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An Economic Analysis of the Palestinian Labor Market for Higher Education

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Directed By
Mahmoud K. El-Jafari, Director and Professor of Economics
The Institute of Business and Economics Al-Quds University – Jerusalem

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Mahmoud K. El-Jafari,
Director and Professor of Economics
The Institute of Business and Economics
Al- Quds University – Jerusalem

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Abstract

The main objective of this study is to evaluate the compatibility of the Palestinian university and community college graduates with the labor market needs in the West Bank and Gaza Strip. To accomplish the objective of this study, an economic model has been specified and estimated, using primary data. In general, reducing the waiting period from graduation until get employment depends on a set of competitive factors. They include computer and language skills, GPA, training, and experiences. On the other hand ,employer's demand for local graduates is associated with several skills and competencies. Therefore, it was not surprised to find unemployment rates prevail among graduates from local academic institution are relatively greater than those graduated from abroad. Based on the empirical results, several recommendations have concluded to policy makers to improve the quality of graduates through enhancing the interactions between academic institution and employers in both private and public sectors.

1. Background

The West Bank and Gaza Strip (WBGS) have an impressive record of higher education. Student enrollments in local universities rose from 33 thousand in 1994/1995 to considerable levels of 138 thousand in 2004/2005 with an increase of 318% over the period of 1995-2005. Concurrently, the number of graduates from the universities and community colleges doubled four times during that period increased from 4.7 thousand in 1995 to around 20 thousand by 2005. Those figures indicate that the demand for and the supply of graduates moved jointly. However, the absorption rates of graduates in the local economic sectors showed a slowed and static trend. Statistical figures available by labor survey in the WBGS implies that the absorption rates of educated and skilled employees (universities and community colleges graduates) in the local economic sectors such as agriculture, manufacturing, construction, and transportation averaged 13% of total employment in these sectors. On the other hand, around 70% of employed persons in the education and health sectors are graduates of community colleges and universities. In fact, health and education are considered the two major service sectors run by the Palestinian National Authority (PNA). In those sectors, in particular, and in the public sector in general, salaries and wages offered to employees

are relatively lower than those paid to their counterparts in the private sector [Palestinian Central Bureau of Statistics (PCBS), Labors Surveys; Update Statistics from Ministry of Education and Higher Education, 2005].

During the period, 1994-1997 and after the establishment of the PNA, the public sector absorbed a considerable portion of the surplus in labor force, mainly university graduates, approximating 21% of the total labor force employed in economic sectors in the WBGS. Also, the civil service law encouraged the demand for the outputs of higher education. Together with the considerable increase in international support to the Palestinian people during that period, these factors helped in creating a rapid rise in the demand for university graduates taking into consideration that the public sector could not grow substantially, 70% of the current public expenditure is allocated for salaries. On the other hand, the growth rate of the private sector showed a declining trend due to its special characteristics of small enterprises and family businesses.

The persistence of high unemployment in the WBGS has become a major challenge to the PNA. During 1995-2000, unemployment rates in the WBGS with over 14 years of schooling tended to decrease. In summer 2000, unemployment rates reached 10.6% with a decrease of 50% compared to their level in 1995. In fact, educated labor flows from the WBGS to Israeli market have increased during 1995-2000. The percentage of workers with over 14 years of schooling employed in Israel rose from 6% in 1994 to 8.2% in 2000 of total Palestinian workers employed in Israel [PCBS, Labor Survey]

Available figures on unemployment rates among university and community college graduates indicate that graduates who hold diploma have been less integrated in the labor market than those who hold B.sc degree and above. While 55% of graduates holding high diploma are unemployed, around 45% of graduates from universities are unemployed. Unemployment rates have been found to be at the highest level (48%) among graduates who specialize in arts, and humanities. In contrast, unemployment rates have been found to be less than 10 percent among graduates specialized in applied sciences such as medicine, engineering, computer and nursing [Statistical Guide of labor Forces Ministry of Labor] . On the other hand, unemployment rates were found to be higher among graduates from local Palestinian universities and community colleges than graduates from Countries abroad, such as U.S, England, and Canada. For example,

unemployed graduates from local universities specialized in arts, humanities and social science amount to 76% of total unemployed graduates specialized in these fields. However, the gap of unemployment rates between graduates from local higher education institutions and abroad is relatively narrow in applied sciences. One could conclude that despite the increase in the demand for higher education in the WBGS, graduates from abroad have a better opportunity to be employed than graduates from local universities particularly in the private sector. Eventually, these indicators reflect the weak relationship between the demand for and supply of graduates in the local markets. Although the capacity of the local private sector to absorb graduates is very limited due to low investments and job creation, it enjoys recruiting Palestinian graduates from abroad [PCBS, Labor Surveys ; various issues].

2. Main Features of the Higher Education System in the WBGS

Most of the Palestinian universities, established during the 1970s and 1980s focused on humanities and social sciences. Only few of them are specialized in certain scientific fields such as medicine, law and journalism. Figures available on the number of admissions, enrollments, and graduates in the WBGS reflect the inefficiency of the local higher educational institutions. Also, unemployment rates among graduates signify the ineffectiveness of the Palestinian higher educational system. This brings to light the inconsistency and disagreement between the outputs of higher education (mainly graduates) and the market needs. However, the main features of the higher education system in the WBGS could be outlined as follows:

1. While the demand for higher education at Palestinian universities and community colleges is remarkable , the number of graduates has increased sharply, rising from 2200 in 1995 to 18000 by 2005. In fact .graduates from local academic institutions approximates 70% of total supply of graduates. On the other hand, 20% of graduates are graduated from Arab Universities, while the rest get their education from foreign universities [Ministry of Higher Education, Statistical guide of Higher Education].
2. Despite the creation of several faculties and departments, the numbers of enrollments remain concentrated in arts, humanities and social sciences. This might

be a result of lower costs of education in those disciplines. Besides that, students enrolled in areas and humanities would have the chance to combine studying with work.

3. Obviously, the significant increased in the supply of graduates in humanities and social sciences have severely undermined the employment prospects of graduates, since the demand for such specializations is minimal. While 70% of local graduates are absorbed in the public sector, 30% are employed in the private sector .In fact, employed graduates, specialized in humanities and arts, account 70% of total employed graduates . On the other hand, 30% of graduates are employed in applied professions, such as medicine, engineering, nursing ,law .
4. The excess supply of graduates has become more numerous. Between 1995-2002, educated unemployment rates rose from 21% in 1995 to 32% in 2004. The number of unemployed graduates doubled four times during that period, increasing from 20 thousand in 1995 to 70 thousand in 2004. It reveals the inconsistency between the supply of and demand for graduates in the local market. Also, it implies that the absorptive capacity of the private and public sectors in the WBGS is subject to several constraints. Job creation policies were ineffective and investment showed moderate trends. Yet, the higher education sector is not demand driven in supplying specific outputs to the local labor market. Therefore, there is a need to diversify and upgrade the quality of all Palestinian institutions of higher education given that the major objective of higher education system is to supply the society with highly skilled, well-trained and active graduates'[PCBS: Labor Surveys].
5. Due to the highly competition between graduates in the local labor markets , around 40% between graduates are employed in professions irrelevant to their fields of specializations .Therefore, it is not surprising to find around 50% of local graduates , lack appropriate skills and capabilities, are prevented from employability in the private sector. As a result, the gap between the supply of graduates and the market needs has widened over time [Palestinian Ministry of Labor, Labor Surveys,000 1998].

3. Objectives

The main purpose of this study is to evaluate the compatibility and consistency between the outputs of higher education and the needs of the labor markets in the WBGS. In

fact, this study is intended to utilize quantitative technique in modeling the interaction between the demand for and supply of graduates from local universities in the WBGS. To accomplish that objective, three models have been specified and estimated to:

i. Identify the factors that determine the waiting periods for graduates to enter the job market. While some graduates get jobs consistent with their specialization, others employed in occupations irrelevant to their fields of study.
ii. Determine skills and abilities that enable graduates to obtain jobs in private and/or public sector.
iii. Evaluate criteria applied by employers to hire graduates in both public and private sectors.
iv. Determine measures and regulations required to enhance the interactions and cooperation between academic institutions and private and public sectors to improve the quality of graduates..

It is anticipated that this study will focus at addressing issues related directly and indirectly to the market for higher education. The results of this research will be of interest to several parties, agencies and institutions. Based on the empirical results, policy recommendations have been suggested to harmonize the compatibility of higher education outputs and the needs of the labor market.

4. Methodology and Data Sources

An economic model has been specified and estimated to analyze the degree of compatibility between the supply of graduates from local HEIs and the market needs. Primary data have been utilized to estimate the model. Based on the estimated model, the empirical analysis has focused on restructuring the higher education system according to the local market needs. In other words, the supply of higher education will change subject to changes in the local labor markets . Therefore , the outputs of higher education, mainly graduates, are treated as demand driven in relation to the kinds of needed skills and abilities.

Primary data have been gathered through designing and distributing two questionnaires to estimate the following models (1) supply of graduates, (2) demand for graduates,(3) interactions and interrelationships between employed graduates and employers.

Concerning the first questionnaire, it has been utilized to obtain data on employed graduates whether they are employed in occupations consistent and / or inconsistent with their fields of study. Employed graduates have been compiled into two divisions,(i) graduates specialized in teaching professions, such as arts, Islamic studies, sciences, education,(ii) graduates specialized applied professions such as medicine ,nursing , engineering, pharmacy, business sciences , law , and agriculture. On the other hand, the second questionnaire has been circulated among employers in both private and public sectors to obtain primary data which have been employed to estimate the models (2) and (3).

5. Literature Review

Much of relevant research, local, regional and international surveys the reciprocal relationships between the outputs of higher academic institutions and the job market in both private and public sectors. Three groups of studies have been reviewed could be presented as follows:

1. Local studies: They have been utilized as background studies for their research. Most of them were exploratory descriptive regardless the data used. They lack mechanisms to enhance the consistency between HEIs outputs and market needs. Also, most of those studies ignored the interaction between HEI outputs and public sector (nearly 70% of graduate) is employed in this sector. Awartani (1998); Arman and Nattor (2002); have pointed out that graduates from local HEIs are less competitive with graduates from foreign universities in the WBGS labor market. In fact, local graduates lack skills and abilities that required to engage them in the labor market.
2. Regional Studies :Several studies have been conducted on the problem of matching the outputs of HEIs and labor market needs in countries; Algeria, Jordan ,Lebanon ,Libya ,Saudi Arabia, United Arab Emirates, Iran, and Kuwait .In the Gulf States countries, high percentage of graduates, lacking skills and abilities ,are absorbed in the public sector. In contrast ,due to shortages in qualified and skilled graduates in countries like Saudi Arabia,UAE,and Kuwait,skilled graduates are rented from abroad. In this regard, Nasser (1992); Turkestani (1999);Murshid concentrated on

the unemployment problem among graduates. To avoid long waiting period from graduation to be hired, graduates seek jobs irrelevant to their fields of studies.

3. International studies: They concentrate on the economic policies applied to promote job creation for graduates in the following countries: Germany, English, Pakistan, Canada, U.S, Brazil, and Argentina. Khan and Ali (1998) analyzed the major factors that enable graduates in achieving jobs. On the other hand, Jones (1993) reviewed factors that could be employed to minimize the waiting period for graduates from graduation until they become hired in occupations relevant or irrelevant to their fields of study. However, other studies conducted by Kaufman and Wang (2001) ;Oberta (2002) Dolton (1990) came out with recommendations that mainly focused on the link between educational and the economic policies .The gap between the demand and the supply of graduates has been narrowed through applying practical policies. While quality and efficiency of graduated has been achieved by adopting new academic programs, which meet the market needs, economic policies and investments have been devoted for job creation.

Thus, the analysis in this study focuses on matching the quality of graduates, supply side, and labor market needs. However, demand for graduates plays a crucial role in the determination of skills and competencies that HEIs should provide. Therefore ,this study is limited to analyze the demand for and supply of local graduates in the WBGS labor markets.

6. Specification of the Model

In this study, specification of the equations is based on the domestic labor supply – demand model. In this regard, a graduate from a community college or university makes his decision to accept a job relevant or irrelevant to his field of study if he is satisfied with the salary, and other monetary incentives offered to him by the employer. Also, graduate's decision to accept a job is also expected to be determined by academic qualifications and computer and language skills and training. Therefore, the length of the waiting period for a graduate from his graduation (in months) until he gets a job is negatively associated with the academic qualifications and financial incentives. As the acquisition of academic qualifications and skills and abilities increases , the length of the waiting period will decrease [Fallon and Verry 1988;Ehernberg and Smith 1994].

Regarding the demand side, the employer in private or public sector makes his decision to hire a certain graduate in teaching or applied profession depends on his expected productivity. In general, skills and qualifications are considered as proxy indicator to measure the expected productivity of the graduate when he becomes employee. Consequently , the salary that paid to the graduate monthly or annually is based on his productivity.

The third model presents the interaction between the demand and supply sides. It is expected that matching the outputs of HEIs with the labor market needs could be achieved through applying certain measures and regulations separately or /and jointly by employers in public and private sectors and HEIs. Such measures and regulations could include training and rehabilitation programs to improve the quality of the graduates .While senior students may benefit from training programs before graduation, some graduates could join those programs after graduation .Thus, productivity of a certain graduate is expected to be positively associated with the efforts devoted by employers to develop curricula ,providing short term training to graduates to acquire computer and language skills ,and supporting financially the HEIs.

Based on the above discussion, three sets of equations are specified to represent the demand for and supply of graduates in the labor markets. In addition, the interaction equations between HEIs and employers are specified to represent the factors that could enhance the efficiency of the labor market for higher education [Khan and Ali 1998; Jones , 1993].

6.1 Supply Equations

The following equations have been utilized to determine factors behind seeking jobs by new graduates in the labor market. They are treated as supply equations for graduates to represent the expected behavior of the graduate who decides to accept the offer of employment in the market, whether the job consistent with his specialization or not.

WPIKrj=f(AcadX1..Xn;Econz1…Zn;Skl1…ln;SocY1…Yn) (1)

Where:

WPIkrj =The waiting period (in months) of the i'th graduate seeks the j'th job the consistent with the k'th specialization, r_1= West Bank, r_2= Gaza Strip, k_1= applied sciences, k_1= teaching professions.

Acad X_1, ..., X_n= Academic factors that enable the i'th graduate to seek j'th job whether consistent with his specialization or not. Academic factors include qualifications such as B.sc , diploma, MA, and above, HEIs accreditation, and GPA.

Econ Z_1, …, Z_n= Economic factors that attract the i'th graduate to seek job whether consistent with his specialization or not. They can be represented through : expected salary paid to graduate when he becomes employee. Also, other economic and financial incentives offered to employee in the contract such as savings , annual increment and retirements.

SocY_1, …, Y_n = Social factors that attract the i'th graduate to seek job whether consistent with his specialization or not. Favoritism, and political affiliation are the two major social factors encourage new graduation to seek job in the labor market.

Skl1,…ln=Skills and abilities that enable the graduate to compete with other graduates when he applies to open vacancies. Skills include computer and languages and trainings.

6.2 Demand Equations:

The following equations represent the demand for graduates by employers in both private and public sectors.

Dijr =f(Acadd1…dn; Skill1…ln; Soc1…cm) (2)

Where:

Dijr = Annual demand for graduate by the i'th institution in the j'th sector in region (r) where j_1= private sector, j_2 = public sector, r_1= West Bank, r_2 = Gaza Strip.

$Acad_1$, ..., dn = Academic criteria considered by the i'th institution in the j'th sector to employ graduates. Academic factors include qualifications such as B.sc and MA.; GPA; accredititation.

$Skill_1$, …, ln = Skills, abilities, acquired by graduates to be employed by the institution in the j'th sector .Experiences ;training; computer and language skills.

Soc_1, …,cm = Social and other factors that considered by employers in hiring graduates who apply for employment.

6.3 Equations of the Interaction between HEIs and Employers to Improve the Quality of Graduates

The following equations represent the interaction between the employers and the HEIs to improve the performance of employed graduate. Areas of cooperation be between academic institution and private and public sectors presented in Table 1.

$$\mathbf{EXPijr = \mathit{f}(Acad_1, .., dn; Coop_1, .. pm; Fin_1..nz)} \quad \textbf{(3)}$$

Where:

EXPijr = Financial expenditures allocated by the i'th employer in the j'th sector to improve the performance of graduates. $_{J1}$= private sector, $_{j2}$= public sector.

$Acad_1$, …, dn = Academic criteria applied by employers to improve the quality and efficiency of employed graduates.

Fin_1,…, nz = Financial supports provided by employers to improve the quality and efficiency of employed graduates

$Coop_1$, …, pm = Areas of cooperation between private and public sectors and academic institutions other than academic and financial support

7. Empirical Results

In this section , the empirical results of the estimated equations are presented and discussed .The estimated supply equations for graduates whether employed in occupations consistent or inconsistent with their fields of specialization are discussed first. Then, the estimated demand equations for graduates by private and public sectors are analyzed .Finally, the estimated equations concern improving the performance of graduates by both private and public sectors are analyzed.

Given that primary data utilized to estimate the model, the first consideration for estimation procedure is statistical specification of the equations and selection of the appropriate estimation technique. The specified models are not a system of equations .Each equation contains predetermined variables which are not common to each equation and the disturbances of each equations are not correlated. Therefore, ordinary least squares (OLS) has been used to estimate the model. The use of this estimation procedure for each independent equation provides consistent and unbiased parameter estimates [Griffiths, Hill, and Judge ,1993].

Only significant variables in the estimated equations are presented in Tables (2) to (5). The coefficient estimates with t-test statistic are shown also .F- test and R2 are presented to show the degree of significance of each estimated equation. In each equation of the models (1) to (3), most of the explanatory variables are qualitative and the endogenous variables are quantitative ,the coefficient estimates measure the degree or the level of impact of each explanatory variables with respect to the endogenous variable on one hand and with respect with other explanatory variables in each estimated equation.

7.1 The Estimates of the Supply Equations

Table (2) indicates that the expected salary financial incentives, qualifications and favoritism are the major factors behind minimizing the waiting period for new graduates employed in occupations consistent with their fields of specialization in the West Bank. On the other hand, computer skills and training are additional variables behind reducing the waiting period for graduates employed in applied professions.

In Gaza Strip , the waiting period for employing graduates in teaching professions is ,mainly, determined by qualifications and uncompetitive factors such as favoritism and political affiliation. In contrast, supply of graduates employed in applied professions is associated with the following variables: expected salary ,qualifications, language skills, training and uncompetitive factors such as favoritism and political affiliation.

In general, supply equation of graduates employed in applied professions is more specified than the supply of graduates employed in teaching professions .In fact, competitive factors such as computer and language skills training, experiences, qualifications and economic factors reveal that the capacity of the job market in absorbing new graduates specialized in applied sciences is very limited. In contrast, supply of graduates specialized in teaching professions is determined by few factors. In both regions the WBGS , graduates specialized in teaching professions are doubled two times than graduates specialized in applied sciences. Consequently, while 80% of graduates specialized in applied sciences are absorbed by private sector ,90% of graduates specialized in teaching professions are employed in the public sector.

In Table (3), computer skills , experiences , and qualifications , are the most factors behind reducing the waiting period for graduates employed in occupations irrelevant to their fields of specialization. Mainly, graduates seek jobs irrelevant to their fields of study acquire additional skills and abilities compared to their counterpart employed in occupations relevant to their fields of study .Therefore, it is not surprise to find many employed and unemployed graduates joining training programs to acquire computer and language skills. On the other hand, uncompetitive factor such favoritism ,political affiliation, and personal contact play significant role in employing new graduates in jobs irrelevant to their fields of study.

In Gaza Strip, seeking employment in occupations inconsistent with the fields of specialization depend on few factors to reduce the waiting period compared to those considered in the West Bank. For instance, graduates, in Gaza Strip, specialized in applied sciences depend on training and financial incentives to be employed in

occupations irrelevant to their fields of study. Mainly, graduates find jobs inconsistent with their fields of study in private sector to earn higher wages and financial incentives.

7.2 The Estimates of Demand Equations

While field of specialization is the most important factor considered by public sector in employing graduates, GPA, experiences, interviews are the next in importance , see Table 4. However, HEIs accreditation, computer and language skills and training are less important factors applied by employers in the Palestinian public sector to hire new graduates in both WBGS. In contrast ,employers in private sector ,highly apply computer and language skills , training, HEIs accredititationa, and interviews when they make decisions to hire new graduates .However ,field of specialization remains the next in important factor applied by employers in both private and public sectors when they hire new graduates. On the other hand ,double majoring, and HEIs accreditation are less important factors considered by employers in hiring graduates in the West Bank and Gaza Strip Public sector.

The estimated results signify that employment opportunities are highly restricted in private sector compared to those in the public sector .In fact, employers , in private sector, consider skills and competencies to assess the quality of new graduates before they get approval to be hired. In addition, those criteria are applied by employers to differentiate between the quality of graduates from local HEIs in one hand, and between them and graduates from abroad in the local markets.

7.3 The Estimated Equations of the Role of Employers in Improving the Quality of Employed Graduates

In general, scope of cooperation between employers in private and public sectors and HEIs is limited to certain aspects .Empirical results presented in Table (5) reveal that employers are more interested in cooperation with HEIs through designing courses and teaching applied courses. However, employers in the private sector are less interested to provide financial support to the HEIs .It has been found that employers are willing to provide a certain limit of financial support to students working on their thesis. Also, some employers cover tuition and fees to senior students, particularly, who have potential to be employed in private sector.

However, the administration of HEIs should tap the expertise of public and private sectors leaders to develop a model for university-industry partnerships. The feedback from employers and employed graduates to identify skills and abilities is required to integrate graduates into the local job markets. HEIs –private sectors partnership (PSP) has become an important area to be restructured. In fact , private sector expects to be granted an access to the expertise of the university researchers, qualified graduates and the adaptation of the curricula to meet its needs .On the other hand, HEIs will benefit from PSP financial participation to transfer the knowledge in some specific sectors, where some firms in the private sector are more up-to-date than HEIs. The relationship between HEIs and PSP varies according to the type of firms in private sector. High tech firms look for highly qualified graduates and for cooperation in research. Large traditional firms in both private and public sectors are most appropriate for internship programs, consulting and continuing education.

The empirical results indicate that improving the performance of graduates requires institutional reforms should be taken to bridge the gap between HEIs outputs and PSP needs. Skills needed by PSP could be obtained through financing HEIs training , and commit by PSP to recruit graduates.

8. Policy Implications

The empirical results in this study indicate that the demand for and supply of graduates play a crucial role in determining of what skills, abilities, academic qualifications that HEIs should actually provide. Although the employers make their decisions when they recruit graduates on competitive factors, some employers admit that uncompetitive factors are not neglected. Therefore, it is not surprise to find a number of graduates become unemployed due to the deficiencies in computer and language skills , training , and experiences. In contrast , it is not surprise to find unqualified graduates employed , particularly , in the public sector , and in occupations irrelevant to their fields of study offered by private sector.

In this regard, several measures and regulations should be taken by employers in both private and public sector in one hand, and by the HEIs on the other hand .They are outlined below:

(1) Scope of cooperation between HEIs and employers in both private and public sectors needs to developed and expanded. Consequently, the quality of graduates should be determined based on the capacity of the HEIs and the needs of employers. A well- functioning labor market requires that employers in both private and public sectors should signal their skill needs in a *clear* , *specified*, and *credible* manner. It is expected the participation of the employers in the design of HEIs curriculum will be paralleled by an increased financial participation. Further , employers must be willing to finance the implementation of their suggestions regarding the contents of the academic programs.

(2) Also, the HEIs are called to restructure the academic programs through applying student loan policies. It is obvious that a student who gets loans to cover his tuitions, fees, and other expenses will choose only his field of study that highly demanded in the labor market to enable him in clearing clear his loans. Consequently, disciplines, and academic programs are not highly demanded in the labor markets will be closed. It is expected that applying that policy require necessary and sufficient conditions to exist. Student loan system should be applied in a restrictive manner .Student will not apply for and granted loans unless his field of study is highly demanded in the labor market. On the other hand , student loan system needs to be revised that guarantees every student will settle his loans after one year from graduation. Therefore, every student will be adhering to minimize the waiting period from his graduation and the time when he becomes employed [Eljafari and AlArdeh 2002].

(3) Establishing rehabilitation and training programs that have the potential to provide skills and competencies to new graduates .It has been concluded that increasing unemployment rates among graduates is attributed to deficiencies in computer , management and language skills and lack of experiences .Currently , a number of regional countries, such as Saudi Arabia , United Arab Emirates, Kuwait, Jordan, and Egypt have established programs and institutes to integrate new graduates in the labor markets after they acquire new skills and competencies.

Conclusion

This paper provides an evidence that there is a gap between the supply of graduates and the market needs in the WBGS. The empirical results of the estimated model indicate that the expected salary offered to employ graduate, acquisition language, and computer skills, experience and training are the main factor behind reducing the waiting period for new graduate to obtain jobs. However ,uncompetitive factors such as political affiliation, favoritism and personal contacts substantially reduce the time taken for graduates to find employment mainly in public sector in Gaza Strip.

In the demand side, decision making to employ graduates was not only based on individual skills and abilities, but also on comparison with other candidates graduated from abroad. Therefore , it was not surprise to find graduates from local HEIs lacked a number of skills necessary to enter the job markets , particularly ,when tough criteria applied in employing graduates seeking jobs in private sector.

In order to bridge the gab between graduates and requirements of the job market, a number of measures must be taken by the public and private sectors and HEIs. In the public sector , ministries of labor and education and higher education have a number of responsibilities concerning the following:

Ministry of Labor needs to coordinate the relationship between HEIs instruction and both private and public sectors. It is anticipated from private sector to provide financial support for HEIs paralleled with participation in designing curriculum.

On the other hand public sector is expected to be involved through developing curricula, programs and courses, closely liked with the needs of the labor market.

Table (1) :Areas of Cooperation between Employers in Both Private and Public and Academic Institution to Improve the Quality of Graduates

Academic	Financial	Training
▪ Reviewing and developing curriculum. ▪ Teaching applied courses. ▪ Designing academic programs. ▪ Joint research ▪ Designing applied courses	▪ Supporting master thesis and research. ▪ Support training programs. ▪ Support teaching equipments, appliances, libraries and labs.	▪ Hosting graduates for short –term training. ▪ Hosting faculty members for sabbatical leave and/or share term visiting.

Table (2): The Estimated Supply Equations for Graduates Employed in Occupation, Consistent with their Fields

Qualifications	West Bank		Gaza Strip	
	Teaching Professions	Applied Sciences	Teaching Professions	Applied Sciences
Expected Salary	-0.015 (2.36)	0.13 (1.9)		-0.038 (2.25)
M.A, Ms	-0.0654 (1.9)			-0.06741 (5.3)
GPA	-0.0165 (2.2)	-0.0803 (2.6)	-0.0141 (2.02)	-0.0744 (2.4)
Financial Incentives	-0.035 (2.01)	-0.046 (1.73)		
Abilities	-0.026 (2.03)			
Favoritism	-0.092 (1.9)	-0.075 (2.3)	-0.0555 (2.4)	-0.0131 (2.52)
Computer Skills		-0.077 (1.99)		
Training		-0.055 (1.9)		-0.01063 (2.53)
Political affiliation			0.0164 (2.18)	-0.0231 (3.02)
Experience				-0.0104 (2.5)
Languages				-0.0215 (2.5)
R^2 F	0.26 2.5	0.35 2.8	0.21 2.3	0.83 5.5

Table (3): The Estimated Supply Equations for Graduates Employed in Occupations, Inconsistent Fields of Specialization

Qualifications & Skills	West Bank		Gaza Strip	
	Teaching Professions	Applied Sciences	Teaching Professions	Applied Sciences
Sex	0.0675 (1.73)		0.0673 (2.05)	
Qualifications	-0.0214 (2.93)			
HIE Accreditation	-0.0109 (3.1)	-0.026 (2.2)	-0.074 (2.22)	-0.0196 (2.05)
Experience	-0.0701 (2.3)	-0.01475 (5.007)	-0.045 (2.3)	
Training	-0.066 (2.05)			-0.0631 (2.34)
Computer Skills	-0.0167 (2.6)	-0.097 (3.3)	-0.0581 (2.7)	
Languages	-0.0135 (2.1)	-0.0646 (2.94)		
Expected Salary		-0.023 (2.1)		
GPA		-0.0286 (2.8)	-0.0136 (2.35)	-0.0119 (2.3)
Personal Contacts		-0.0142 (4.2)		
Interviews		-0.02433 (6.7)		
Political affiliation		-0.02404 (6.1)	-0.059 (2.08)	
Favoritism		-0.0103 (2.5)		0.0184 (2.3)
Offers from NGOs				-0.0159 (1.88)
Financial Incentives				-0.025 (2.5)
R^2 F	0.64 4.64	0.97 3.6	0.5 2.5	0.76 4.2

Table (4): The Estimated Demand Equations for Employment Criteria Applied by Employers

Indicators	West Bank		Gaza Strip	
	Public Sector	Private Sector	Public Sector	Private Sector
Field of Specialization	0.087 (2.1)	0.088 (2.2)	0.072 (1.8))	0.073 (1.850
Double Majoring	0.070 (1.75)	0.081 (2.25)	0.063 (1.575)	0.064 (1.6)
HIE Accreditation	0.065 (1.62)	0.073 (1.8)	0.067 (1.9)	0.065 (1.62)
GPA	0.079 (1.95)	0.077 (1.98)	0.073 (1.85)	0.072 (1.8)
Experience	0.077 (1.98)	0.082 (2.1)	0.076 (1.87)	0.080 (2.0)
Computer Skills	0.065 (1.7)	0.078 (1.96)	0.062 (1.56)	0.072 (1.8)
English Language	0.065 (1.65)	0.077 (1.89)	0.063 (1.66)	0.070 (1.75)
Training	0.063 (1.675)	0.073 (1.85)	0.070 (1.75)	0.074 (1.97)
Interview	0.077 (1.87)	0.077 (1.95)	0.078 (1.68)	0.073 (2.3)
Entrance Exam	0.066 (1.98)	0.078 (2.2)	0.078 (1.98)	0.070 (1.89)
Abilities	0.069 (1.95)	0.077 (1.59)	0.060 (1.87)	0.070 (1.98)
Favoritism	0.077 (2.65)	0.067 (1.67)	0.075 (2.1)	0.073) (2.65)
R^2 F	0.35 3.8	0.3 2.5	0.4 4.5	0.45 3.5

Table (5): The Estimated Demand Equations of the Role of Employers in Improving the Performance of Employed Graduate

Indicators	West Bank		Gaza Strip	
	Public Sector	Private Sector	Public Sector	Private Sector
Field of study needed to be adjusted and adopted.	0.0258 (1.58)	0.0202 (1.61)	0.02197 (1.58)	0.0202 1.(54)
Cooperation and willing in designing academic programs.	0.03202 (1.54)	0.02524 (1.52)	0.0261 (1.54)	0.0220 (1.47)
Teaching applied courses at HEI.	0.0326 (1.58)	0.0251 (1.44)	0.0274 (1.52)	0.020 (1.51)
Support financially student in graduate studies to work on master thesis.	0.0333 (1.57)	0.02292 (1.57)	0.02233 (1.57)	0.01833 (1.55)
Training senior students	0.01594 (1.23)	0.02838 (1.35)	0.0309 (1.33)	0.0233 (1.27)
Designing applied courses	0.0291 (1.47)	0.0116 (1.40)	0.0237 (1.49)	0.087 (1.43)
Supporting teaching facilities	0.0282 (1.40)	0.0303 (1.36)	0.0295 (1.38)	0.0261 (1.32)
R^2 F	0.29 3.9	0.35 4.5	0.49 2.9	0.54 3.4

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