

## The Quality of the Arab Higher Education and its Role in the Development of Human Capital

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### ABSTRACT

The purpose of this paper to identify the quality of the Arab Higher Education, with focus on higher education in Jordan by studying the number of students and faculty members, as well as their academic grades in the Jordanian universities, both public and private during the period 2000 – 2011. The research also discusses the actual status of Arab scientific research. The most important prime results were that the number of the university students increased from four millions to six millions during the period 2000- 2011. The number of the Professors and their degrees and academic grades in the Jordanian universities, public and private, also increased also increased during the same period; the total number of the university professors was (5566) in the public universities with (2599) professors in the private ones. Their grand total of academic degrees was (8165), including (1222) Professors, (1583) Associate Professor and (3124) Assistant Professor. The total number of doctorate (PhDs degree) was (6333) and (1591) Master Degree holders. The total number of the students during the academic year 2010-2011 in the public and private universities was (38707) and (13445) respectively. The percent of disbursement on education of the Arab states increased from 4.6% to 5.7% during the period 1980 -2000. At the same time there is reduction in disbursement on the scientific research, as a percent of the national income of the Arab countries. It was noted that the scientific research expenses in Japan, USA and European countries increased (2.9%, 2.6% and 2.3%) respectively in 1996, compared to the Arab which was (0.02%).

Finally, the time series analysis has been used, by which the results were too different from the general trend, forecast value, and simple correlation coefficient to the university professors, students and the public and private universities themselves.

**Keywords:** quality of higher education, human capital, general trend equation

### Introduction

Higher education is no longer a prestige in the Arab states for the elite people in the society, but it has become crucial for each Arab country in the framework of its efforts to achieve its goals in the development. Moreover, education and not the financial capital has become the main source of wealth of nations, at present and future.

In the era of Globalization, large economic blocs and a political system of the unipolar which invades the world under the various titles; such as the campaign against terrorism, the Arab world needs to send its children to educational institutes to be competitive and stronger in the world economy; particularly its population now exceeds the population of the European Union.

Therefore, the development of human capital in the Arab community is one of the priorities of its objectives. Thus the Arab states encounter severe pressures to meet the growing demand for higher education in terms of quantity and quality, in particular, the institutions that rely mainly on the government funding, in addition to their income from tuition fees in some Arab countries, if any, to be able to accommodate all students who wish to join these institutions. The statistics indicate that the number of Arab students enrolled in universities increased from four million students, male and female, to six million during the period 2000 to 2011, out of about 100 million male and female students in the world. So, it is important to pay attention to the quality of higher education in the Arab states through many variables and indicators. Among these variables and indicators:

- 1- The number of university professors, their grade, academic degree in the Jordanian public and private universities.
- 2- The number of students in the public and private universities.

There are many reasons for the growth of university education demand in the Arab states which serve the formulation and development of the human capital, most important:

1. The continued reluctance of students to enroll in the institutions less than University (vocational institutes and community colleges), except if they are forced to, leading to push towards university education.
2. The social values prevailing in the Arab States, where the university certificate grants better position regardless of any other considerations. The values become more complex, where an individual education is considered incomplete and has not completed his study if he does not join the university.
3. The labor laws prevailing in the Arab states, especially governmental, where strongly link between the certificate and salary with significant difference.
4. The population pyramid structure of the Arab states still has a broad base; i.e. the average number of children of the same family usually more than four children, which means continuous annual demand for university seats.
5. Allowing the community colleges and institution graduates to complete their education through bridging to improve their career position.
6. The high cost of education outside the Arab world, especially in Europe and USA recently, which has led to umbrella the Arab families in the Arab universities to enable their children to complete their study.
7. The events of 11 September 2001 in USA have had adverse effects on Arab students, not only in USA but also in other states outside the Arab world, which led to a preference for Arab universities to foreign ones.

Therefore, more attention should be paid to the quality of education in the Arab countries in order to supply the society with appropriate outputs commensurate with its formulation and the development of the Arab human capital.

### **Problem Definition**

Problem definition of the paper focused on the quality of higher education in the Arab countries, in particular the higher education in Jordan, in terms of basic concepts, including the concept of quality, number of students, number of university professors, their ranks, and scientific degrees at Jordanian public and private universities during the period 2000- 2011. It also addressed the reality of Arab scientific research in terms of expenditure compared to some countries of the world.

### **The Scope of the paper**

According to the problem definition, the scope of this paper focuses on the number of students and university professors, their academic ranks and scientific degrees in Jordanian universities, public and private during 2000-2011, as well as the education expenditures of Arab world on the scientific research.

### **The Importance of the paper**

The importance of this paper as it presents in the theoretical side of concepts related to the quality of higher education, human capital and the reasons that led to the growing demand of Arab university education, which participates in the formulation and development of human capital; the most important are:

1. The continued reluctance of students to enroll the education less than university level (vocational institutes and community colleges), except if the student is forced to do that, which pushes towards the university education.
2. The social values prevailing in the Arab homeland, that grant better prestige to the university certificate holder regardless of other considerations. The values become more complex where the individual's education is considered incomplete unless he gets the university degree.
3. The labor laws prevailing in the Arab homeland, particularly the governmental laws that link strictly, with big margins, between the certificate salaries.
4. The base of population pyramid structure of the Arab countries is still wide; i.e. The average number of children in the same family exceeds four, which means that the increasing demand for university seats every year.
5. Allowing the students of institutes and community colleges graduates to complete their university education bridging system to improve their career level.

## **The objectives of the paper**

The paper aims to identify the quality of Arab higher education, with a focus on higher education in Jordan through the study of the number of students and university professors, their ranks and scientific degrees in the Jordanian public and private universities during the period 2000 – 2011. The reality of the Arab scientific research has also been discussed. The most important objectives are:

- 1- Identify the total number of the university professors, their academic ranks and scientific degrees in the Jordanian public and private universities.
- 2- Identify the total number of students in the public and private universities in Jordan.
- 3- Identify the conduct of the university professors in Jordanian universities, public and private, through the use of time series analysis.
- 4- Identify the simple coefficient correlations of the university professors and students in the public and private Jordanian universities.

## **The theoretical framework (some of the basic concepts of the paper):**

### **Quality**

Quality is an old concept. The first man who was interested in quality was Babylons, including Hamurabi, who was interested and emphasized proficiency through what had been displayed in his famous obelisk which contained many laws. On the other hand, Islam also emphasized as well as the Prophet Muhammad, Peace be Upon Him, who said “in the meaning that( Allah loves the individual who master his work)”. The main objective of quality is to detect deviations and defects of production or services of certain organization. Such situation requires finding out the solutions to correct these defects. Moreover, quality plays a prominent role in detection of the strengths and weaknesses (internal environment) as well as the opportunities and threats (external environment) of the organization.

There are many definitions of quality, for example; the quality is the degree of preference, which means the preference for certain product or service, also the quality is identical for use, which means that the specifications conform with the requirements of certain commodity or service. Al-Waseet Dictionary defined quality as “it is derived from (do something well), i.e. the well done something or saying, doing something well means making it well. The American Institute of Standards defined quality as (the whole features and characteristics of a product or service which make it to be able to meet specified needs).

Currently, it is well known that the scientific developments and technology, as well as the development of the university performance and the interest of university graduates need continuous efforts of the Arab universities and the provision of basic fundamentals of achieved development and continuous higher education. Therefore, quality is deemed a distinct and important functions sought by the managers of different organizations. It has many benefits, especially at the level of competition among the organizations. The prime objective of quality is to detect the deviations and defects in production process or services of certain organization. This requires the appropriate solutions to correct those errors and deviations. Moreover, quality plays a prominent role in detecting the weaknesses and strengths (internal environment) in addition to the opportunities and threats (external environment) of certain organization.

### **Time series analysis**

Statistically, it is well known that time-series analysis is one of important topics in statistical methods. It is a set of observations of certain (PHENOMENON) variable takes different period of time regularly. Therefore, this analysis requires three stages, namely: stage of identification through the design of the examined series to identify its behavior, so that we can be able to determine whether it represents the general trend, seasonal variations, or periodical variations due to regular variations. The second stage is assessment stage, for example the general trend variation represents the changes occur by time and can be defined by increasing or decreasing time series in three ways; namely the method of mid-term arithmetic means, least squares method and moving averages method which will be used in this paper. The benefit of the estimated general trend equation is the forecast of the studied phenomenon values. The third stage is the stage of diagnosis of validity of the model used by examining random errors variable(remaining) by using one of the methods related to this test.

### **Human Capital and its Requirements**

Human resources are the most affected and effected element among the major production elements. They determine two elements of the four major elements of production, which are the work and organization, even the cultural superiority and economic advance of any society directly depend directly on human capital; for

being a critical and casting source in the outstanding strategic and competitive leadership of human communities under the globalization system resulting to the unipolar system leading the world under the name of terrorism. Thus, human capital becomes representing a group of capabilities, capacities and creativities which distinct the individuals, and usability to achieve leadership and innovation in different arenas. This brings us to a globalized world, where the development of human capital is deemed an essential condition to transform to a society and economics of knowledge, which leads to a balanced economic and sustainable development, as if assumed in general that the world is divided into two sections; i.e. advanced developed and developing countries. The following formula specifies the main role of human capital in configuration that:

**1- Advanced Countries :**

<b>The size of the human capital</b>	>	<b>The size of the human capital</b>	>	<b>the size of the human capital</b>
Usable		Planned to be exploited		Actually used

**2- Developing Countries :**

<b>The size of the human capital</b>	>	<b>The size of the human capital</b>	>	<b>the size of the human capital</b>
Usable		Planned to be exploited		Actually used

This will lead to the attrition of capital human in the developing countries by the advanced ones. In other words, the disability of the developing countries to optimum exploit of their human resources, and thus the outflows to the advanced countries in various ways and nomenclature to fill the need of human resources in these countries through the observation of the above equation. This comes from the inability of the developing countries to providing the requirements for their human capital development, which requires:

- 1- Directing research, development and innovation activities toward real economic sectors and strategic task that would lead to the raising of the self-sufficiency rates of various goods and services in the community.
- 2- Raising education level at the various stages and activating that to achieve a national system for entrepreneurship, innovation and creativity.
- 3- Qualitative and effective transfer of technology, localization and develop technology according to the model of learning, imitation and creativity, then creativity and innovation.
- 4- Creating the proper atmosphere and capabilities necessary to achieve the objectives of the human capital development through quality and information technology systems.
- 5- The development of coherent knowledge and economic base through the establishment of research centers interested in research, development, innovation, and stimulating the private sector to contribute to the concerned national programs.
- 6- Enhancing the return of the national migrant competencies, particularly those who have acquired scientific and practical experience in various areas of development.
- 7- Giving the human resources the opportunity to achieve themselves, giving more self-confidence for creativity and development to enable them to deal with sound economic knowledge.

**Previous studies**

The most important relevant previous studies relevant linked with this paper are the study of (Batikhi, 2001) in which he pointed out to the Jordanian universities scientific research. Another study conducted by Bashir in 2000, he discussed the role of scientific research to enrich higher education. (Badran study, 2002) indicated to the rules and horizons of a distinguished higher education in Jordan. Al-Qasem study conducted in 1999, in which he pointed out the rules and horizons of higher education in Jordan. (Al-Saqi study, 1991) discussed the role and importance of modern management in the scientific research projects and development. A Symposium conducted on the management of Scientific Research Projects and its impact on the scientific products. Al-Naghi pointed out in his study conducted 2002, to the obstacles of administrative research in the Arab world. (Al-Hajj study, 2008) discussed the guidelines of quality assurance and accreditation of Arab League. (Haddaw, 2011) discussed the evaluation of higher education by using the comprehensive quality management and statistics.

## **The Scientific Research Method used in this paper**

### **Sample and population**

There is no statistical population in this paper. The data used represent annual time series for the period (2000 – 2011), as a sample.

### **Data Resources**

Two types of data have been adopted in this paper, namely; secondary data, represented in the published literature in books, journals, previous studies and periodical journal related to the paper. The primary data, which are the data published by the Ministry of Higher Education and Scientific Research of Jordan.

### **Method of Analyzing**

The use of a descriptive statistics, including mean, average rate of change, the percentage of development, numbers and percents to describe the data of the paper. Also, the use of inferential statistics, including simple correlation coefficients, and time series analysis to analyze the paper data as mentioned before in the theoretical framework.

### **Data Analysis and Discussion**

Tables 1, 2 and 3 indicate that the total number of university professors in the academic year 2010-2011 in the governmental universities were (5566) and (2599) in the private universities respectively, totaling (8165). The total number of Professors were (1222), Associate Professor (2583), Assistant Professor (3124), lecturer (987) and Researcher (38), Assistant Researcher and Teaching (375) and their percentages were (15.0, 19.4, 38.2, 12.10, 0.5, and 4.6) respectively. Therefore, the highest percent was (38.2) for the Assistant Professor rank and the lowest was (0.5) for the Researcher. The total number for a Doctorate was (6333), Master Degree (1591), Higher Diploma (12) and Bachelor Degree (229). The total number of students in 2010 - 2011 in Jordanian governmental universities and private were (38707, 13445) respectively. Average Rates of change of the university staff members and students for the values of the period (2000-2001) divided by the values of the period (2010-2011), for the university staff members was (0.45) in the governmental universities and (0.42) in the private universities, and with a grand total to both (0.44). Rate of change of grand total of the students in the governmental universities was (0.42) and (0.18) in the private ones. It can be seen that average rate of change of the staff members and students in the governmental universities is grater than the private one. The percentage of development for the values of academic year 2010-2011 divided by the values of 2000-2001, according to calculation of the Ministry of Higher Education and Scientific Research of Jordan for the staff members in the governmental universities was (182) and 174 in the private universities, with total (179). The total of development percents of the students in the governmental universities were (172) and in private universities (122). So, the percentage of development of the staff members and students in the governmental universities is grater than the development percent of the staff members and students in the private ones. The means were (4269) in the governmental and (2171) in the private universities. The grand total of the students in the state universities were (35165) and in the private universities were (12096). It can be seen that the means of staff members and students in the state universities were grater than the means of staff members and students in the private universities.

**Table 1 The Development of the Academic Staff and Students Numbers Enrolled in Jordanian universities From the academic year 2000/2001 - 2010/2011**

Table	Academic body			Students/Governmental			Students/Private			2 The
	Years	Govern	Private	Total	Males	Females	Total	Males	Females	
	2000/2001	3062	1498	4560	10012	12514	22526	8099	2953	11052
	2001-2002	3142	1619	4761	9584	11070	20654	7887	2850	10737
	2002/2003	3523	1879	5402	10510	12069	22579	8188	3055	11243
	2003/2004	3815	1881	5696	11585	13689	25274	7711	3662	11373
	2004/2005	3958	1984	5942	17874	21901	39775	8827	3833	12660
	2005/2006	4355	2187	6542	19066	24939	44005	8295	3759	12054
	2006/2007	4506	2326	6832	19315	25664	44979	7945	4152	12097
	2007/2008	4772	2511	7283	17809	24495	42304	7705	3552	11257
	2008/2009	4951	2662	7613	18688	22509	41197	9763	3778	13541
	2009/2010	5308	2730	8038	20108	24690	44798	9080	4515	13595
	2010/2011	5566	2599	8165	15396	23311	38707	9843	3602	13445
	The percentage development% 2010/2011 2000/2001	182	174	179	154	186	172	122	122	122

**distribution of academic body in Jordanian universities, academic level 2010 - 2011**

Universities	Professor	Asso. Professor	Assistant Professor	Lecturer	Lecturer	Researcher	R & T Assistant	Total
<b>First: official universities</b>	967	1223	1675	424	870	38	369	5566
The University of Jordan	335	323	325	61	289	27	179	1539
Yarmouk University	227	205	175	105	119	-	28	859
Mouta University	119	160	114	22	77	-	6	498
University of Science and Technology	157	202	279	6	138	-	38	820
Al-Hashemite University	40	116	216	13	85	-	29	499
Al Al-Bait University	30	71	113	41	42	-	16	313
Balqa Applied University	27	83	182	116	5	-	19	432
The Al-Hussein Bin Talal University	13	35	151	45	-	-	3	247
Technical University of At- Tafilah	6	18	72	6	59	-	17	178
German Jordanian university	13	10	48	9	56	11	34	181
<b>Secondly: private universities.</b>	255	360	1449	412	117	-	6	2599
Jordan University College	1	-	3	-	20	-	6	30
Arab University of Amman.	34	28	27	-	-	-	-	89
Middle East University	31	22	61	5	-	-	-	119
Jadara University	12	15	54	10	-	-	-	91
Amman Private University	17	39	155	59	-	-	-	270
The University of Applied Sciences	19	42	147	21	56	-	-	285
Philadelphia University	20	40	135	59	-	-	-	254
Isra University	18	24	143	46	-	-	-	231
Petra University	22	34	128	57	-	-	-	241
Jordanian Zeitouna University	24	44	163	23	38	-	-	292
Zarqa University	13	31	158	50	-	-	-	252
University of Irbid	6	3	77	24	-	-	-	110
University of Jerash	17	21	114	32	-	-	-	184
Princess Sumaya University of Technology	19	13	28	3	3	-	-	66
Jordanian Academy of Music	1	1	7	14	-	-	-	23
University of Educational Sciences	-	-	13	5	-	-	-	18
National University of Ajlun.	1	3	36	4	-	-	-	44
Total Number	1222	1583	3124	836	987	38	375	8165
The percentage( %)	15.0	19.4	38.2	10.2	12.1	0.5	4.6	100



**Table 3**

**Members of the academic world in Jordanian universities, according to scientific degree university Year (2010-2011)**

Universities	Doctorate	Master Degree	Diploma high	Bachelor	Total
<b>First: official universities</b>	4272	1073	8	213	5566
The University of Jordan	1193	226	3	117	1539
Yarmouk University	652	195	1	11	859
Mouta University	431	66	1	-	498
University of Science and Technology	665	150	-	5	820
Al-Hashmite University	416	83	-	-	499
University of Al Al-Biat	253	57	-	3	313
Balqa Applied sciences University	296	115	2	19	432
The Al-Hussein Bin Talal	187	59	1	-	247
Technical University of At Tafilah	108	53	-	17	178
German Jordanian university	71	69	-	41	181
<b>Secondly: private universities.</b>	2061	518	4	16	2599
Jordan University College	6	17	-	7	30
Arab University of Amman.	83	2	4	-	89
University of the Middle East	114	5	-	-	119
University of Jadara	82	9	-	-	91
Amman Private University	211	59	-	-	270
The University of Applied Sciences	208	77	-	-	285
Philadelphia University	196	58	-	-	254
Isra University	185	46	-	-	231
Petra University	184	57	-	-	241
Jordanian Zeitouna University	232	60	-	-	292
University of Zarqa	202	50	-	-	252
University of Irbid	86	24	-	-	110
University of Jerash	151	33	-	-	184
Princess Sumaya University of Technology	60	6	-	-	66
Jordanian Academy of Music	8	6	-	9	23
University faculty of Educational Sciences	13	5	-	-	18
National University of Ajlun.	40	4	-	-	44
<b>total number</b>	<b>6333</b>	<b>1591</b>	<b>12</b>	<b>229</b>	<b>8165</b>

In order to find out the relationship between the university professors and students in the State universities and private universities, as well as referring to the Tables (1, 2, 3), the simple correlation coefficient has been used based on Table 1. The simple correlation coefficients between the university professors in governmental and private universities was (0.97 ), and between the university professors and students in State universities (0.82) and between the university professors and students in the private universities (0.80) between the students and students in the State universities and private universities (0.70 ). It was found that they are positive and strong relationships. The strongest was the correlations of the university professors in the governmental and private universities and the lowest was between the students and students in both governmental and private universities.

In terms of public expenditure on scientific research in the Arab countries, Table 4 indicates that there is decline in the expenditure percent on the scientific research as a percent of the national revenues in the Arab States. The ratio in Japan, USA, and the European countries were (2.9 %, 2,6% and 2.3 %) respectively in 1996. Greece and Turkey have registered a higher proportion than the Arab countries, where Greece recorded the proportion of 0.8% AND TURKEY 0.4 in 1996, while the ratio of the Arab countries was only 0.2%. The proportion of Arab countries spending on education from increased from 4.6% TO 5.7% for the period 1980- 2000, which is acceptable within the various countries of the world, especially when compared to other the international ratios; it was in 5.7% in 2000 for the Arab states compared to 6.2% with the world.

**Table (4)**

The percentage development(%) of public expenditure on scientific research as a percentage of national income for the period 1985- 1996

States	1985	1992	1996
Japan	2.8	3.0	2.9
America	2.7	2.8	2.6
Europe	2.0	2.1	2.3
Greece	0.6	0.7	0.8
Turkey	0.3	0.4	0.4
Arab countries	0.2	0.1	0.2

The Figures 1, 2, 3, and 4 indicate the behavior of time series for the university professors and students in the governmental and private universities.

First: Identification Stage:

1- Time series of the state university professors, is shown in Figure 1 as follows:

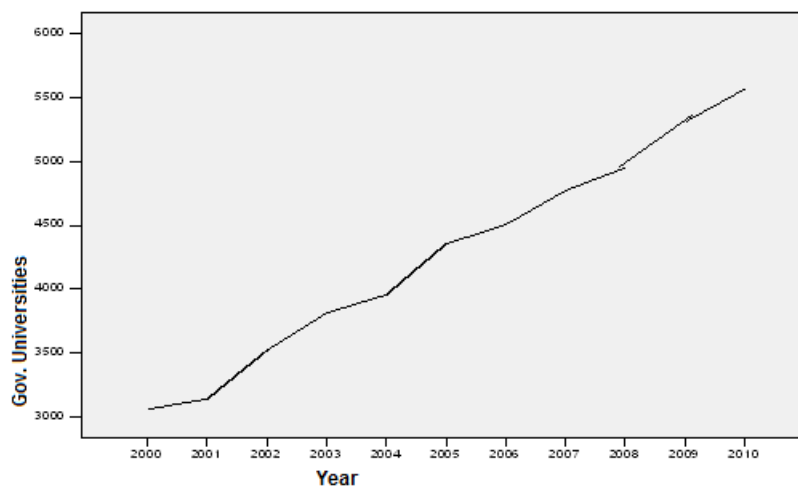


Figure 1 time-series of the university professors in the governmental universities

2- Time series of professors of private universities, is shown in Figure 2 as follows:

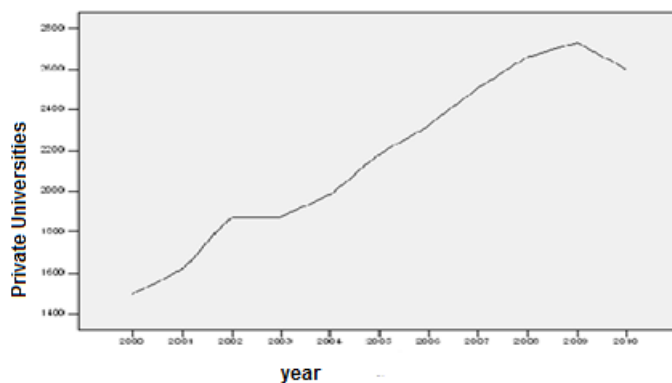


Figure 2 time series of members of the teaching staff in private universities



3. Time series for students in the state universities, is shown in Figure 3 as follows:

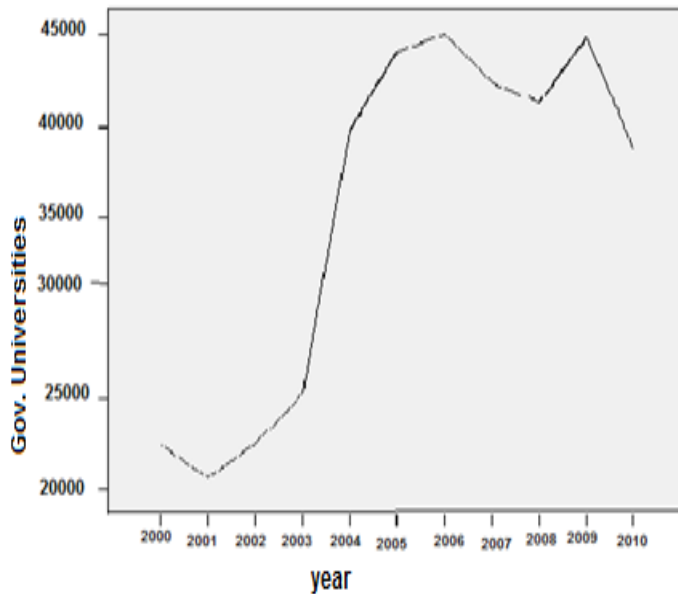


Figure 3 time series for students in State universities

4. Time series for students in private universities, is shown in Figure 4 as follows:

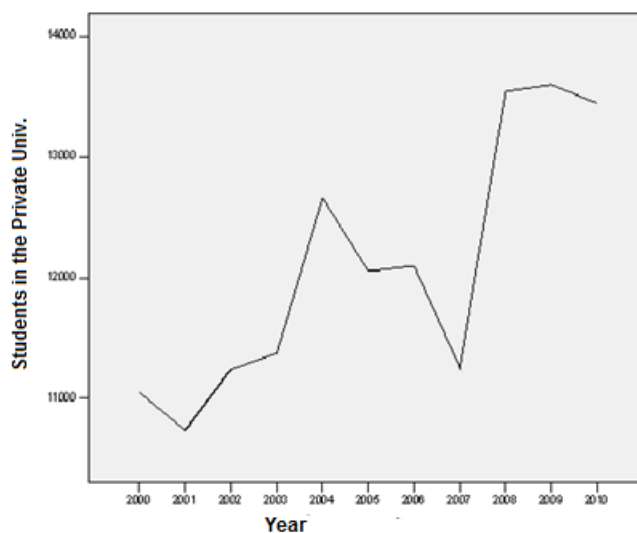


Figure 4 time series for students in private universities

It is clear from the first three Figures that there is a general trend toward increasing the numbers of students in private universities except 2007 therefore, the general trend will be adopted in the estimate and diagnostic stages are shown in table 5.

The results of the table 5 show that there is impact of all the estimated equations in terms of the values (F) when compared with the level of significance (0.05), which was less than that. This means there is impact to the time (time changes) on the number of the total number of university professors and students in the governmental and private universities. For the estimate values of  $\beta_1$ , it means any increase in one year will increase (254, 126,

2478, & 268) in both the number of university professors and students in State and private universities. The  $t$  – values were all significant compared to the number of the university staff members and students in the governmental and private universities at the significance level (0.05) as it is less than that. The means of random error (remaining) were equal to zero, and all the means of standard random error were equal to zero, with standard deviations all equal to (0.95), which is close to one. Therefore, the conditions of random errors in terms of mean equal to zero, and the standard deviation was equal to one. This means that the random errors follow normal distribution, which requires to be done in the diagnostic stage. The simple correlation coefficients between the total number of the teaching staff in the universities and students, in the governmental and private universities, and between the independent variable (Time), were all positive and very strong which indicate to a linear relation between them. The results of the standard error for estimation and standard error of the estimated  $\beta_1$  were good for each estimated equation; the faculty members of the universities and students in State and private universities. For forecast values, the first value represents the period 2011- 2012, second value represents the period 2014 - 2015. It was found that increasing with time, where the increase will be to the university professors and students in the state universities compared to the faculty members and students in the private universities.

**Table 5**  
**The results of the general trend equation in the period 2000-2011**

Results / Dependent Variable	Estimate $\beta_0$	Estimate $\beta_1$	Significance F	Time Correlation Coefficient	Standard Error For Estimation	T-Significance Of $\beta_1$	Standard Error of Estimate $\beta_1$	Forecast Value	Means of Standard Error
University Professors Govern. universities	2745.46	253.91	0.00	0.997	65.05	0.00	6.20	5792, 6554	0.00
University Professors Private universities	1142.36	126.36	0.00	0.98	95.53	0.00	9.11	0.2929 3308	0.00
Students Gov. universities	20294.42	2478.17	0.00	0.82	6141.01	0.00	58.52	0.50033 574667	0.00
Students Private universities	10486.95	268.15	0.00	0.83	619.73	0.00	59.09	0.13705	0.00

### Recommendations

On the basis of the results reached in this paper, a set of recommendations has been proposed as following:

- 1- The Ministre of Higher Education and Scientific Research are requested, to take care of the humane capital (the number of the university professors, their academic ranks and scientific degrees as well as the number of the students) because they are increasing as concluded by the results of the paper.
2. Take the benefit, as possible, of the conclusions of this paper, in particular the means and forecasts values of the total number of teaching staff in universities and the number of students in both, state and private universities, to make a comparison between the actual and estimated number of them for several years.
3. The Arab States are requested to increase their public spending on scientific research as well as education in the Arab countries because its percentage is little compared to the worldwide parentage.

4. To raise and activate education at all level to achieve a national system for leadership, innovation and creativity.

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