and safety have been transposed into the Community law, ensuring that they have legal force and uniform application throughout the Member States. EU countries have been founding members of the United Nations Economic Commission for Europe (UNECE) and European Conference of Ministers of Transport (ECMT). Thus, EU is party to the rules and regulations developed by ECMT as well as to various UNECE conventions and agreements. In this context it should be emphasized that the EU is party to the Convention on Harmonizing the Frontier Control of Goods, the Convention on Customs Pool Container, the Convention on the International Carriage of Dangerous Goods by Road, the Agreement on the International Carriage of Perishable Foodstuffs, and the TIR Convention.

Turning to WTO services commitments made by the EU shown in Table 2, we note that for 'cross border' supply (mode 1) no commitments have been made in the case of passenger transportation, freight transportation, storage and warehouse services, and other transport services; and no limitations have been placed in the cases maintenance and repair of road transport equipment, freight transport agency/freight forwarding services, and pre-shipment inspection. While in the case of consumption abroad (mode 2) no limitations have been placed, different restrictions have been placed for 'commercial presence' (mode 3) on 'market access' in the cases of passenger transportation and freight transportation. No limitations for 'commercial presence' (mode 3) have been placed on maintenance and repair of road transport equipment, services auxiliary to all modes of transport, and other transport services. Finally, mode 4 (movement of personnel) for all cases does not diverge from the pattern 'unbound except as indicated in the horizontal commitments'

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{Insert Table 2}

1.2.1 Market Access and Competition

Market access for goods and passengers are based on Article 71 of the Treaty. Historically, the liberalization of road transport sector in the EU started with the 1985 White Paper that stressed the importance of freedom to provide services and outlined the Community Common Transport Policy. Three important guidelines were accepted: having a free market by 1992, increasing bilateral as well as Community quotas, and eliminating distortions to competition. Infrastructure development, decreasing border controls and bureaucracy, and improving safety by the end of 1992 were also outlined as goals in the 1985 White Paper. A regulation was adopted in 1988 which stated that all quantitative restrictions, Community and bilateral quotas were abolished starting on January 1, 1993. The international transport of goods between Member States was liberalized with Council Regulation 881/92. According to the regulation a road transport operator that works among at least two Member States must obtain a Community license which gives the operator the right to access to the whole market with no quantitative restrictions. The conditions to obtain this license are set forth in the same regulation. It should be noted that own account transport and small vehicles of less than 3.5 tonnes do not require such a license.[11]

The process of liberalization took even longer for road cabotage where a non-resident carrier holding a Community License can transport goods, on 'a temporary basis', from two points which are in a Member State. This was fully liberalized for freight transport in 1993 with Council Regulation 3118/93. Liberalization on 'a temporary basis' means that it is not continuously carried out. Council Regulation 3916/90 put forth measures that are to be taken in the event of a crisis in the market in the carriage of goods by road. With the implementation of deregulation measures the road haulage market in the EU has become very competitive, integrated, and efficient. The cabotage regime was extended to the EFTA countries on 1 July 1994 with the exception of Austria, which joined on 1 January 1997, and Switzerland. Following their accession to the EU on 1 May 2004 restrictions have been lifted for hauliers from Cyprus, Malta and Slovenia as well. But the other new member states will be able to enjoy the right to cabotage services after a transitional period.[12] Lately, Directive 2006/1/EC has laid down the conditions for hiring vehicles for international road transport. Two conditions were stated. The vehicle must be registered in the same Member State as the road haulage transportation company that is hiring it, and the driver driving the vehicle must be an employee of the company.

According to the Regulation (EC) No 484/2002 amending the Council Regulations No 881/92 and No 3118/93 every driver from a non-EU country driving an EU operator's vehicle while carrying out cross-border haulage activities within the Union must carry the correct driver

[11] Annex I to the EEC Directive of 23 July 1962, as amended, defines intra-community own account transport as follows: *"Transport of goods by motor vehicle subject to the following conditions:* (i) t*he goods transported must belong to the company or have been sold, bought, rented, produced, extracted, transformed or repaired by it, or given to it, (ii) the carriage must be used to take goods to the company premises, to send them from the company premises, to move them, either within the company premises, or outside the company premises for its own needs, (iii) the motor vehicles used for this carriage must be driven by members of the company's own staff, (iv) the vehicles transporting the goods must belong to the company or have been bought by it on deferred terms, or hired provided that in the latter case they meet the conditions of Council Directive 84/67 on the use of vehicles hired without drivers for the carriage of goods by road, and (v) transport must only be incidental to the companies activity as a whole."*

[12] There were anxieties in the sector about the possible adverse effects of running cabotage services. These focused on potentially unfair competition from lower-wage countries which could undercut operators who have to bear with greater costs in a more tightly regulated environment.

attestation. It is a uniform document certifying that the driver of a vehicle carrying out road haulage operations between Member States is lawfully employed by the Community transport operator concerned in the Member State in which the operator is established, or lawfully placed at the disposal of that operator. This document enables inspecting officers in all the Member States to check the employment status of drivers carrying out transport operations between Member States in Community vehicles and with a Community license, thereby helping the authorities to combat effectively the use of irregularly employed drivers and the resulting distortions of competition.

The harmonization of rules regarding access to the profession are outlined in Directive 96/26/EC based on Article 75 of the Treaty. Being a road haulage operator requires according to the Directive good repute in the exercise of business, minimum financial standing, and professional competence. This involved a policy which replaces quantitative licensing with qualitative criteria for allowing access to the road transport market. Given that road haulage undertakings are subject to numerous rules which affect the safety of other road users, an operative who is certified as professionally competent is one who is familiar with all these rules and is also able to manage a company. Good repute means that entrepreneurs who have few scruples about disregarding the law may be excluded from the occupation, while good financial standing ensures that they have the capital required to continue managing the undertaking and maintaining the vehicles, so that any practice that might endanger safety is prevented. The directive requires that each Member State must accept the documents issued by another Member State stating that these conditions are fulfilled. The scope of this Directive excludes the operators of vehicles with a laden weight below 3.5 tons. Regular checks at least every five years ensure that undertakings continue to satisfy these three criteria. The criteria are justified as they halt the proliferation of unscrupulous firms seeking to gain market share by skimping on safety; achieve greater harmonization of standards between Member States, particularly as regards levels of financial standing required and the standard of professional competence expected; facilitate the establishment in other Member States and the mutual recognition of professional status; and improve the overall professional standing and quality of road transport. The Directive 96/26/EC was later amended by Directive 98/76/EC.

It should be noted that access to transport market not only requires looking at services and access to infrastructure, but also involves the development of traffic control systems such as the road traffic control. Only by establishing non discriminatory access to infrastructure can the goal of increasing efficiency and competition be met, and the non discriminatory access must be applicable to all current and potential service providers, as grandfather rights used by incumbents can play a devastating role on increasing competition. The traffic control systems are not just an aspect of safety but are integral to properly allocating infrastructure capacity, and also play a crucial role in the relationship between operation and infrastructure. Finally, we note that the EU countries have been using the single administrative document (SAD) for almost two decades. Furthermore, the Information Technology packages in use in the EU support the implementation of modern risk management techniques, they are linked to the overall port management systems, and they allow Electronic Data Interchange interaction to be made with the services providers and economic operators such as the freight forwarders and customs. In addition, the infrastructure and equipment at border points are on the whole sufficient.

1.2.2 Prices and Fiscal Conditions

Road transportation is projected to continue to increase, and there is universal recognition that it is not possible to increase the road supply in relation with the forecasted increases in traffic

unless financing issues are solved. Most countries that have built high performance, and access-controlled highway systems have either financed their expressways by general tax revenues or through toll receipts. But most countries have used both systems of finance to some degree, and almost every country that uses tolls requires that a parallel untolled route be available to motorists, even though the alternative is usually not built to expressway standards.

The Common Transport Policy based on the principle of 'sustainable mobility', where 'sustainable mobility' refers to maximizing efficiency in terms of energy, time, and distance, while internalizing external costs of infrastructure, environment, operation, upkeep, congestion, and accidents. The system of 'sustainable mobility' and internalizing the average variable costs required the development of a new approach to fiscal issues, and the Green Paper of December 1995 put forth taxation as one of the important solutions to this problem.[13] The Green paper stated that internalizing costs would improve traffic, safety, environment, and remove distortions in competition. On the other hand, the White Paper of 1998 emphasized a range of issues including the need to manage transport capacity more efficiently, to finance transport infrastructure, and the need to improve the efficiency of the transport sector by means of institutional reform involving deregulation and privatization.[14]

According to the objective of 'sustainable mobility' outlined in the Common Transport Policy, EU maintains that charges for infrastructure should reflect the marginal social cost. Hence, users should incur both internal costs such as fuel, driver's time, wear and tear as well as the external costs consisting of operating, infrastructure, congestion, environmental, and accident costs. Table 3 shows that the environmental external cost of road transport as a percentage of GDP is much higher than that of other modes. Charging vehicles for external costs will discourage them from taking trips where the benefits don't exceed the total social cost. This would decrease demand for congested roads, and increase efficiency thereby helping to solve problems of congestion.

{Insert Table 3}

It is emphasized that transport is the main cause of 50 percent of nitrogen oxide emissions, which forms nitric acid and leads to acid rain. Internalizing such costs not only aids in improving traffic conditions, but is also environmentally sound as it will reduce emissions. When considering external costs we must also look at the combination of noise, air pollution, congestion delays, and aesthetic factors. Estimates show that if the external costs of road transport were internalized, it would increase operating costs as emphasized by Button (2002) by about 20-33 percent. Therefore the 1998 White Paper sets out to internalize the externalized costs with a step by step approach, where the objective was to harmonize the charges in transport across all Member States, where individuals would participate in funding the road systems and cover the marginal social costs. The aim here is that harmonization due to liberalization will also be in accord with social aspects, safety measures, and environmental concerns. Furthermore, it should be noted that the aim of internalizing costs is not to increase the cost of transport, but to make sure that costs are apportioned properly while external costs are incurred across all transport modes to avoid distortions of competition. It is also important to state that while the internalization is based on marginal social cost, a multi-tier charging system should be designed to incorporate taxes based on factors such as emissions. Given the

[13] See European Commission (1995).
[14] See European Commission (1998).

projected continued dominance of road transport, one has to consider also besides pricing other options such as making the mode of transport more environmentally friendly through initiatives that will encourage the use of less harmful fuels, and adopting cleaner technologies.

The Directive 1999/62/EC (Eurovignette Directive) based on Article 71 and article 93 of the EC Treaty sets forth the rules for harmonizing requirements on heavy goods vehicles taxes for use on infrastructure. The Directive covers vehicle taxes, tolls and user charges imposed on vehicles intended for the carriage of goods by road and having a maximum permissible gross laden weight of not less than 12 tons. By the 2006 revision, this threshold will fall by the year 2012 to 3.5 tons. According to the directive tolls should be levied according to the distance traveled and type of the vehicle, and user charges should relate to the duration of the usage of the infrastructure. Tolls and user charges may vary according to congestion and vehicle emission class. As a general rule, distance-based tolls and time-based user charges shall not be applied on the same stretch road. Both tolls and user charges can only be imposed on users of motorways or multi-lane roads similar to motorways as well as on users of bridges, tunnels and mountain passes. National tolls and charges should be non-discriminatory, and should be easy for the motorist to understand, so as to avoid unnecessary hold-ups and problems at toll boots. Mandatory checks at the EU's internal borders should also be avoided. The Directive 2006/38/EC amending the Directive 1999/62/EC establishes a new Community framework for charging for the use of road infrastructure. The Directive lays down rules for the application by Member States of tolls or user charges on roads, including roads on the trans-European road network and roads in mountainous regions, and the Directive will apply from 2012 onwards to vehicles weighing between 3.5 and 12 tons. According to the Directive Member States are able to differentiate tolls according to a vehicle's emission category ("EURO" classification) and the level of damage it causes to roads, the place, the time and the amount of congestion.[15] Hence, this makes it possible to tackle the problems of traffic congestion, including damage to the environment, on the basis of the "user pays" and "polluter pays" principles.[16]

1.2.3 Harmonization of Social Conditions, Technical Conditions, and Safety

With liberalization and the creation of a free market, certain social, technical, and safety conditions need to be harmonized in the EU in order to be able to have 'sustainable mobility'. Harmonization of social conditions includes the harmonization of maximum working times, installing necessary technical components, and eliminating controls on frontiers.

Regulation 561/2006 is on harmonizing certain social legislation with respect to road transport. It's aims are to improve road safety by limiting driving times, improve working

[15] EU legislation on emissions from new motor vehicles have been in force since 1970. Since 1993 this has been mandatory for Member States. Standards requiring the use of catalytic converters on petrol cars first came into force in 1993 with EURO I, which was replaced by EURO II in 1997. Even stricter standards have been agreed, with EURO III and EURO IV, coming into force in 2001 and 2006 for passenger cars and in 2002 and 2007 for light commercial cars. Catalytic converters result in marked reductions of CO, NO_x and hydrocarbon emissions from petrol-driven cars, and more efficient catalytic converters will ensure compliance with future, more stringent, standards. For heavy-duty vehicles, standards relate to emissions of CO, HC, NO_x and PM. The first standards came into force in 1990 with EURO 0, which was replaced by EURO I and EURO II, in 1993 and 1996. Proposals for EURO III, IV and V for 2001, 2006 and 2009 are currently being discussed.

[16] For recent developments on estimation of external cost in the transport sector see CE Delft (2007)

conditions, and harmonize the conditions across Member countries. It sets out the rules for maximum daily and fortnightly driving times, daily and weekly minimum rest periods for road haulage as well as for passenger transport vehicles.[17] It also stipulates that a digital tachograph be fitted in all new vehicles that go into service for the first time, starting May 1, 2006. This has a very wide ranging scope, where it includes national as well as international transport, long as well as short distance, own account transport as well as for hire, and employees as well as those who are self employed. On the other hand, Council Regulation 3821/85 concerns the recording equipment in road transport, primarily the analogue tachograph which records driving time, breaks, and rests. Council Regulation (EC) 2135/98, amending the regulation, requires the use of the fully digital tachograph, which is more reliable and which includes a printer for road side inspections. Directive 2006/22/EC lays down the minimum conditions for implementation of Regulation 3821/85 regarding amount of road side inspections of driving time, rest period, breaks and checks at the premises of undertakings. Finally, Directive 2002/15 regarding the working time of those persons performing road transport activities, sets forth the minimum requirements for working time in order to improve road safety as well as the health of workers, and Directive 2002/15 defines working time, place of work, night work, and maximum working week.[18]

Council Regulation 4060/89 aims at eliminating controls at the frontiers. It states that controls on weights and dimensions be done on a sample basis. Council Regulation 3912/92 extends the scope of Regulation 4060/89 to those vehicles and vessels registered in third countries. Controls on vehicles registered in third countries must be done at the external frontier of the Community.

Harmonization of technical conditions dealing with issues such as tread depth of tires, installation of speed limitation devices, maximum authorized weights and dimensions, roadworthiness tests for vehicles, technical roadside inspection, and registration documents for vehicles, concerns interoperability, safety and environmental issues. Council Directive 89/459 sets forth the conditions with respect to the tread depth of tyres in certain categories of motor vehicles and their trailers, where the minimum tread depth in main grooves must be 1.6 mm in vehicle categories M1, N1, O1, and O2.[19] On the other hand Council Directive 92/6

[17] The maximum daily driving period is 9 hours, with an exception of two days of the week it can be 10 hours, where the driver may drive for 6 days a week. Total driving time must not be more than 56 hours, and total fortnightly driving time must not be more than 90 hours. The driver must rest for at least 11 hours a day, with an exception of 9 hours three times a week. There is a stipulation for a split rest of 3 hours followed by another 9 hours (totalling 12 hours) a day. Weekly rest is 45 hours (continuous), which can be brought down to 24 hours, where one 45 hour rest must be taken every two weeks. Breaks are at least 45 minutes (where that can be broken up into 15 and 30 minutes) and should be taken every four and a half hours.

[18] It is supplementary to Regulation 561/2006 which outlines driving times.

[19] In Council Directive 70/156/EEC of 6 February 1970 the categories are specified as follows:
Category M1 : Vehicles used for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat.
Category M2 : Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum weight not exceeding 5 metric tons.
Category M3 : Vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum weight exceeding 5 metric tons.
Category N : Motor vehicles having at least four wheels, or having three wheels when the maximum weight exceeds 1 metric ton, and used for the carriage of goods. - Category N1 : Vehicles used for the carriage of goods and having a maximum weight not exceeding 3 75 metric tons.
Category N2 : Vehicles used for the carriage of goods and having a maximum weight exceeding 3 75 but not exceeding 12 metric tons.

with environmental and safety concerns at hand regarding heavy goods vehicles and busses, puts forth the necessary installation and use of speed limitation for M2, M3, N2, and N3 categories of vehicles. The directive further stipulates that M2 and M3 vehicles can have a maximum speed of 100 km/h, and N2, N3 vehicles can have a speed limit of 90 km/h. The directive was later amended by Directive 2002/85/EC. Council Directive 96/53, which was later amended by Directive 2002/7/EC, puts forth the maximum dimensions that are authorized for M2, M3, N2, and N3 categories of vehicles in national and international traffic, as well as the maximum authorized weights in international traffic[20]. On the other hand Council Directive 96/96 states that Member States must conduct periodic roadworthiness tests for vehicles and trailers registered in the Member State, and the test will have mutual recognition by other Member States. These inspections should be carried out once a year for heavy vehicles, and at least every other year for light vehicles and passenger cars. The directive was later amended by Directives 1999/52/EC, 2001/9/EC, 2001/11/EC, and 2003/27/EC.

Increase in number of vehicles leads to an increase in the number of accidents. With road safety and environmental concerns, Council Directive 2000/30/EC puts forth that commercial vehicles in EU territory will be subject to unannounced technical roadside inspections regarding the vehicles' roadworthiness. These inspections will be non discriminatory, and will try to minimize the costs and delays of the operators involved. The inspector shall draw up a report and give it to the driver of the commercial vehicle. On the other hand, with the aim of harmonization of some codes and contents the Council Directive 1999/37 was issued regarding the registration documents for vehicles. The directive was later amended by Directive 2003/127/EC.

Improving traffic safety is an important objective in the liberalization of markets. Directive 91/439/EEC introduced the mutual recognition of drivers licenses along with the harmonization of many aspects of drivers licenses including categories, issuing conditions, and requirements. A review in some Member States showed that 30 percent of drivers never received any training. This situation was remedied with Directive 2003/59/EC regarding the qualifications and periodic training of drivers of certain road vehicles for the carriage of goods or passengers. Drivers would be trained in road safety, technical aspects of the vehicle, fuel consumption, loading, accidents and physical risk, criminality, emergencies, and the economic image of the company. Starting towards the end of 2008 all new drivers will have to be trained. Training will lead to better skills, improved service and higher quality, improved road safety, reduced fuel consumption, and reduced costs.

Seatbelts are another important aspect of road transport safety. While the Directive 91/671/EEC regarding 'the approximation of the laws of EU Member States having to do with

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Category N3 : Vehicles used for the carriage of goods and having a maximum weight exceeding 12 metric tons.
Category O : Trailers (including semi-trailers) - Category O1 : Trailers with a maximum weight not exceeding 0 775 metric ton.
Category O2: Trailers with a maximum weight exceeding 0 775 metric ton but not exceeding 3 75 metric tons.
Category O3 : Trailers with a maximum weight exceeding 3 75 but not exceeding 10 metric tons.
Category O4 : Trailers with a maximum weight exceeding 10 metric tons.

[20] Maximum length of motor vehicle is 12 meters, articulated vehicle 16.5 meters, road train is 18.75 meters. Maximum width of a vehicle is 2.55 meters, while conditioned vehicles are 2.6 meters. Maximum weight is 40 tonnes for road train or articulated vehicle with 5-6 axles, 44 tonnes for a motor vehicle with 3 axles that has a semi trailer (2-3 axle) that transports a 40 foot ISO container (combined transport).

the compulsory seat belt use in motorized vehicles weighing less than 3,5 tons' applied only to cars and vans and did not require parents to use child restraints for their children, the new Directive 2003/20/EC extends the scope of application of Directive 91/671/EEC requiring the use of seatbelts, where provided, by those in all motor vehicles. Furthermore it states that children must be restrained by an appropriate child restraint system that conforms to the latest UN-ECE standard when traveling in M1 and N1 vehicles.

The White Paper on European transport policy of September 2001 had proposed halving the total number of accidents by 2010. On the other hand the Road Safety Action Program, which was announced in the White paper, aims to reduce the total number of fatalities by half by the year 2010. This includes equipment to reduce disastrous effects of accidents, dissemination of information, accident prevention measures having to do with vehicles, people and infrastructure. Traffic accidents on roads have an estimated cost of 160 billion euro annually, while resulting in more than 40 000 fatalities and 1.7 million injured[21] Therefore, a Community database on road accidents called CARE (Community database on Accidents on the Roads in Europe) was set up in 1993 by Council Decision 93/704/EC. The objectives of the CARE database is to identify and quantify problems in road safety, study further situations leading to accidents, examine the efficiency of measures taken for road safety, and play a role in disseminating and exchanging information in order to find appropriate solutions.

Directive 2004/54/EC concerns the minimum safety requirements for tunnels in the TEN.[22] Many tunnels are aging, many lives have been lost in tunnels in recent years, and the costs from closure of a tunnel are great. The objective of this directive is to prevent those situations that endanger the lives of people, and protect the tunnels and the environment.

Another issue of importance for safety is the transportation of dangerous goods. Regarding road transport of dangerous goods, the international transport of dangerous goods has long been governed by established agreements. The EU with the use of directives tries now to apply such guidelines to national traffic. Directive 94/55/EC concerns the laws regarding the transport of dangerous goods by road. This directive applies to road transportation of dangerous goods within or between Member states. The rules are based on the European Agreement concerning the International Carriage of Dangerous Goods by Road. The directive was later amended by Directive 2000/61/EC. On the other hand the Directive 95/50 is about uniform procedures for random checks on the road transportation of dangerous good. In 1999 the Directive 1999/36/EC, often referred to as Transportable Pressure Equipment Directive, was introduced. This directive, aiming to increase the safety in relation to transportable pressure equipment by setting technical requirements, was later amended by Directives 2001/2/EC and 2002/50/EC. Council Directive 96/35 concerns appointing safety advisers for the transportation of dangerous goods by road, rail and inland waterway, and their qualifications. The Directive stipulates that all operations involved in the transportation, loading or unloading of dangerous goods appoint a safety advisor who has gone through the necessary training, passed an examination, and received a certificate. The Directive 2000/18 is about the examination requirements for safety advisers for the transportation of dangerous goods.

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[21] European Commission - News Center 'Stress-free motoring' http://ec.europa.eu/research/news-centre/en/tra/01-12-tra02.html

[22] TEN stands for Trans European Transport Network.

2. ROAD TRANSPORTATION IN TURKEY

In Turkey transportation sector accounts for 14.7 percent of GDP and for less than 5 percent of employment during 2005. The modal share of land transport in Turkey is greatly skewed towards road transport, taking up 95 percent of national passenger transport and 90 percent of national freight transport. Turkey has close to 11.5 million registered vehicles, and the number of EURO vehicles is about 44,000. The road network excluding rural roads has 1,775 km of motorways, 31,371 km of State roads, 30,568 km of provincial roads amounting in a total of 63,714 km of roads. Of this total 4,266 km is unpaved (stabilized earth, soil or impassable), and the total length of roads having hot mix asphalt pavements of handling heavy axle loads stands at 9,191 km. Since 1950 the demand for road transport has been growing at an annual rate of 7.6 percent.

As modes of freight transport other than road freight transport are largely underdeveloped, this puts a great amount of pressure on the road infrastructure, so there has to be significant investment to alleviate this problem. The quality of the road infrastructure is in need of serious improvement. While 80 percent of the roads was rated good, 15 percent fair, and 5 percent poor in 1993, the situation has seriously deteriorated thereafter. In 2003 19.4 percent of the roads was in good, 33 percent in fair, and 47.6 percent in poor condition. Having 52 percent of roads in good or fair condition is especially low given that 95 percent are in good and fair condition in Western European countries. Infrastructure development remains to be one of the key issues affecting Turkey's growth. Recently the Eastern Black Sea Coastal Highway project of 561 km length and the Bolu Mountain Crossing project of 25 km length were completed and opened to service. After 2002 the government had set the target of 15,000 kms of multi-lane highway network, recently 6,800 kms of multi-lane highways have been completed. Furthermore, the construction of the main body of the Gaziantep-Şanlıurfa Motorway is to be completed in 2008, while the main body of the Kemerhisar-Pozantı Motorway, located on the Ankara-Habur corridor, is to be completed in 2009.

The European Commission's January 2007 communication to the Council and European Parliament 'Extension of the Major Trans-European Transport Axes to the Neighbouring Countries – Guidelines for Transport in Europe and Neighbouring Countries' focuses on linking up the major axes of the trans-European networks with the transport networks of the neighbouring countries. The Commission identified five major transnational transport axes and one of those concern road transportation in Turkey. The South-Eastern Axis will link the EU with the Balkans and Turkey and further with the southern Caucasus and the Caspian Sea as well as with the Middle East up to Egypt and Red Sea. On the other hand the Transport Infrastructure Needs Assessment (TINA) study, which aims to identify transport axes that will connect Turkish transport network to Trans-European transport network, has been completed by Turkey in 2007

To increase access to foreign markets Turkey has signed 32 bilateral agreements with different countries. These agreements are co-operation agreements in the field of passenger and freight transport, and usually have capacity clauses imposed on foreign carriers, constraints on the number of foreign carriers. Some of the agreements even have tariff clauses. In addition we note that Turkey is a founding member of the European Conference of Ministers of Transport (ECMT) and the United Nations Economic Commission for Europe (UNECE). It has ratified various ECMT and UNECE resolutions, agreements and conventions. In particular Turkey has ratified the Convention on Customs Containers, the Convention on Harmonizing the Frontier

Control of Goods, and the TIR convention. Recently Turkey, by introducing major reform in the sector, tried to close the gap between the legislation pertaining to the internal and international markets. On the other hand, consideration of the WTO commitments made by Turkey, shown in Table 4, reveals that for passenger transportation and freight transportation no commitments for market access and national treatment have been made in case of 'cross border' supply (mode 1) and that no limitations have been placed in the cases consumption abroad (mode 2) and movement of personnel (mode 4) for market access and national treatment. In the case 'commercial presence' (mode 3) limitations have been placed for market access and no limitations have been placed for national treatment.

{Insert Table 4}

2.1 Market Access

In Turkey the responsibilities of the Ministry of Transport include among others regulating access to market and profession, regulating and issuing operating licenses, and inspecting and monitoring market conditions. In addition to the Ministry of Transport, there is the Ministry of Public Works and Settlements which regulates and collects tolls as well as collects data regarding traffic on toll roads and which is responsible for the development as well as the maintenance of state and provincial roads; the Ministry of Interior which is responsible for roadside inspections; the Ministry of Industry and Trade which regulates technical standards including tachographs, and speed limiters; and the Ministry of Labor and Social Security which regulates social conditions such as driving times, working times, and rest periods. After the abolition of the General Directorate of Rural Affairs of the Ministry of Agriculture, the construction and maintenance of rural roads has been decentralized and given to rural authorities.

Regulatory framework in the transport sector is comprised of one general law regarding the duties of the Ministry of Transportation and a number of other laws specific to the subsectors. The main legislation in the road transport sector is the Law on Road Transport No. 4925 which gives the framework for access to market and the profession. On the other hand the By-Law on Road Transport puts forth the secondary legislation for access to the market and profession. Other related laws are the By-Law on Training for Professional Competence in Road Transport Operations, the Foreign Direct Investment Law No. 4875, and the Turkish Commercial Code No. 6762.[23] These regulations put forth conditions for admission to occupation and market access; licensing system for transport operations as well as other auxiliary transport categories; the rights and responsibilities of the carriers, undertakings, and consumers; conditions for vehicles; competition in the sector; rules regarding inspections, the rights, responsibilities of the personnel; and rules and procedures for training and obtaining the Professional Competence Certificate.

Turkey has recently introduced a licencing system. The introduction of the system resulted in registration of 90 percent of commercial vehicles in domestic freight transport, and almost all of the commercial vehicles in international freight transport. The licensing regulations are in

[23] For Law on Road Transport No. 4925 see Official Gazette of July 19, 2003, no. 25173; for By-Law on Road Transport the Official Gazette of February 25, 2004, no 25384; for By-Law on Training for Professional Competence in Road Transport Operations the Official Gazette of September 3, 2004, no 25572; for Foreign Direct Investment Law No. 4875 the Official Gazette of June 17, 2003, no 25141; and for the Turkish Commercial Code No. 6762 the Official Gazette of July 25, 1956, no 9353.

line with the conditions set by the EU. According to the licensing system natural as well as legal persons registered under Turkish commercial registry can apply for the license as long as they meet the following conditions: (i) good repute, (ii) registration at relevant chambers of trade and industry or chambers of tradesmen and craftsmen, (iii) at least one mid or high level manager who has the Professional Competence Certificate or employment of a person who has such a certificate, and (iv) having sufficient financial resources as well as sound management and operation. Furthermore, natural and legal persons that are not Turkish nationals can obtain the license given that the applications are in accordance with the requirements of Foreign Direct Investment Law and satisfy the conditions specified in the Road Transport Law and the related By-Law. However, it should be noted that foreign vehicles may not conduct transport operations between two points in Turkey, and that foreign vehicles transporting goods to, and from, or through Turkey require a permit unless it is specified otherwise in bilateral agreements. Moreover, goods coming to Turkey by sea, rail, or air and carried to a third country can only be transported by Turkish hauliers, and a special permission for registered foreign vehicles is required from the Ministry of Transport by the Law on Road Transport. The International Freight Transport Licenses are valid for 5 years, are not transferable, and may be suspended in case of loss of good repute/financial standing. Conditions for withdrawal are outlined in the law. According to Article 7 of the law, fire brigades, ambulances, funeral transports, transport of medicine/medical equipment, postal services, and transport related to accidents are exempt from the authorization of permits. However, the Ministry of Transport may bring further restrictions and make new arrangements in the event of a crisis.

The By-Law on Training for Professional Competence in Road Transport Operations puts down the regulations regarding training and examining professional competence, qualifications of institutions in charge of giving such training, authorizations given to those institutions, and the Certificate for Professional Competence.

The above considerations reveal that the new law and series of by-laws issued under this Law helped to bring the national legislation in line with international standards, and in particular in line with those of the EU road freight transport *acquis*. These legal regulations allow the creation and development of strong and efficient enterprises that have financial and professional competence, and professional reputation.

2.2 Prices and Fiscal Conditions

There are a number of administrative units which are in charge of road prices. The Ministry of Finance is responsible for vehicle tax, Ministry of Transport is responsible for transit passage fee, and the Ministry of Public Works and Settlements is responsible for the toll. The Ministry of Transport is responsible for determining and implementing the Transit Passage Fee by Law on Road Transport, Article 16.[24] It is a fee charged to foreign vehicles at borders, and vehicles can be exempt from it within the context of bilateral agreements. The fee is calculated according to the gross weight of truck measured in tons and the distance measured in kilometers. On the other hand with regard to the highways we note that the General

[24] For law on Road Transport No.4925 see Official Gazette of July 19, 2003, no 25173.

Directorate of Highways of the Ministry of Public Works and Settlement is responsible for the construction, maintenance, and operation of roads.

Tolling is done on high-performance motorways and bridges over the Bosporus in Istanbul. The Law on Establishment of General Directorate of Highways No. 5539 outlines tolling, where Article 15 states that the Minister of Public Works and Settlements has authority on tolling, and Article 21 outlines enforcement for toll evaders.[25] The Legislation on Tolling are outlined in the By-Law on Istanbul Strait Bridge Operation, the By-Law on Motorway Operation, and Ministerial Approvals.[26] Toll rate varies according to class of vehicle in open type tolls, and vehicle class and distance traveled for the closed type tolled motorways.[27] Finally, turning to issues related with state aid we note according to Decree No 2002/4367 investments in transportation sector are encouraged where the objective is to support and orient investment, in line with international commitments, create new employment opportunities, and add value in order to achieve international competitiveness.[28] The program covers investments in trailer/truck renewal for international land transport, public transportation, heavy construction equipment, bus terminal construction, and combined container transport. In those cases imports of machinery and equipment are exempted from customs duty, and value added tax is exempt from imported and domestically purchased equipment. Foreign financing is provided for transport sector projects including construction of highways and toll roads, where the project must be part of the Annual Investment Program prepared by the State Planning Organization[29] Finally, we note that the construction of roads is the responsibility of the General Directorate of Highways (KGM), which is under the Ministry of Public Works and Settlement. For road construction KGM uses either budgetary resources or foreign financing.

Although Turkey has road and vehicle charges in place, it is doubtful whether these charges reflect the marginal social costs, as outlined by European Commission (1998). According to the Commission users should bear the internal and external costs, which include infrastructure damage, congestion, scarcity, environment, and accident costs. As emphasized by Goodwin (2002) the decision of one person to make a trip during peak traffic period actually imposes delays on others which is longer than the person is expecting to spend on that trip. It is clear that the increase of car ownership and road transport is due to the fact that road transport has

[25] For Law on Establishment of General Directorate of Highways No. 5539 see Official Gazette of February 16, 1950, no 7434.

[26] The Legislation on Tolling are outlined in the By-Law on Istanbul Strait Bridge Operation. See Official Gazette of June 3, 1977, no 15955.

[27] Vehicles are classified into five different types according to the axle number and distance. The same toll rate applies for national and foreign vehicles. The General Directorate of Highways is in charge of toll revenue. Ambulances of the Ministry of Health are exempted from paying tolls following the Cabinet Decree no:2003/6254 of September 23, 2003 (Official Gazette October 23, 2003; no25268)). Furthermore toll discounts are applicable for Non-stop Electronic Toll Collection System (ETC) and contactless smart card subscribers (20 percent discount) and motorcycle that are contactless smart card subscribers (30 percent discount). With regard to interoperability we note that there are 2 open bridges, 7 closed motorways, 80 tolls stations on motorways and Istanbul Strait bridges, with 756 lanes in total with three different payment methods: manually operated toll, contactless smart card system, non-stop ETC system. The Dedicated Short Range Communications (DSRC) roadside unit and onboard unit allow for reading of vehicle passing through toll. Enforcement of this procedure is possible through capture by camera and violators are penalized by paying ten times the maximum tariff.

[28] See Official Gazette of June 9, 2002, no 24810.

[29] See the Law on Public Finance and Regulation of Debt Management No. 4749 published in the Official Gazette of April 12, 2002, no 24721.

not externalized its full cost. Internalizing these costs would prevent excessive use of road transport, and would be a way to equalize the conditions of competition across different modes of transport. Thus, the government has to put mechanisms to secure short term road maintenance financing, and tolling based on a willingness to pay principle has to be introduced as a way for achieving the objective. Moreover, more differentiation can be introduced into the structure of the tolls. Turkey realizes that there is need to rebalance the modes of transport, and to improve linkages for intermodal transport.

2.3 Social Conditions, Technical Conditions, and Safety

Aspects of social conditions such as setting the rules on working time, rest periods, and driving time are the responsibility of the Minister of Labor and Social Security. Ministry of Interior is responsible for the enforcement of certain rules regarding driving times, and rest periods of vehicles on the road, and the Ministry of Industry and Trade is responsible for determining the technical specifications for recording equipment. The related laws are the Labor Law No. 4857, By-Law on Working Time that cannot be divided into Weekly Working Days, and the By-Law on Road Traffic.[30] It should also be emphasized that Turkey has ratified the 'European Agreement on the Work of Crews of Vehicles Engaged in International Road Transport', and the ILO Convention concerning Hours of Work and Rest Periods in Road Transport.[31]

The objective of the Labor Law is to regulate the rights as well as obligations regarding working conditions, work environment of employers and workers who have a labor contract, and the law does not apply to those who are self-employed. On the other hand the 'By-Law on Working Time that cannot be Divided into Weekly Working Days' has the objective of laying down the methods and principles that are applied to working time and period of work that cannot be done by dividing into weekly working hours.[32] Again, the law does not apply to the self employed. On the other hand, the By-Law on Road Traffic applies to all drivers, including the self-employed and pertains to vehicles carrying goods for commercial purposes where the weight limit exceeds 3.5 tons, and to those which carry passengers for commercial purposes where the capacity exceeds 9 people including the driver.[33]

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[30] For Labor Law No. 4857 see Official Gazette of June 10, 2003, no 25134; for By-Law on Working Time that cannot be Divided into Weekly Working Days the Official Gazette of April 6, 2004, no 25425; for By-Law on Road Traffic the Official Gazette of September 2, 2004; no 25571.

[31] For European Agreement on the Work of Crews of Vehicles Engaged in International Road Transport (AETR Agreement) see Official Gazette of July 25, 1999, no 23766), and for the ILO Convention concerning Hours of Work and Rest Periods in Road Transport (C153) the Official Gazette of July 22, 2003, no 25176.

[32] The By-Law defines a reference period as the period that is necessary to do a particular job, which can range between 2-6 months, as designated by the employer. Furthermore, the maximum weekly working time over a reference period is 45 hours. Each period of 24 hours should have at least 11 consecutive hours of daily rest period, or 12 hours can be separated into two or three periods. One of these period has to be at least 8 consecutive hours, or there can be a reduced rest period of a minimum 9 consecutive hours. But such arrangements cannot take place more than three times a week. When there are at least two drivers for a vehicle, then during a 30 hour period, there has to be 8 consecutive hours of rest for each driver. Weekly rest period is at least 24 consecutive hours, which is taken not later than at the end of six 24 hour driving period.

[33] The Labor Law stipulates that breaks be a minimum of 15 minutes for work lasting 4 hours or less, a minimum of 30 minutes for work lasting 4-7.5 hours, and a minimum of 1 hour for work lasting longer than 7.5 hours. According to the By-Law on Road Traffic, there should be a rest period of 45 minutes after 4.5 hours of driving and this maybe replaced by breaks of at least 15 minutes. Furthermore it states that the driver may not carry out any other work during the break, and that breaks cannot be considered as part of the daily rest period. The daily driving limits are a total of 9 hours within a 24 hour period, where the maximum uninterrupted driving period is

Other obligations include drivers' possessing a Professional Competence Certificates, and installation of mechanical, electronic or electro mechanical tachographs in buses and trucks. Tachograph records must be kept 1 month in the vehicle, and 5 years in the office. Each year checks must be done for at least 1 percent of the days worked by drivers of a vehicle, where at least 15 percent of the checks are roadside, and 25 percent are at the undertakings themselves. Checks at the undertakings concern weekly and fortnightly driving times and rest periods, compensation for reduced weekly rest periods, record sheets and driver card data. The Labor Inspection Board of the Ministry of Labor and Social Security is responsible for enforcing the rules at the undertakings. The Labor Inspectors make inspections on three grounds at the workplace: inspection, control and investigation. According to the ILO Convention Concerning Labor Inspection in Industry and Commerce no 81 and other relevant legislation, collection of statistical data is of prime importance. The data is published in the General Report of Labor Inspection and submitted to the ILO annually. There are two organizational bodies in the Ministry of Labor and Social Security: the General Directorate for Labor, and the Labor Inspection Board. The General Directorate for Labor is responsible for preparing the draft legislations. The Labor Inspection Board is responsible for checks at the premises, and has heads of units settled in 10 regions. The General Directorate of Security at the Ministry of Interior is responsible for checks at roadsides and terminals. During 2005 2.3 million drivers were controlled and 13.5 thousand drivers and operators were fined for not obeying rules on working hours.

Legislation regarding technical conditions includes the By-Law on Establishment and Management of Vehicle Technical Inspection Stations and Vehicle Inspection.[34] The Ministry of Transport is responsible for conducting roadworthiness tests. Recently a consortium was authorized for building and operating Technical Inspection Stations for 20 years. The consortium set up fixed and mobile stations, which are to be supervised by the supervisors of the Ministry of Transport. On the other hand weights and dimensions are regulated mainly by the By-Law on Road Traffic.[35] The freight weight controls are planned to be done effectively by completing the fixed and mobile control systems. Within the framework of Renewal, Improvement and Construction of Weight and Dimension Control Stations project, the preliminary studies on the renewal of the existing stations and construction of additional stations are to be completed. Other related legislation include the By-Law on Type Approval of Speed Limitation Devices of Motor Vehicles and Their Installation, the Law on the Amendment of Law on Road Traffic No. 5495, and the Fundamental Principles of International Passenger and Freight Transport by Road No. 8/984.[36] According to the By-Law on Amending By-Law on Road Traffic, installation of speed limitation devices for category N3 trucks and tractors, and M3 buses, when the maximum mass exceeds 10 tons, are

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4.5 hours. Furthermore, the By-Law specifies that weekly driving period cannot exceed 54 hours, and the driving limit in a fortnight is 90 hours.

[34] See Official Gazette of September 23, 2004, no 25592.

[35] For By-Law on Road Traffic see Official Gazette of July 18, 1997, no 23053.

[36] For By-Law on Type Approval of Speed Limitation Devices of Motor Vehicles and Their Installation (92/24/AT) see Official Gazette of June 5, 2002, no 24776; for the Law on the amendment of Law on Road Traffic No. 5495 the Official Gazette of May 10, 2006, no 26164; and for Fundamental Principles of International Passenger and Freight Transport by Road (Resolution of Council of Ministers) No. 8/984 the Official Gazette of June 29, 1980, no 17032.

mandatory.[37] [38] The Draft Law on Amending Road Traffic Law is currently on the agenda of the Turkish Grand National Assembly, and this draft law lays down the features, model years and categories of vehicles where installation and use of speed limitation devices are made mandatory.

Road safety is another issue of concern. Although there has been some improvement over the past ten years, road accidents remain to be a serious problem. The annual growth in the number of accidents of 2 percent is in line with the growth rate of traffic. While fatalities are decreasing, injuries are increasing at the rate of 1.3 percent annually. But the current fatality rate of 8 fatalities/10000 vehicles is four times larger than the EU average rate, which is 2 fatalities/10000 vehicles.

The General Directorate of Security of the Ministry of Interior is responsible for regulating road safety on all motorways, state roads, and province roads, and Gendarmerie is responsible for the remaining roads. The Ministry of Transport is responsible for regulating and monitoring the transport of dangerous goods by road, Ministry of Education for training of drivers, Ministry of Health for drivers' health conditions, and Ministry of Trade and Industry for type approvals of transportable pressure equipments.

The carriage of dangerous goods is regulated by the By-Law on Transport of Dangerous Goods by Road and the By-Law on Training for Professional Competence in Road Transport Operations.[39] However, the regulation could not enter into force as Turkey is not a party to the European agreement on international carriage of dangerous goods on road (ADR).

With regard to administrative capacity, we note that new staff has been recruited, a new Department for Professional Competence has been setup within the Ministry of Transportation, and a new Department for Transport of Dangerous Goods was established. Furthermore, the institutional capacity of the Directorate General for Land Transport (DGLT) has been improved. According to European Commission (2007) "an IT system was put into operation to establish an information infrastructure with regional transport directorates and enables all licensing of road transport activities to be conducted electronically. DGLT also established a new unit for road side checks on the weights and measures of vehicles. DGLT signed protocols with the governors of 80 provinces to devolve authority regarding weight and measure inspections. However, the number of weighing stations in Turkey is limited compared to the travel frequency and the number of heavy vehicles in traffic. Insufficient inspection of overloaded vehicles exacerbates damage to transport infrastructure and increases high accident rates."

Thus, legislative studies are in progress on the harmonization of driving licenses in Turkey with those in the EU, installing speed-limit devices into certain vehicle types, regulating the working and rest hours of drivers, building up a compatible database with the EU standards

[37] For By-Law on Amending By-Law on Road Traffic see Official Gazette of April 11, 2003, no 25076.

[38] Exemptions for speed limitation devices include motor vehicles used by police, gendarmerie, armed forces, civil defense, fire and other emergency services; category M3 vehicles which cannot exceed a speed of 100 km/h and category N3 vehicles which cannot exceed a speed of 85km/h; motor vehicles used for scientific experiments; motor vehicles used only for public services in urban areas.

[39] For the By-Law on Transport of Dangerous Goods by Road see Official Gazette of October 22, 1976, no 15742; and for the By-Law on Training for Professional Competence in Road Transport Operations the Official Gazette of September 3, 2004, no 25572.

on traffic accidents and ensuring the equivalence of driver training in Turkey with that of in the EU member states. Furthermore, Turkey aims to increase road traffic safety by effective and sound conduct of mechanical inspection, weight and dimension controls of vehicles. In this context, the process of delegating the opening and operation of vehicle inspection stations to private sector has largely been completed. By now all operations and transactions in road transport sector are conducted electronically in real time by means of the recently developed Land Transportation Automation System.

3. ROAD TRANSPORTATION IN POLAND

In 2006, the total revenues in the Polish transport sector amounted to 107.8 billion PLN, which corresponds to roughly 5 percent of country GDP. The transport sector employed 293 thousand people which accounts for 2.2 percent of total employment in 2006. The transport sector constitutes an overwhelming share of total cargo transport. According to the data for 2006, of 1.48 million tones carried, 75.2 percent was attributed to road transport. If measured in tonne-kilometers, the share drops to 54,8 due to the fact that rail transport which is the second most important mode, is generally used for longer distances (21 percent). Slightly more than half of all cargo carried in 2006 was the "hire and reward" transport, as opposed to own account transport. 91 percent of all cargo carried (in tkm), can be attributed to domestic transport.

The sectoral use of road transport is heavily concentrated. Most of the cargo carried in 2006 was crude and manufactured minerals (40.4 percent). Cement, lime and manufactured construction materials together with foodstuffs and animal fodder follow with roughly 11 percent share in the total tkm carried in 2006 each.

Polish economy relies heavily on road transport. The major obstacle to the development of the road transport sector is underdeveloped infrastructure. The Program for Construction of National Roads, a part of the By-Law of the Council of Ministers dated 25 of September 2007, identifies the following weaknesses of the current road network in Poland:

- a lack of a comprehensive network of motorways and expressways. Indeed, of all 255542 km of hard surface roads in 2006 (70 percent of all roads), only 297 km were expressways and 662 km were motorways. Until the time of writing of this report, there was no complete motorway connecting two opposing borders of the country and there was not a single kilometer of motorways leading to the country's capital.
- bad road condition – in 2006, over half of all roads were either in need of immediate repairs or were expected to need such repairs in near future.
- Insufficient weight per axle capacity of existing roads – most of the roads in Poland maximum load per axle is either 80kN/axle or 100kN/axle, while Poland, in the Accession Treaty, committed itself to assure that at least 2500 km of roads will be able to resist at least 115kN/axle (in 2006 only 2191 km of roads were already meeting that standard).
- Routing of major roads through populated areas which slows down traffic and worsens road safety and life conditions.
- Insufficient road safety – the number of fatal accidents per 100 thousand inhabitants was 13,7 in 2006 and the number of fatalities per 100 accidents was 11.2. This compares to on average 6 and 2,7 in the EU countries.

Poland has signed 41 bilateral international transport agreements. Most of those agreements were signed many years before Poland became a member of the European Union. The agreements regulate the issues of market access, provide the framework of international transport

cooperation, regulate the customs procedures and list the required documentation for provision of freight transport services. Some of the agreements explicitly forbid cabotage. Most of these agreements are superseded by the accession to the EU and the internal market regulations concerning road transport services. Poland is a founding member of the United Nations Economic Commission. It is a member of European Conference of Ministers of Transport (ECMT) since 1991.

3.1 Market Access

The legal framework for the market access in the road transport sector in Poland is given in the Law on Road Transport, passed 21 September 2001 and amended several times thereafter. The law explicitly says that if the international agreements do not provide otherwise, foreign providers of road transport services are allowed to provide those services in Poland, as long as they follow the rules of Polish law. The rules regarding access to the profession are in accordance with those of Directive 96/26/EC.

Provision of road transport services in Poland requires a license, which may be granted for a length of time not shorter than 2 years and not longer than 50 years. The foreign providers need a permission issued by the minister responsible for transport and the permission is granted for not longer than one year. The legal requirements are the following:

- The so-called "good reputation" record is required when applying for the licence (the person or firm does not have "good reputation" if he/she was convicted of crime or he/she was forbidden economic activity in the area of road transport by a court of law).
- At least one member of the company's board has to carry a certificate of professional competence in the area of road transport.
- The financial situation of the company is suitable for provision of transport services. In particular, the company has to demonstrate the sum of 9000 euro for the first vehicle and 5000 for each additional vehicle. If the company is aiming to provide intermediation services in the transport sector, it is required to demonstrate 50000 euro of available funds. The required funds may be demonstrated through financial statements, bank statements, bank guarantees or real property. All the drivers employed at the company satisfy the requirements set by the general Traffic Law.

There are two types of licenses: domestic and international license which allow for provision of the respective service. The license is in general not transferable and it may be revoked in the event that the service provider violates the transport law or avoids legal, tax or custom fees.

The entrepreneur providing transport services is required to cover the costs of:

- Administrative procedures that are described in the Law on Road Transport.
- Competence certificate examinations.
- All the procedures required in the process of obtaining the competence certificate.

The costs of the transport licenses are set in the Ministry of Infrastructure regulation issued on 4th December 2007 (Dz.U. Nr 235, poz. 1726). The licence fee for the domestic transport services varies from 700 to 900 PLN depending on the validity period (205-264 EUR at 3.4 PLN/EUR). The license fee for the international transport licence amounts to 4000 PLN (5 years – 1176 EUR).

If the transport services are provided as a supporting activity of the company (own account), the company has to notify the authorities and receive a confirmation document. Such activity can be provided for both domestically and internationally and does not require a license. Such document is valid for 5 years and it may be revoked if it is proven that the service provided is not purely own account. The certificate for domestic transport services are issued by the local administration units and the international certificates are issued by the relevant minister. If international agreements require so, the provision of international transport services may, in some cases, require special permission. The permission requirement may be relieved if the provision of service involves medical or humanitary aid or occurs in the case of a natural disaster.

According to the accession treaty, up to a period of three years after accession to the EU, the service operators based in Poland are excluded from provision of cabotage in other Member States and respectively other entrepreneurs based in other Member States are not permitted to offer cabotage in Poland. According to the Treaty, three years after accession, the Member States should have notified the Commission whether they apply for an extension of that exclusion period. Most of the EU Member States have used that possibility and only Ireland, Portugal and Sweden allowed Polish companies to provide cabotage services. Poland has mutually opened it its markets toward cabotage offered by entrepreneurs from those Member States.

3.2 Prices and Fiscal Conditions

The rules of financing of transport infrastructure are set forth by the Law on Financing of Land Transport passed on 16 December 2005. The law sets the responsibility for financing road construction and maintenance according to the types of roads: national, regional and commune roads – the national roads are to financed by the central budget, regional roads are financed by the voivodship budgets and commune roads are financed by the commune (powiat) governments.

The Program for Construction of National Roads identifies the following sources of national roads financing:

- The National Roads Fund – based on the fuel fees paid by the producers and importers of fuels
- Central Government Budget – mainly based on the excise tax revenues of which at least 18 percent would be allocated towards improvement of transport infrastructure together with loans from international financial organizations and a special budget reserve that will be used for projects co-financed through European Union funds.
- European Union funds (mainly Cohesion Fund and European Regional Development Fund).
- Other domestic funds.

According to the Law on the Use of Public Roads (8.08.2006), the use of national road entails a fee, that is paid through a system of the so-called vignettes ("winiety"), a sticker valid for the period of one year, half-year, month, a week and 24 hours. Once purchased and placed on the vehicle, it entitles to use the national roads with no further fee. The fee varies depending on the size and load of the vehicle and on the standard of emissions. For example, the yearly fee for a above EURO2 trucks with the maximum permissible weight of 3,5-12 tonnes are required to pay 450PLN, while EURO0 and EURO1 trucks over 12 tonnes are equired to pay 2500PLN. Vehicles below 3,5 tonnes are not required to purchase the vignettes. The law on the Use of Public Roads was recently amended on 7.11.2008 in order to make it compatible with the directive 2006/38/WE. The new law replaces the vignette system with a system that makes the

fees dependent on the distance travelled. The actual fees will be levied using a system of electronic devices. The "electronic fees" will be imposed from 30.06.2011.

The motorways operate in a different system and some of them are free to use (as long as the vignettes are valid) and some are toll roads. The free of charge motorways include A6 (from Szczecin towards Berlin) and parts of A2 (Katowice-Wroclaw-Krzyzowa). Some parts of A18, A4 and A1 are free of charge.

At all the remaining motorways, the fees are collected through a system of toll booths. The fees vary depending of the type of vehicle and in general they are considerably higher for cargo trucks. For example, for the use of the 91 km of the A1 motorway, the fee amounts to 3,5 PLN while for 4 axle truck it is 22.70 PLN. Some of the motorways use the so called open system (where the toll booths are located on the main motorway and the vehicles are required to stop many times to pay the toll) and some use the closed system, where all the toll booths are located at the entrances and exits of the motorways.

3.3 Social Conditions, Technical Conditions, and Safety

The Law on Road Transport sets the requirements for the drivers profession. The drivers that are nationals of the non-members of the EU are required to have the so-called driver certificate. One can apply for such certificate and it will be granted for a period not longer than 5 years. The application should include the company and driver details, a copy of the company transport license, the drivers license of the driver and a copy of the social security insurance of the driver. The above regulation is in line with the Regulation (EC) No 484/2002 amending the Council Regulations No 881/92 and No 3118/93.

The competence certificates require proving knowledge and experience regarding the provision of transport services. The rules of testing and certification are given by the regulations of the relevant minister. If the entrepreneur can demonstrate at least five years of experience in the road transport sector, it can obtain a certificate having passed a written examination.

An entrepreneur who wants to employ a driver can do so, if the driver, among other health and age requirements, was prequalified to receive a competence certificate. To be prequalified, a person has to reside in Poland for at least 185 days in a year because of personal or professional ties and/or is studying in Poland for at least 6 months. Otherwise, a non EU member resident person can be prequalified if he/she is willing to work as a driver for a company registered in the territory of Poland. The prequalification includes theoretical and practical training and qualifying examinations.

Within five years of prequalification, the drivers are required to undergo a so-called periodic training improving the skills in driving a particular vehicle used in the drivers' line of work. Once the periodical training is completed, the driver is granted a competence certificate.

The working conditions of the drivers are regulated by the general Labour Law (26.06.1974, ammended several times, the most recent ammendment on 30.06.2008)., as far as the workers safety, rights and obligations are concerned. However, the Act on Working Time of Drivers (16.04.2004) regulates the working time of drivers. The law precisely defines what is included in the total working time of a driver and sets the requirements on the maximum working time. It cannot exceed 8 hours a day and on average 40 hours a week in a period of 4 months. The working time can be sporadically exceeded with overtime hours to 60 hours if this does not cause

the 4 month average to exceed 48 hours a week. Each week the driver has a right to a uninterrupted 35 rest and each day 11 hours of uninterrupted rest. Poland has ratified the AETR agreement on 30.08.1999. The Law on Working Time of Drivers is in accordance with the Directive 2002/15/CE and it implements EU Regulation No. 3820/85.

The obligations concerning installation of tachographs are stemming from the European Law. As was mentioned before, the Council regulation 3821/85 introduces the need of use of analogue tachograph in the road transport. Council regulations 2135/98 and 1360/2002 introduce and describe the technical specifications of the digital tachograph. The Law on the System of Digital Tachograph (29.07.2005) describes the obligations of the public administration and other units involved in the functioning of the system of digital tachographs and sets the legal framework on the provision of the service of installation, servicing and controlling of the digital tachographs. The tachographs have to be certified by the Central Office of Measures which also grants licences to and supervises the service points that handle digital tachographs.

4. QUANTIFYING BARRIERS TO TRADE IN ROAD FREIGHT TRANSPORTATION SECTOR IN TURKEY

Table 5 shows for road freight transport sector the restriction categories, and weights for them using the approach of Boylaud (2000). 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 each category shown in column two is unity. In general for each restrictiveness category a score with a range from 0 (least restrictive) to 6 (most restrictive) is assigned, according to the degree of restrictiveness, so that the score reflects the type of restriction imposed by the economy.

{Insert Table 5}

In Table 5 the restriction categories are classified into ‘price controls’, ‘restrictions on behavior’, ‘licensing requirements’, ‘coverage of licenses’, ‘simplification of rules and procedures’ ‘discriminatory procedures’, ‘involvement of professional associations’, and ‘public ownership’. The results are reported in Table 6. In order to be able to compare regulatory approaches in various countries, Boylaud (2000) constructs summary quantitative indicators using factor analysis, and groups the regulations into three main categories: (i) barriers to entry (license restrictions, price controls, involvement of industry bodies in regulating entry and prices), (ii) involvement in business operation (administrative burden, simplification of administrative formalities, regulations restricting certain activities and driving times), and (iii) discrimination against foreign firms. The results are reported in Table 7. The summary indicators of barriers to entry, involvement in business operation and foreign discrimination were further aggregated into an overall summary indicator of regulation in the industry. The aggregation was made by weighting each summary indicator by the extent to which it explains the overall variance in the three factors. Column 4 of Table 7 shows country rankings for the overall summary indicator. The table reveals that in 1998, Italy and Greece were the countries with the most restrictive regulation overall, and that the least regulated country was the United Kingdom. For Turkey an interval estimate has been given using the minimum and maximum for values that were missing.

{Insert Tables 6 and 7}

On the other hand Francois (2005) uses the OECD (2001) International Regulation Database to examine the structure of competition and regulation. The full set of road freight transport

questions are shown in Table 8. The Table lists 35 questions, roughly classified into domestic competition and government ownership and regulation. In general, these data are centred around 1998.

{Insert Table 8}

Within each set of variables, Francois (2005) assigned as in Boylaud (2000) values ranging from 0 to 6 (so that for dummies, yes if generally 6 and no is zero). Using factor analysis he obtains a set of regulatory variables summarized in Table 9. The approach involves first applying factor analysis to the regulatory variables grouped by sector and type of regulation. This yields a set of indictors listed in Tables 9. The critical point to pick up from these indexes is that the road transport regime in Turkey has fewer limits on competition (including pricing guidelines) than Germany, Greece, Finland, and the Netherlands, and that in road transport Turkey compares favourably with the EU.

{Insert Table 9}

5. CONCLUSION

In Turkey the development road infrastructure remains one of the most important issues affecting Turkey's economic growth. The existing transport infrastructure needs replacing and expanding due to the high rate of growth of demand for road transportation. Recent achievements has seen the completion of the country's longest running road project — the highway between Istanbul and Ankara, and the Turkish section of Black Sea ring road with the opening of the section from Samsun to the border with Georgia. Turkey's network of six-lane motorways has expanded from 4,300 km to 6,750 km. Current plans envisage an increase in the motorway network to 15,000 km, and much of this capacity is expected to be built and operated by the private sector. The bulk of investment is foreseen for the already overcrowded western provinces.

Since Turkey relies heavily on the road transport, 48 percent of roads are in poor condition, and the road transport sector serves as an important intermediate input both nationally and internationally, changes in the regulatory regime of the sector can have important economic effects. Currently Turkey is in the process of adopting and implementing the legislative, regulatory and institutional framework of the EU road freight transport sector. The country by changing the regulatory regime aims to increase competition in the sector, improve the infrastructure and lower the price of road freight transport services.

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TABLE 3: Estimates of Costs of Selected Environmental Damage Due to Land Transport, Expressed as a Percentage of Gross Domestic Product

	Cost as a percent of GDP	
Environmental Problem	Road	Other Modes
Noise	0.10	0.01
Pollution	0.40	
Accidents	2.00	
Time	6.80	0.07
Use expenditure*	9.00	0.30
Total	18.30	4.71

* Includes such items as infrastructure management
Source: Button (1990)

TABLE 5: Construction of Restrictiveness Indicators for Road Freight

	Question weight	Coding of answers Yes	No
Price controls			
Retail prices of road freight services are regulated	0.500	6	0
Government provides pricing guidelines to road freight companies	0.500	6	0
Restrictions on behavior			
There are regulations setting conditions for driving periods and rests	0.500	6	0
Regulations prevent or contrain: backhauling	0.125	6	0
private carriage	0.125	6	0
contract carriage	0.125	6	0
internal operations	0.125	6	0
Licensing requirements			
In order to operate a national business you need to obtain a license (other than driving license) or a permit from the government or a regulatory agency	0.333	6	0
There are criteria other than technical and finacial fitness and compliance with public safety requirements considered in decisions on entry of new operators	0.333	6	0
Does the regulator, through licenses or otherwise, have any power to limit industry capacity?	0.333	4	0
Coverage of licences			
Does an authorization to operate extend to the entire territory of the country?	0.250	0	6
Is authorization to operate limited in duration?	0.250	6	0
Are authorizations to operate transferable?	0.250	6	0
These entry regulations apply also if a firm wants to transport only for its own account	0.250	6	0
Simplification of rules and procedures			
Within the last five years, have laws or regulations removed restrictions on: own account shipments?	0.500	0	6
Within the last five years, have laws or regulations removed restrictions on: commercial, for hire shipments?	0.500	0	6
Discriminatory procedures			
Restrictions on cabotage	0.750	6	0
Domestic carrier reqirements for public traffic	0.083	6	0
Restrictions on the possibility for foreign firms to pick up freight	0.083	6	0
Other constraints	0.084	6	0
Involvement of professional associations in decisions concerning entry and prices			
Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing entry regulations?	0.500	6	0
Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing price guidelines or regulations?	0.500	6	0

Note: The scale of indicators is 0-6 from least to most restrictive.
Source: Boylaud (2000)

TABLE 7: Restrictiveness Indicators, 1998

	Barriers to entry	Involvement in business operation	Foreign discrimination	Overall
Austria	2.3	2.7	3.6	2.8
Belgium	3.4	3.0	3.2	3.2
Czech Republic	4.5	3.0	0.4	3.0
Germany	3.3	2.7	3.1	3.0
Finland	0.8	3.6	0.3	1.7
France	2.6	2.2	2.7	2.5
Greece	4.0	4.0	2.4	3.6
Hungary	3.9	3.5	2.3	3.4
Italy	6.0	4.1	3.0	4.6
Poland	3.3	2.0	2.8	2.7
Portugal	1.8	2.1	3.5	2.3
Spain	5.0	2.3	0.3	3.0
Sweden	1.6	2.6	2.8	2.2
United Kingdom	0.8	2.4	0.3	1.3
Turkey	0.0-2.5	1.1-4.3	4.8-5.3	1.5-3.8

Note: The scale of indicators is from 0-6 from least to most restrictive. The intervals correspond to estimates obtained by using the minimum and maximum for values that were missing.
Source: Boylaud (2000)

TABLE 8: Questions from OECD International Regulation Database

OECD Survey Question No.	Question	Answer
13	Do national, state or provincial government holds equity stakes in business company	No
48	Do national, state or provincial laws or other regulations restrict in at least some markets the number of competitors allowed to operate a business	No
491	Combined market share of three largest companies	1996= 10.5
492	Is there a firm in the road freight sector that is publicly-controlled (i.e. national, state or provincial governments hold the largest single share)?	Yes
493	Is registration in any transport register required in order to establish a new business in the road freight sector?	No
494	In order to operate a national road freight business (other than for transporting dangerous goods or goods for which sanitary assurances are required) do you need to be granted a state concession or franchise by any level of government?	No
495	In order to operate a national road freight business do you need to obtain a license (other than a driving license) or permit from the government or a regulatory agency ?	No
496	In order to operate a national road freight business do you need to notify any level of government or a regulatory agency and wait for approval before you can start operation ?	Yes
497	In order to operate a national road freight business (other than for transporting dangerous goods or goods for which sanitary assurances are required) do you need to notify any level of government or a regulatory agency?	.
498	Are criteria other than technical and financial fitness and compliance with public safety requirements considered in decisions on entry of new operators?	.
499	Do these entry regulations apply if a firm wants to transport only for its own account?	.
500	Does an authorization to operate extend to the entire territory of the country?	.
501	Is the authorization to operate limited in duration?	.
502	What is the longest amount of time that the responsible agency may take to reach a decision about a complete application?	.
503	What is the minimum number of government levels that are involved in examining the applications?	.
504	Are authorizations to operate transferable?	.
505	Does the regulator, through licenses or otherwise, have any power to limit industry capacity?	No
506	Do foreign firms have the same right to operate in the domestic market as domestic firms?	No
507	Are any of the following constraints in place : Complete prohibition of cabotage	Yes
508	Are any of the following constraints in place : Limitations on cabotage	No
509	(Foreign firms): Are any of the following constraints in place: Domestic carrier requirements for public traffic	No
510	(Foreign firms): Are any of the following constraints in place: Restrictions on the possibility for foreign firms to pick up freight	No
511	(Foreign firms): Are any of the following constraints in place: Other	No
512	Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing entry regulations?	No
513	Are there any regulations setting conditions for driving periods and rests?	Yes
514	(Driving period and rests): If such regulation is in place, does it also apply to transit traffic (e.g., traffic originating from and directed to a foreign country)?	No
515	Do regulations prevent or constrain : Backhauling ?	No
516	Do regulations prevent or constrain : Private carriage ?	No
517	Do regulations prevent or constrain : Contract carriage ?	No
518	Do regulations prevent or constrain : Intermodal operations ?	No
519	Within the last five years, have laws or regulations removed restrictions on: Own-account shipments ?	No
520	Within the last five years, have laws or regulations removed restrictions on: Commercial, for-hire shipments ?	No
521	Are retail prices of road freight services in any way regulated by the government ?	No
522	Does the government provide pricing guidelines to road freight companies?	No
523	Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing pricing guidelines or regulations?	No

Source: OECD International Regulation Database, 2001

Table 1: Analysis of Commitments Made by Members on Road Transport Services
(Number of Full, Partial and Non-Commitments by Subsector and by Mode of Supply)

Market access	Cross-border supply			Consumption abroad			Commercial presence			Presence of natural persons		
(Number of Members with commitments)	F	P	N	F	P	N	F	P	N	F	P	N
Urban and suburban regular transportation	8	0	9	13	0	4	9	7	1	0	17	0
CPC 71211			1*									
Urban and suburban special transportation	8	*0*	9	13	0	4	10	6	1	0	17	0
CPC 71212			1*									
Interurban regular transportation	11	1	13	21	0	4	13	11	2[1]	0	25	0
CPC71213			1*									
Interurban special transportation	8	0	10	14	0	4	11	6	1	0	18	0
CPC 71214			1*									
Other scheduled passenger transportation	8	0	9	13	0	4	11	5	1	0	17	0
CPC 71219			1*									
Taxi services	9	0	12	17	0	4	12	8	1	0	21	0
CPC 71221			1*									
Rental services of passenger cars with operator	9	0	15	20	0	4	12	11	1	0	24	0
CPC 71222			2*									
Rental services of buses and coaches with operator	10	1	14	21	0	4	15	9	1	0	25	0
CPC 71223			1*									
Passenger transportation by man- or animal-drawn vehicle CPC 71224	8	0	13 1*	17	0	4	12	8	1	0	21	0
Other non scheduled passenger transportation	8	0	12	16	0	4	12	7	1	0	20	0
CPC 71229			1*									
Transportation of frozen or refrigerated goods	5	2	20	22	0	5	14	12	2[2]	0	27	0
CPC 71231			4*									
Transportation of bulk liquids and gases	5	2	17	20	0	4	12	11	2[3]	0	24	0
CPC 71232			2*									

Table 1: Analysis of Commitments Made by Members on Road Transport Services
(Number of Full, Partial and Non-Commitments by Subsector and by Mode of Supply)

Market access	Cross-border supply			Consumption abroad			Commercial presence			Presence of natural persons		
(Number of Members with commitments)	F	P	N	F	P	N	F	P	N	F	P	N
Transportation of containerized freight	5	2	19	21	0	5	12	13	2[4]	0	27	0
CPC 71233			2*									
Transportation of furniture	5	2	19	21	0	5	14	11	2[5]	0	26	0
CPC 71234			4*									
Mail transportation	4	1	15	16	0	4	10	9	2[6]	0	20	0
CPC 71235			2*									
Freight transportation by man- or animal-drawn vehicle	5	1	15	17	0	4	9	10	2[7]	0	21	0
CPC 71236			2*									
Transportation of other freight	5	1	17	19	0	4	11	10	3	0	23	0
CPC 71239			4*									
Rental services of commercial freight vehicles with operator	7	1	1	9	0	0	8	0	1	0	9	0
CPC 7124												
Maintenance and repair of motor vehicles	9	0	13	21	0	1	16	3	3	0	22	0
CPC 6112			12*									
Repair services not elsewhere classified of motor vehicles, trailers and semi-trailers on a fee or contract basis	7	0	1312*	19	0	1	15	2	3	0	20	0
CPC 8867												
Bus station services	4	0	1	5	0	0	4	0	1	0	5	0
CPC 7441												
Highway, bridge and tunnel operation services	4	0	1	5	0	0	4	0	1	0	5	0
CPC 7442												
Parking services	4	0	1	5	0	0	4	0	1	0	5	0
CPC 7443												
Other supporting services for road transport	4	0	1	5	0	0	4	0	1	0	5	0
CPC 7449												

F: Full commitment (indicated by "none" in the market access column).
P: Partial commitment (limitation recorded in the market access column of the schedule).

[1] EU counted twiceas a specific restriction by a Member State appears in another column
[2] - [7] Idem

Table 2: Specific Commitments by European Communities in Road Transportation Services

	Market access				National treatment			
Mode of supply:								
Cross border	**1**				**1**			
Consumption abroad		**2**				**2**		
Commercial presence			**3**				**3**	
Presence of natural				**4**				**4**
Commitments (■ full; ◨ partial; □ none; – not in the Schedule)								
Road Transport Services								
Passenger Transportation (CPC 71213 + 7122)	■	□	◨	■	■	□	■	■
Freight Transportation (CPC 7123)	■	□	◨	■	■	□	■	■
Maintenance and Repair of Road Transport Equipment (CPC 6112)	□	□	□	■	□	□	□	■
Services Auxiliary to all Modes of Transport								
Storage and Warehouse Services (CPC 742) (other than in ports)	■	□	□	■	■	□	□	■
Freight Transport Agency/Freight Forwarding Services (CPC 748)	□	□	□	■	□	□	□	■
Pre-Shipment Inspection (CPC 749)	□	□	□	■	□	□	□	■
Other Transport Services								
Land Transport, Provision of Combined Transport Service	■	□	□	■	■	□	□	■

TABLE 4: Specific Commitments by Turkey in Road Transportation Services

	Market access				**National treatment**			
Mode of supply:								
Cross border	**1**				**1**			
Consumption abroad		**2**				**2**		
Commercial presence			**3**				**3**	
Presence of natural				**4**				**4**
Commitments (■ full; ◨ partial; □ none; − not in the Schedule)								
Road Transport Services								
Passenger Transportation (CPC 7121 + 7122)	■	□	◨	□	■	□	□	□
Freight Transportation (CPC 7123)	■	□	◨	□	■	□	□	□

TABLE 6: Restrictiveness Indicators, 1998

	Price controls	Restrictions on behaviour	Licensing requirements	Coverage of licenses	Simplification of rules and procedures	Discriminatory procedures	Involvement of professional associations	Public ownership
Austria	0.0	3.0	3.0	3.0	3.0	3.8	3.0	no
Belgium	0.0	3.0	6.0	3.0	3.0	3.3	3.0	yes
Czech Republic	0.0	3.0	6.0	3.0	3.0	0.0	6.0	yes
Germany	0.0	3.8	6.0	3.0	0.0	3.3	3.0	yes
Denmark	-	-	2.0	3.0	-	-	-	yes
Finland	0.0	6.0	2.0	3.0	2.0	0.0	0.0	yes
France	0.0	3.0	4.0	3.0	0.0	2.8	3.0	yes
Greece	6.0	5.3	4.0	3.0	2.0	2.3	3.0	no
Hungary	0.0	5.3	4.0	1.5	4.0	2.3	6.0	no
Ireland	-	-	-	-	-	-	-	no
Italy	6.0	3.0	6.0	3.0	6.0	2.8	6.0	no
Luxembourg	-	-	-	-	-	-	-	-
Netherlands	0.0	4.5	2.0	1.5	2.0	-	3.0	no
Poland	0.0	3.0	6.0	1.5	0.0	3.0	3.0	yes
Portugal	0.0	3.0	2.0	3.0	0.0	3.8	3.0	no
Spain	3.0	3.0	6.0	1.5	0.0	0.0	6.0	no
Sweden	0.0	3.0	4.0	1.5	4.0	3.0	0.0	no
United Kingdom	0.0	3.0	2.0	3.0	2.0	0.0	0.0	no
Turkey	-	3	-	-	-	5.5	0	yes

Note: The scale of indicators is from 0-6 from least to most restrictive.
Source: Boylaud (2000)

TABLE 9: Regulation Indexes

	Government licensing	State ownership/ concentration	State concession requirements and price regulation	Regulatory approval required for establishments	Other regulations	Limits on backhauling, private carriage, and contract carriage	Limits on competition (including price guidelines)	Oveall
Czech Republic	4.6	4.2	2.6	1.9	1.1	1.1	1.7	1.5
Germany	4.6	2.3	1.2	2.1	1.3	1.2	2.4	1.6
Finland	4.4	2.2	1.3	1.2	2.2	1.2	3.9	2.1
France	4.9	3.5	1.1	0.3	1.3	0.5	1.7	1.0
Greece	4.4	1.6	3.9	1.8	2.0	0.7	4.1	2.4
Hungary	4.6	1.8	1.4	1.7	2.1	0.9	3.2	2.1
Italy	4.4	1.6	3.9	1.8	2.0	0.7	1.5	2.1
Netherlands	4.5	1.8	1.4	1.0	2.1	0.8	2.9	1.8
Poland	4.5	4.2	2.6	1.2	1.1	1.0	1.7	1.4
Portugal	4.7	1.9	1.3	1.8	1.2	0.8	1.7	1.4
Spain	4.6	1.9	1.3	1.1	1.2	0.8	1.8	1.2
Sweden	4.5	1.8	1.4	1.0	2.1	0.8	1.7	1.7
United Kingdom	4.6	1.8	1.4	1.7	2.1	0.9	1.7	1.9
Turkey	1.8	2.3	1.5	1.6	1.5	1.4	1.7	2.3

Note: The scale of indicators is from 0-6 from least to most restrictive.
Source: Francois (2005)

Chapter 6

Effects of Liberalization

Sübidey Togan, Jan Michalek and Jan Hagemejer

Studies on the measurement and impact of impediments to trade and investment in services is a daunting task. Yet, to design successful reform strategies it is crucial that the effects of liberalization of services be analyzed thoroughly. To do that, we first need to quantify the trade barriers in services prevailing in a given country, and then using these measures of trade barriers asses quantitatively the effects of liberalization of services trade in those countries.

The present study is structured as follows. While section 1 considers the quantification of barriers to trade in service sectors in general terms, section 2 concentrates on the quantification of barriers to trade in the transportation sectors. Section 3 analyzes the effects of liberalization of trade in the transportation sectors within the context of general equilibrium analysis, and section 4 studies the effects of liberalization in the transportation sectors using econometric approach. Finally, section 5 concludes

1. QUANTIFYING BARRIERS TO TRADE IN SERVICES

The simplest and most common approach to measuring the barriers to trade in services refers to frequency measures developed by Hoekman (1995). Next we consider the approach, adopted by the Australian Productivity Commission (Findlay and Warren (2000)), and the gravity approach (Francois (1999)).

1.1 Hoekman's Approach

Hoekman (1995) 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, (ii) consumption abroad, (iii) commercial presence, and (iv) movement of natural persons. According to the services sectoral classification list of the WTO (MTN.GNS/W/120) there are 155 non-overlapping service sectors. Since for each sector there are four possible modes of supply a total of 620 such openness/binding factors (commitments) exist for each member country.

The core rule of GATS is - like in the traditional GATT - the principle of nondiscrimination, which has two components, the Most Favored Nation (MFN) rule and National Treatment (NT) principle. The first one means that products supplied from different WTO countries should be treated equally at the market of importer (Article I of GATT).[1] The NT clause (Article III of

[1] The Free Trade Areas and Customs Unions (art XXIX of GATT) are major accepted exceptions to the MFN treatment.

GATT) requires that foreign goods - once they have satisfied border measures – should be treated no less favorably than 'like" goods produced domestically.[2]

In the GATS, in contrast to GATT, the coverage of NT is applied only to sectors listed in country's schedule of commitments, and only insofar as existing measures are not exempted. In addition the GATS agreement introduces the concept of market access. Its scope is determined by a positive listing of sectors in the WTO schedules of commitments. A specific commitment is an undertaking to provide market access and NT for the service activity in question. Thus, specific GATS commitments have a similar effect to a merchandise tariff binding — they are a guarantee that the conditions of entry and operation in the market will be non-discriminatory and not be changed for foreign suppliers.

As commitments scheduled in GATS apply to NT and market access separately, there are potentially 1,240 data cells for each Member (620x2).[3] Commitments were then classified into three categories, and each category was assigned a numerical score, as follows:

- If no restrictions were applied for a given mode of supply in a given sector ("none" in GATS jargon), a value of 1 was assigned;
- if no policies were bound for a given mode of supply in a given sector ("unbound" in GATS jargon), a value of 0 was assigned; and
- if restrictions or limitations were listed for a given mode of supply in a given sector ("bound" in GATS jargon) , a value of 0.5 was assigned.

The value of these indicators was chosen so as to allow aggregation across sectors and countries. The higher the number, the greater is the implied extent of openness-cum-binding. Using these scores, Hoekman calculated three indicators: (i) the number of sector/mode of supply combinations (cells) where a commitment was made (as a share of the maximum possible, 620 for market access and 620 for national treatment); (ii) the "average coverage" of each schedule of commitments, defined as the arithmetic mean of the scale factors allocated to each cell; and (iii) the share of "no restriction" commitments in (a) a Member's total commitments, and (b) relative to the 155 possible sectors of the classification list. The higher the number, the more "liberal" service regime is in the country.[4]

While the original purpose of these coverage indicators was to quantify GATS commitments, Hoekman argued that they could be used to generate information on the relative restrictiveness of policy regimes pertaining to service industries by assuming that the coverage of each country's schedule is an indicator of its policy stance. He used the frequency ratios as a starting point for estimating country-specific "tariff equivalents" of the relative degree of discrimination of foreign services provider across countries and sectors. Here, he arbitrarily defined a set of benchmark

[2] The national clause is applied with respect to internal taxation and other regulation. For discussion of core principles of GATT see Hoekman and Kostecki (2001).

[3] The number of entries varies among the countries, since many sectors are not included in the list of commitments of a large number of countries.

[4] The scope of GATS commitments for developed countries is usually much larger than for developing ones. In the sample analyzed by Hoekman (1996, p.40) the average coverage of bound sectors-modes was 35.6 percent for developed and 10.9 percent for developing countries.

"guesstimates" of tariff equivalents for each sector. These are judgemental set of benchmark tariff equivalents for individual sectors to reflect the degree to which market access to these sectors are restricted. A value of 200 percent was chosen for the sectors where access tended to be prohibited by most countries, and which did not appear in most schedules such as maritime cabotage, and voice telecommunications; while values between 20 percent and 50 percent were assigned to sectors where access was less constrained (e.g. hotels and restaurants). Each country and sector was then assigned a value related to that benchmark. For example, the financial services sector (excluding insurance) was assigned a tariff equivalent of 50 percent. The "tariff equivalent" of a given country was then obtained by multiplying this guesstimate by (1-(*x/y)*), where *x* is the weighted coverage for each sector per country and *y* is the total coverage possible for each category. Thus, if the most restrictive country worldwide had restrictions equivalent to a 200 percent, then a country with a 0.9 restrictiveness index would have a tariff equivalent of 180 percent (i.e., 0.9 times 200). Hoekman (1995) when reporting the results of calculations for 26 sectors and 49 countries used the information on market access commitments and not those on national treatment.

The importance of Hoekman's contribution is acknowledged in the literature, and the indices have been used in many empirical studies. There are certainly some clear advantages of Hoekman indices. Firstly, they cover all sectors and a very large group of countries. Secondly, it is fairly easy to apply the Hoekman approach to the new WTO members states undertaking new GATS commitments. His approach requires no specific country and sectoral field studies.

1.2 Australian Productivity Commission's Approach and the Gravity Approach

A more elaborate restrictiveness measure than that of Hoekman has been constructed for different service industries by the Australia's Productivity Commission (APC), in collaboration with the University of Adelaide, and the Australian National University. To develop these indices, the actual restrictions on trade in a service industry are compiled from specifically designed questionnaires using a number of different sources. These restrictions are then assigned scores and grouped into categories, each of which is assigned a numeric weight. These scores and weights are based on subjective assessments of the costs of restrictions to economic efficiency. Finally, the sectoral indices are computed using these scores and weights. This information is then used to study the effects of restrictions in the relevant services sector on the performance indicators in that sector, and in particular on the price of the service. Usually, this effect is measured econometrically. Given the econometrically estimated relation between the price of the service under consideration banking services and restrictions on trade in the service sector, the tariff equivalent of restrictions in the sector can be estimated.[5]

The basic methodology for estimation of services barriers by the gravity approach involves the estimation of sector-specific gravity equations, which relate the bilateral trade flow from country *i* to country *j* to the exporting and importing countries' GDP per capita, populations in the two countries, distance between the two countries, trade barriers, and a set of country dummies such as adjacency, common language, and regional trading arrangements (e.g. EU membership). Using the econometrically estimated gravity equation and a measure of the elasticity of

[5] See e.g. Togan (2007).

substitution for the service sector under consideration we obtain the tariff equivalent of barriers to trade in the respective service sector. The main issue with the gravity model is related to the non-availability of data on bilateral sectoral trade flows in services for a large number of countries. Essentially, there are three sources of data on bilateral trade flows in services. The GTAP database provides cross section dataset of world bilateral service trade flows for 2001.[6] Second, we have OECD data on bilateral trade flows in services among the OECD countries.[7] Finally, we have the EU EUROSTAT on EU members' trade in services.[8] While Park (2002) uses the GTAP database, Walsh (2006) makes use of the OECD data.

2. ESTIMATING TARIFF EQUIVALENTS FOR TRANSPORT SERVICES

The logic behind gravity-type model in the estimation of tariff equivalents of barriers to international trade is simple. Given the estimated model, we compare the model-predicted volume of trade with that of actual trade. The resulting difference is attributed to trade barriers that our empirical model did not account for.

However, gravity models are data-intensive since they model bilateral trade flows. In the case of transport services, the data availability problem is severe, as there is hardly any data available for services trade flows between the EU-15 countries. Since our study focuses mostly on European countries and wishes to study the example of the EU-15 for both Poland and Turkey, ordinary gravity model is of no use, given the data constraints.

Therefore we decided to employ a methodology similar to that used by Francois (2005). We motivate our model with the gravity equation but we only look at the total imports of a selected transport service of every country. The model has the following form:

$$\ln(imports_i) = \beta_0 + \beta_1 \ln(GDPC_i) + \beta_2 \ln(GDPC_i)^2 + \beta_3 \ln(Population) + error_i .$$

Similarly as in the standard gravity equation, the volume of imports is proportional to the wealth of the importer country (measured by GDP per capita) and the size of that country's population. We also include the second term related to the wealth of the country that takes into account the diminishing marginal demand for transport services imports with the increase in wealth.

We use the OECD data for GDP, population and the total services imports. We use the latest available data for 2006. The Table 1 gives the summary statistics. The best data availability is for air transport, where we have 26 observations. For road and rail transportations, we have 17 and 18 observations respectively (given the fact that some countries have obviously zero land transport with other countries eg. Australia).

Table 1: Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max

[6] GTAP refers to Global Trade Analysis Project at the Department of Agricultural Economics at Purdue University.
[7] See the "OECD Statistics on International Trade in Services", Volumes I and II.
[8] These data have been made available only recently.

rail	20	321.64	403.91	0.00	1655.92
air	26	5606.81	7652.63	188.27	32914.00
road	19	2583.26	3299.26	0.00	12926.21
log(rail)	18	5.22	1.32	2.92	7.41
log(air)	26	7.79	1.39	5.24	10.40
log(road)	17	7.30	1.33	4.49	9.47

Source: own calculations using the OECD data.

We estimate the model in two specifications. The first one is identical to that used by Francois. However, in our case, the inclusion of the $\ln(GDPC_i)^2$ does not add up to the overall fit of the model – see Table 2 for results. Therefore, our central specification is the following:

$$\ln(imports_i) = \beta_0 + \beta_1 \ln(GDPC_i) + \beta_2 \ln(Population) + error_i .$$

The variation in GDP and populations explains roughly 41 percent of the variation in the road transport imports (adjusted R^2) and almost 80 percent in the air transport imports. The negative adjusted R^2 in the case of rail transport indicate a very poor fit of the model for that mode of transport. The parameter estimates have the correct signs and are statistically significant for both road and rail transport, and are insignificant for rail transport. An increase of GDP by 1 percent increases the demand for road and air transport by roughly 2 percent and an increase of population by 1 percent has a less than 1 percent impact on the demand for rail and air services.

Table 2: Estimation results

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	road	road	air	air	rail	rail
l_gdpc	2.163***	35.74	1.856***	13.68	0.451	30.95
	(3.111)	(1.115)	(5.671)	(1.288)	(0.485)	(0.703)
l_gdpc2		-1.662		-0.580		-1.512
		(-1.048)		(-1.114)		(-0.692)
l_pop	0.707**	0.706**	0.807***	0.786***	0.311	0.298
	(2.651)	(2.659)	(9.600)	(9.184)	(0.949)	(0.892)
Constant	-26.52**	-195.8	-24.73***	-84.59	-4.584	-158.0
	(-2.852)	(-1.210)	(-6.064)	(-1.569)	(-0.377)	(-0.712)
Observations	17	17	26	26	18	18
Adjusted R-squared	0.414	0.418	0.793	0.795	-0.065	-0.104

*** p<0.01, ** p<0.05, * p<0.1

Standard errors in parentheses

To compute the actual tariff equivalents we use the following strategy used by Francois (2005) and Park (2002). If we assume that the import demand function is a constant-elasticity-of-substitution (CES) type, then the tariff equivalent that would cause the observed deviation of actual trade from the free trade level is the following:

$$T_1 = \left(\left(\frac{M_1}{M_0} \right)^{\frac{1}{\epsilon}} - 1 \right) * 100,$$

where M_1 and M_0 are the actual and free trade levels of imports respectively and ϵ is the elasticity of import demand. If we treat the regression-predicted level of trade as potential, then obviously some countries will exceed that of trade. Therefore we treat the country with the highest upward deviation of actual trade from predicted trade as a free-trade benchmark and normalize both the actual and predicted trade levels with the respective levels for the benchmark country. In our estimations, in the case of road transport, Spain has broken out as having the most liberal transport sector and in the case of air transport – Iceland. Using the same demand elasticity, as Francois have used, -3.9, we have computed the tariff equivalents reported in Table 3.

Table 3: Estimated tariff equivalents for transport services

Country	Road	Air	Rail(*)
Austria	0.80	31.56	0.00
Belgium	7.27	22.52	204.97
Canada	-	34.78	-
Czech Republic	4.64	64.02	42.39
Denmark	0.99	32.43	74.64
Finland	-	91.68	202.50
France	-	23.19	32.11
Germany	7.26	36.61	68.45
Greece	138.75	88.27	123.00
Hungary	5.02	31.83	54.91
Iceland	-	0.00	-
Ireland	-	-	-
Italy	22.87	40.00	44.77
Japan	-	42.50	-
Korea	-	31.84	-
Luxembourg	-	52.67	-
Mexico	-	38.40	-
Netherlands	25.30	25.98	52.78
New Zealand	-	-	-
Norway	57.52	91.64	100.90
Poland	0.03	57.01	50.45
Portugal	25.25	28.79	-
Slovak Republic	27.15	71.10	35.68
Spain	0.00	36.20	209.58
Sweden	52.02	42.43	91.57
Switzerland	-	-	-
Turkey	75.24	42.37	182.58

United Kingdom	49.47	15.15	65.51
United States	-	59.54	-

Tariff equivalents in percent.
(*) Estimates for rail transport are not reliable due to the poor performance of the empirical model.

We will only focus here on the tariff equivalents for road and air transport services as those obtained for rail are unreliable due to bad fit of the empirical model. The obtained equivalents range between 0 to 139 percent for road transport and from 0 to 92 percent for air transport. The results show that Poland is among the most liberal countries as far as road transport is concerned in our sample – Spain, Austria, Denmark and Poland all have the tariff equivalents at the level close to zero. The most protectionist countries, according to our estimations are Turkey with the tariff equivalents of 75 percent and Greece with the tariff equivalent of 139 percent. As as air transport is concerned, the most liberal countries are Iceland, the United Kingdom, Belgium, France and the Netherlands. However, the distance between Iceland and other most liberal countries is at least 15 percentage points. Turkey has an intermediate level of tariff equivalents of 42 percent while Poland is among the least liberal countries with a tariff equivalent of 57 percent.

When looking at the estimates provided, one has to bear in mind that because of the simplicity of our model, there are many factors that affect trade that have not been included in our model and which would be included if the model had its original bilateral-gravity form. Therefore, the tariff equivalents correspond to all unexplained factors, not only the regulatory barriers. The geographical location is one of the important factors that has not been treated in any ways and the distance from trade partners is for sure an important factor. However, for comparison of countries within one region, our estimates give an intuitive picture of how much countries trade in transport services.

3. GENERAL EQUILIBRIUM EFFECTS OF LIBERALIZATION IN TRANSPORTATION SECTORS

Given the tariff equivalents of barriers to trade in rail, air and road transportation sectors we consider the effects of liberalization in those sectors using the input-output framework. To present the basics of the approach adopted in our analysis as simple as possible we concentrate on the analysis of the effects of liberalization in the road transportation sector of Turkey. The approach is then applied to other two transportation sectors in Turkey.

To study the economic effects of liberalization in the road transport sector we compare the situation of the Turkish economy in the base case with the case when Turkey adopts and implements in the road transportation sector all of the rules and regulations of the country that implements the most liberal policies. Table 3 reveals that the latter country is nothing but Spain. 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 start to liberalize the sector yet. Next we consider the case when Turkey implements in the road transportation sector all of the rules and regulations similar to those implemented by Spain. Here we abstract from explicit

consideration of problems of implementation over time, and assume that once the new rules and regulations are adopted, liberalization of the sector will be achieved. This is a grand simplification, but it permits the analysis and comparison to be performed rather easily.

From Table 3 we know that tariff equivalent of barriers to trade in road transportation sector in Turkey is 75.24 percent, indicating that with complete liberalization in the sector the price of road transportation services will decline by 75.24 percent. Given this change in the price of road transportation services resulting from the change Turkey's regulatory regimes, one can compute the change in Turkish consumer surplus as a measure of the welfare effect of liberalization from information on the consumer demand schedule for the road transportation services under consideration.[9] But road transportation services are intermediate commodities for business users that are used in the production of other commodities. Therefore, prices of other commodities in the economy will change as a result of the change in the price of road transportation services. To study the welfare effects of liberalization, one has to consider not only the change in consumer surplus due to changes in the price of road transportation 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 price of road transport services on the prices of other commodities we consider the 1998 Input-Output table for Turkey, which consists of 97 sectors, and where road transportation sector is no. 79. Next we derive the equilibrium prices of the other 96 commodities as a function, among others, of the price of road transportation services.[10] Using the new equilibrium prices of the 97 commodities obtained after the liberalization of the road transportation sector we determine the effect of liberalization on consumer welfare.[11] Hence,

[9] Consumer surplus measures the amount consumers gain from a purchase by the difference between the price he actually pays and the price he would have been willing to pay.

[10] In the Turkish 1998 input-output table there are 97 sectors where road transportation services is sector 79. Let A be the 97x97 matrix of input coefficients. Given A, form the 96x96 input matrix B by deleting the 79th column and 79th row referring to the road transportation sector. Denote by e the 79th row of A where the 79th column element has been deleted. Let p be the 1x96 price vector of the 96 commodities excluding the road transportation services sector and va the corresponding 1x96 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 road transportation services. Hence we have $p = p_t\ e\ (I-B)^{-1} + va\ (I-B)^{-1}$. Thus, given the price of road transportation services that will prevail in Turkey after it adopts and implements Spain's 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.

[11] Given the equilibrium price vector p form the 1x97 price vector as $\pi = (p\ p_t)$. Let CON be the 96x1 consumption expenditure vector obtained from the 1998 input-output table by deleting the value of consumption of road transportation services sector and con_t the value of consumption of road transportation services. Form the 97x1 consumption vector as

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

Noting that initially all base year prices equal unity in the Input-Output table we can express the value of total consumption expenditure evaluated at base prices as $C = u\ CONS$, where u denotes the 1x97 unit vector. The value of total consumption expenditure evaluated at the prices that will prevail after Turkey adopts and implements Spain's rules and regulations in the road transportation sector is then given by $C^* = \pi\ CONS$. The effect on consumer welfare can now be calculated as

with the new price of road transportation services, we observe that the welfare of the Turkish society will increase by 5.38 percent. Given that consumption formed 80.834 percent of the 1998 Turkish GDP, the percentage change in welfare of the society is equivalent to 4.35 percent increase in real GDP. Using the same approach for the other two transportation sectors we note that the percent change in GDP as a result of liberalization of air transportation and rail transportation sectors will increase by 0.28 and 1.53 percent respectively.

4. ECONOMETRIC ANALYSIS OF THE EFFECTS OF LIBERALIZATION

The outcomes of liberalization are often difficult to assess. In this section we study the effects of liberalization in air and rail transportation sectors as well as the effects of liberalization in health services using econometric approach.

4.1 Air Traffic

Recently Piermartini and Rousova (2008) used the Air Liberalization Index (ALI) constructed by the WTO Secretariat (WTO (2006)) as control variables in a gravity study of passenger air traffic. The analysis presented here is similar to that of Piermartini and Rousova (2008).[12]

Before we turn to the empirical analysis it is important to have a closer look at the structure of air transport services in Poland and Turkey. It is worth to mention that market structures of the two countries in the mid 1990's were relatively similar. The relevant data are shown in Table 4. The data presented in the table show that market structures of United Kingdom and United States were much more competitive. According to the ALI indices, the market access conditions were significantly improved in Poland in the recent years after the accession to the EU.

We consider the effect of liberalization in air transportation sector on air traffic. The outcomes of liberalization are often of difficult to assess given the abrupt changes in the market structure. What can be measured, however, is the growth of air traffic and how it was influenced by liberalization and other factors. The question asked is to what extent the Single European Sky legislation has contributed to this development? Was it a Polish phenomenon or a pan-European one? Could it affect the Turkish market? We make an attempt to answer the above questions within an econometric framework.

Table 4. National air services market structures, 1997

(C - C*) x 100 / C*.

[12] For a discussion of the ALI index see Chapter 3 on 'Liberalization of Air Transport Services'.

Coun-tries	Number of ICAO-registered airlines	Number of airlines carrying more than 500000 passengers a year	Domestic market share of the largest airline (incl. subsidiaries)	International market share of the largest airline (incl. subsidiaries)	Share of 100 international routes with more than 3 carriers	Herfindahl concentration index in domestic market	Herfindahl concentration index in international market
Poland	1	1	1.00	1.00	2	0.29	0.84
Turkey	1	1	1.00	1.00	3	0.26	0.68
U.K.	20	13	0.46	0.81	39	0.12	0.19
USA	50	31	0.18	0.14	34	0.12	0.19

Source: Gönenç et al. (2000)

4.1.1 The Model: Data, Variables and Estimation

The dataset consists of 357 observations. It covers 17 countries and 20 years. The country sample include some belonging to the original EU-15 (Austria, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Scandinavia <Denmark and Sweden>, Spain and the UK), others belonging to the ten new members acceding the EU in 2004 (Cyprus, Czech Republic, Hungary, Poland) and Romania. In all those countries airlines carried more than 100 million tonne-kilometres (passengers, freight and mail) in a given year. The dataset was compiled using the ICAO Statistic Yearbooks[13], World Development Indicators[14] provided by the World Bank, and Internet resources. The period of time under consideration spans from 1986, i.e. two years before the first liberalization package was introduced, to maximum 2006 (data-depending). During this time three consecutive liberalization packages were put in place and new members joined the Community, adopting their aviation legislation to the rules set by the Commission. We therefore have a panel dataset which allows us to control for the individual country characteristics.

The dependent variable [*lnpasskm*] is the log of the percentage changes in passenger traffic growth over the period of time. It is measured by passenger-kilometers performed on scheduled services[15]. We test whether the liberalization had any significant impact on the level of delivered air transport services. We consider ten explanatory variables. The first three represent consecutive stages of liberalization and are given as dummy variables. And so "*liber1*" means

[13] ICAO (1987-2007) *Digests of Statistics* delivered by the Economic Analyses and Databases Section, International Civil Aviation Organization; hard copies obtained in the Civil Aviation Office, Warsaw PL

[14] World Development Indicators 2008 by World Bank, published on CD, World Bank Publications, Washington DC, April 2008

[15] data come from ICAO *Digest of Statistics*

the first package introduced and is expressed by either 0 in the years before it was implemented, or 1 in the years effective the moment of its introduction. Similarly the case is represented for the second and the third package [*liber2, liber3*].

The growth in traffic would not be achieved without the additional capacity, the capacity invested into by the incumbent carriers and also provided by the new entrants. Anecdotic evidence presented in Chapter 3 suggests that this effect was very noticeable in the case of Poland, and possibly in other European countries. Of course, one can argue that the presence of low cost airlines results from European market liberalization, and should be treated jointly. On the other hand the presence of low cost airlines depends also on other factors such as availability of airports, density of population, etc. and can by analyzed separately. To assess the importance of the low cost airlines for the level of air services provided we include the [lowcost] that corresponds to the number of low-cost airlines.[16] Presence should be understood in a way that an airline offers at least one connection to/from any airport in the country. Data for this particular variable were gathered airline-by-airline, year-by-year through the search for each carrier's history and opening up of new connections[17].

Yet another control variable linked to the capacity issue is the one regarding the number of airports [*airports*]. In order to be able to fly, airlines must have the take-off and destination ports. This variable[18] provides the information how many aerodromes are serving or potentially may do so the role of such airports. To be more specific, these are the aerodromes licensed for civilian use with paved runways. This variable does not change over time as it usually takes a very long time to develop a brand new airport and the common it is often the case that the new airports are in fact existing airports adopted for particular needs. What is more, many aerodromes usually date back to the times of the Second World War. We expect a positive relationship between number of airports and the level of service provision. Other country-specific set of variables[19], include the gross domestic product per capita [*lngdppc*], which represents the trend in personal wealth of an average potential passenger. We expect it to impact positively the traffic growth. We include three other variables that characterize to potential demand for air services. The potential number of passengers is represented by the population figure [*lnpop*]. It is assumed that the majority of airline passengers come from urban population. As a result we include the urbanization rate [*urban*]. The reasoning behind this assumption is the fact that bulk of business traffic comes from those areas since they usually constitute business centers, and that even leisure passengers are more likely to be settled permanently in urban areas. Moreover, the cost of getting to and from the airport is lower if one lives closer to it. The choice of the GDP and population variables is also related to the gravity model literature, where these are standard control variables. Although we do not deal with bilateral passenger flows, with aggregate data, the total passenger traffic should be proportional (in logs) to these variables.

Finally, one of the factors that enabled the new entrants to the aviation market was the Internet. When estimating the model we use the number of its users per 1000 people [*intuse*]. It lies within

[16] A list of all the European low – airlines, active on country's markets was complied through internet research. The list of low-cost airlines used in the model can be provided at request.
[17] information gathered from each airline's website
[18] data come from ICAO Statistics.
[19] data for all of the variables mentioned in this and the consecutive paragraph were taken from the WDI 2008

the strategy of the vast majority of the low-cost airlines to sell the tickets almost exclusively over the Internet. People may also use it as a tool to check the options, compare prices, get the advice etc. They may therefore perceive it as a way to save money due to, for example, self-assembled holidays instead of paying for travel agency to deliver their services. All the above-mentioned variables are expected to increase price transparency, boost competition and positively influence the traffic growth.

Last but not least, the model includes the independent variable measuring trade in services as a percentage of GDP [*trise*]. There are several reasons justifying using it to describe the influence on air traffic trend. Air transport itself is categorized as trade in services, especially when the opportunities exist to exercise this right throughout the entire EU. Services, overall, are more and more important for economies in developed countries. And it is a fact commonly acknowledged that people employed in service sector are those who travel the most and therefore constitute for the growing number of airlines' passengers. Therefore, this variable is expected to be significant and with a positive sign next to its parameter.

The estimated equation regression is therefore given by the following equation:

$$\ln passkm_{it} = liber1_{it}\beta_0 + liber2_{it}\beta_1 + liber3_{it}\beta_2 + low\cos t_{it}\beta_3 + airports_{it}\beta_4 + \ln gdppc_{it}\beta_5 + \\ + \ln population_{it}\beta_6 + urban_{it}\beta_6 + inuse_{it}\beta_8 + tradeserv_{it}\beta_9 + \nu_{it}$$

To be accurate, in the context of panel analysis two important estimators should be taken into account. Both random effects and fixed effects estimators assume individual effect ν_{it} to be a random variable but they differ in the assumption regarding the existence of correlation between individual effects and independent variables. The requirements imposed by the random effects estimator are much stricter and it does not allow for such correlation unlike the fixed effects estimator .

The results of the random effects estimation are given in first column of table 5. The main conclusion that may be drawn from this regression is that only the second liberalization variable is insignificant with the other two actually impacting the growth in air traffic the most. Other variables are significant and their sign is positive. Low cost airlines presence, number of airports, GDP per capita, population and urbanization rate and access to Internet are statistically significant. This regression explains 79 percent of the model.

Random effects estimator is more effective than the standard GLS one if the individual effects are significant in the analyzed population. In order to check whether it is indeed the case here, a Breusch-Pagan test can be conducted. In our case this test rejects the 0-hypothesis which means that individual effects are in fact significant in this model and thus the random effects estimator fits better to the analysis that the ordinary GLS one.

To complete the panel analysis, fixed effects estimation must be carried out (parameter estimates are given in 2nd column of table 5). This estimator produces similar results in terms of the significance structure of variables with the exception that population proves to be insignificant factor and Internet use to be significant. The number of airports is dropped from the estimation due to the fact that the fixed effects estimator, also known as the within-estimator, only looks at

the diversification within groups and not between them. Therefore, if a variable does not change over time, as it was in the case of airports, it is impossible to estimate its influence on the dependent variable using this estimator.

Table 5. Statistical output of the random effects regression

	(1)	(2)
VARIABLES	lnpasskm	lnpasskm
liber1	0.204***	0.188***
	(0.0625)	(0.0597)
liber2	0.00844	0.0288
	(0.0652)	(0.0621)
liber3	0.208***	0.206***
	(0.0486)	(0.0465)
lowcost	0.00764***	0.00681***
	(0.00163)	(0.00156)
airports	0.0173***	0
	(0.00337)	(0)
lngdppc	0.285***	0.202***
	(0.0577)	(0.0588)
lnpop	0.210***	0.0849
	(0.0502)	(0.0543)
urban	0.0166**	0.0210**
	(0.00750)	(0.00889)
trise	0.0214***	0.0245***
	(0.00235)	(0.00232)
intuse	0.000237*	0.000303**
	(0.000123)	(0.000118)
Constant	2.318***	4.503***
	(0.694)	(0.789)
Observations	357	357
Number of country	17	17
R-squared	0.79	0.53

**** p<0.01, ** p<0.05, * p<0.1. andard errors in parentheses*
Source: Authors' own calculations

In order to choose between the two estimations obtained throughout the analysis, a Hausman test should be conducted. It is used to determine whether both outputs estimate the model similarly (the 0-hypothesis). In our case the 0-hypothesis must be rejected, therefore it cannot be assumed that no significant differences exist between the estimations obtained using either estimator. The model should not be estimated with the random effects estimator but rather with the fixed effects estimator for which there is no assumption about the lack of correlation between individual effects and independent variables. Therefore we reject the random effects model in favor of the fixed effects variant.

4.1.2 The Results and their Interpretation

This model explains the diversification of air traffic for particular countries in the given period of time far better than the diversification of the average passenger traffic between the countries in particular years. Unfortunately the variance caused by the individual effects is rather large (rho=96 percent) thus it seems that it is difficult, although not impossible, to obtain reliable results on the matter tested.

The second liberalization package and population appear insignificant. The latter is not surprising and due to the fact that the level of population does not vary much in time and the crossectional variation of population is already captured by the fixed effects. Other results do not get distorted if those variables are removed from the estimation.

The interpretation of the estimated parameters' values delivers some interesting observations. The first and the third liberalization packages were indeed significant and caused the increase in passenger traffic by 18,7 percent and 20,6 percent respectively. It proves the fact that beside being statistically significant, these variables are also truly significant from the economic point of view. Next in line comes the number of the low cost airlines. Each new carrier made the traffic grow by 0,6 percent which seems logical if we take into account the current number of the low cost airlines operating on the European market which sums up to about seventy.

One percent increase in the GDP per capita brings 0,2 percent growth in the air traffic which is in line with the previous assumptions that wealth is one of the key factors enabling people to fly (in other words, doubling GDP per capita increases the air traffic by 20 percent). Urbanization rate has a lesser impact on the dependent variable. One additional percentage point of people living in cities translates into 0,02 percent growth in passenger traffic. Similarly, one percentage point of trade in services' share in the country's GDP causes the traffic to rise by 0,024 percent. Last but not least, each additional Internet user in 1000 of population adds another 0,03 percent growth in passenger traffic.

All the estimated parameters can, in principle, be applied to the Turkish economy as well. They prove that the Single European Sky increased significantly the number of passengers in Poland and other European countries. Shall the future open sky agreement between EU and Turkey lead to similar results? Using the parameter estimates obtained from the model estimation, we can therefore predict, that, other things equal, joining the EU and adopting the Single European Sky legislation increases the number of passengers by roughly 40 percent (the sum of the elasticities of the first and third package that proved to be significant in explaining the variance of the number of passengers).

4.2 Cargo Rail Services

When considering the effects of liberalization of the national regulatory frameworks on the level of trade in freight rail services, we analyze the impact of trade liberalization within the EU. Our presumption is that the reduction in trade barriers over time intensifies competition, reduces prices through lowering of markups, and forces incumbent companies to increase performance in

the presence of new entrants. This makes service provision more efficient and leads to larger supply, which should in turn be reflected in the size of bilateral trade flows.

4.2.1 The model and data

We base our estimations on a standard gravity model. The model was adapted in order to better reflect the flow of transport services. In the original, merchandise-trade-focused gravity model, the volume of trade is an increasing function of the economic and social potential of trading partners and a decreasing function of the distance between them. Other control variables that are usually included that potentially affect costs of trade are common language or common border. In our model, we also include two important variables that correspond to the cost and demand factors. The estimating equation is:

$$\ln(Cargo_{ijt}) = \ln A + \beta_1 \ln(Distance_{ij}) + \beta_2 \ln(Trade_{ijt}) + \beta_3 \ln(POP_{it} + POP_{jt}) + \beta_4 \ln(GDP_{jt} + GDP_{jt}) + \beta_5(Border_{ij}) + \beta_6(Language_{ij}) + \beta_7 \ln(Tracks_{it}) + \beta_8(LIB_{it}) + \varepsilon,$$

where $Cargo_{ijt}$ is the flow of cargo services between the importer country *i* and the exporter country *j*. $Distance_{ij}$, $Border_{ij}$ and $Language_{ij}$ are the distance between trading partners, common border and common language dummies respectively, POP_{it}, POP_{jt}, GDP_{it}, GDP_{jt} are the population and GDP levels respectively.

We analyze also the impact of three more variables. First of all, $Trade_{ijt}$ is the volume of bilateral trade between the relevant trade partners. We assume that the greater the value of merchandise trade, the greater is the demand for international transport services in general. $Tracks_{it}$ is a measure of infrastructure development proxied by the total length of railway tracks in use. Finally, LIB_{it} is the index of rail services liberalization analyzed in Chapter 4 of the present study.

The geographical gravity variables come from CEPII[20]. We choose common language to be at least one shared official language. The merchandise trade data come from the Eurostat database according to BEC classification measured in current prices. Population and GDP data is taken from Eurostat and the IMF World Economic Outlook. GDP is expressed in constant prices.

The data on the railway infrastructure come from the *Energy and Transport figures* 2007[21] report. Data for 2007 has been interpolated. The LIB liberalization index is a comprehensive index of the IBM Business Consulting Services prepared for Deutsche Bahn and the higher it is, the more liberal the rail transport sector. The data is available for 2002, 2004 and 2007. It is a weighted average of the index of legal barriers to entry (LEX) and measuring actual barriers (ACCESS).

The dependent variable is the volume of cargo rail services. The data comes from the Eurostat database. Calculation for 2007 is based on the estimation using the data for the first three

[20] *Centre d'Études Prospectives et d'Informations Internationales*

[21] European Commission, Directorate – General for Energy and Transport In co-operation with Eurostat, Energy and Transport In Figures 2007, Part 3: Transport, Chapter 3.5.: Infrastructure

quarters and interpolated to annual data using the average quarter-to-quarter growth rate for 2007 vs. 2006.

The model was estimated for 21 importing and 32 exporting countries for the years 2002, 2004 and 2007. This choice is based purely on data availability. We obtained 1815 observations that correspond to 733 pairs of trading partners.

4.2.2 Results

The statistical tests pointed to significant autocorrelation and heteroscedascicity, therefore we based our regressions on the General Least Squares method (GLS). We used GLS specifications: (i) with heteroskedastic error structure, (ii) heteroskedastic error structure with AR(1) disturbance common to all panels, and (iii) heteroskedastic error structure with panel-specific AR(1) disturbance. The series of tests reveal superiority of regression (3). Table 6 presents our central results for the dependent variable expressed in tonne-kilometers. Our estimations are performed both on the data expressed in tons and in tonne-kilometers to verify the sensitivity of results to the choice of measurement, but the results are suppressed to save space.

The results are fairly stable with respect to the choice of specification as far as standard gravity variables are concerned. Distance and border dummy are significant and have the expected signs. Both GDP and population are positively correlated with the level of bilateral rail transport. The insignificance of the bilateral merchandise variable is in fact not surprising due to the fact that as the trade literature shows, this variable is very well explained by other explanatory variables in our regression and its insignificance is due to a high degree of correlation with other variables.

Regressions 1 to 6 give similar results. Imports of rail services are correlated with the volume of international trade. The estimated coefficient is 0.01 which corresponds roughly to an elasticity. Therefore 1 percent increase in the bilateral trade increases imports of rail services by 0,01 percent. Similarly, a 1 percent increase in the length of available railway tracks increases rail transport imports by 0,1 percent.

Our central variable of interest is the coefficient of the LIB index. The parameter is statistically significant. An increase of the index by 1 leads to an increase in imports of rail transport services by roughly 3 percent. The obtained coefficient is roughly the same in the estimations using tons. The index ranges from 148 to 837 in our sample, so given the 3 percent semi elasticity, the potential effect of liberalizing seems rather large. However, one has to bear in mind that such changes in cargo traffic may take time to realize and they only give an indication to the potential effect that they may have.

The results in columns 4-7 include additional variables and differentiate countries between degree of liberalization, wealth, size and split countries into EU and non EU members. Results (4) show that the countries in the LIB2 group do not differ significantly in their value of trade from the most liberal countries. However, the LIB3 group's imports of rail services are 14 percent lower than those of the LIB1 group.[22] Therefore reaching the level of liberalization required by the EU is enough to reach reap the benefits of trade liberalization.

[22] For the definition of LIB1, LIB2 and LIB3 countries see Chapter 4 of this study.

Table 6: Regression results in tonne-kilometers

Variable /Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Tracks	0.0761***	-0.0053	0.1013***	0.09***	0.11***	0.08***	0.08***
LIB	0.0194***	-0.0026***	0.0322***	0	-0.001***	0.03***	-0.005***
Distance	-0.2019***	-0.1032***	-0.2417***	-0.24***	-0.24***	-0.25***	-0.22***
Order	1.6392***	2.0405***	1.4549***	1.40***	1.41***	1.43***	1.47***
Language	0.0060	-.05924	-0.0194	0.04***	0.02	-0.01	-0.03***
Trade	0.0017	0.0156***	0.0084***	0.00***	0.01***	0.01***	-0.03***
POP	0.0657***	-0.0074	0.1059***	0.11***	0.11***	0.10***	0.12***
GDP	0.0836***	0.1237***	0.0785***	0.09***	0.07***	0.12***	0.12***
LIB2				-0.04	0.00		
LIB3				-0.14***			
Large					0.00***		
LIB*Large					0.05***		
Rich						-0.06***	
LIB*Rich						-0.01***	
UE							0.22***
LIB*UE							0.06***

** significant at 10 percent, ** 5 percent, *** 1 percent level.*

We explore the impact of trade liberalization further by classifying the countries according to their liberalization index. We create three dummy variables, LIB1, LIB2 and LIB3 that correspond to the respective groups:

LIB1 – countries with the most liberal market, LIB >=800 (Sweden, Germany, Netherlands)

LIB2 – countries that liberalized just to meet the EU criteria 800> LIB ≥600 (Lithuania, Latvia, Estonia, Slovenia, Hungary, Czech Republic, Portugal, Finland, Denmark, Spain, Italy, Slovakia, Poland, Austria and Belgium).

LIB3 – countries that are lagging behind in the process of introduction of directives 600 > LIB (Luxembourg, Greece, France).

Our further estimations include controls for the size of the country and the wealth. The former indicates liberalization in larger countries increases import of cargo rail services by 5 percent more than for smaller countries. The latter suggests though that the rich countries import less rail services by 6 percent than the poorer ones and that liberalization influences strongly trade of

poorer countries. However, this results probably suggest, that while the correlation between the wealth and length of railway tracks is obvious, the poorer countries overload their infrastructure and usually have less substitutable road infrastructure to compete with rail

In the last regression, we include the EU dummy whenever the exporting country is in the EU. The results given in (7) show that EU members on average trade 22 percent more rail services and that liberalization increases the trade between EU countries by 6 percent more than with the third countries.

4.2.3 Conclusions

The empirical analysis shows a positive and significant impact of the development of rail infrastructure on the level of imports of cargo rail traffic and similarly a positive correlation between the level of merchandise trade and the demand for rail services. Furthermore, the analysis indicates that two, out of the three EU rail liberalization packages, had statistically significant and positive impact on cargo services in Europe. The size of the impact of both the EU membership and the adoption of EU liberalization packages is large but may take time to realize. In fact, it has not been realized fully in the case of Poland. Increasing cargo traffic requires significant investment in infrastructure and it will take time before these gains emerge. Similarly for Turkey, we may expect that implementing EU legislation will have a positive impact on the level of rail services trade in the long run.

5. CONCLUSIONS

Assessment of the liberalization services trade requires knowledge on the level of regulatory barriers before and after the liberalization of services, and this information has to come in quantifiable form. In the area of international trade in services, information is very scarce. First, data on trade in services, especially in bilateral form, are usually unavailable and second, both barriers and the liberalization efforts are encoded in written law that proves to be difficult to quantify. Therefore, the methodology used in this section is diversified. In the case of transport services, we have successfully estimated tariff equivalents of trade in two out of three analyzed service sectors. Our results show that the level of barriers differs significantly between Poland and Turkey in the case of road transport (where the former is more liberal) and in the case of air transport (where the reverse is true). We have shown that potential liberalization of the service sectors in Turkey is likely to bring large effects to the whole of the Turkish economy.

We have build a simple econometric model based on the gravity framework that relatively well explains the pattern in air traffic in the EU. Our results show that the EU liberalization packages have significantly increased air traffic in Europe. In our sectoral study on rail services, we used LIB indices reflecting the EU liberalization packages, gradually increasing the access to rail markets. Similarly, we show using a gravity model that in this sector liberalizing measures had a positive and statistically significant impact on the international flows of rail cargo. Liberalization attempts are therefore likely to increase welfare of consumers in the liberalizing countries, as the analyzed sectors have been to at least some extent monopolized by state-owned providers. In the case of trade in rail services, there are also important environmental external effects that ought to be internalized in order to assure economic efficiency.

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