ERF Policy Research Report

Financing Higher Education in Arab Countries

Edited by
Ahmed Galal and Taher Kanaan

PRR No. 34

ECONOMIC RESEARCH FORUM
منتدى البحوث الاقتصادية

ERF Policy Research Report

Financing Higher Education in Arab Countries

Edited by
Ahmed Galal and Taher Kanaan

PRR No. 34
July 2010

ECONOMIC RESEARCH FORUM
منتدى البحوث الاقتصادية

First published in 2010 by
The Economic Research Forum (ERF)
7 Boulos Hanna Street
Dokki, Cairo
Egypt
www.erf.org.eg

Contents

Foreword ..... *iv*
Acknowledgments ..... *v*
Contributors ..... *vi*

Chapter 1. Comparative Assessment of Higher Education Financing in Six Arab Countries 1
Ashraf El-Araby

Chapter 2. Access to and Equity in Financing Higher Education in Egypt 11
Yasmine Fahim and Noha Sami

Chapter 3. Financing Higher Education in Jordan 29
Taher Kanaan in collaboration with Mamdouh Al-Salamat and May Hanania

Chapter 4. Finance and Political Economy of Higher Education in Lebanon 49
Charbel Nahas

Chapter 5. Access to and Equity in Financing Higher Education: The Case of Morocco 87
Mohamed Bougroum and Aomar Ibourk

Chapter 6. Financing Higher Education in Syria 103
Nader Kabbani and Siba Salloum

Chapter 7. Financing Higher Education in Tunisia 117
Tahar Abdessalem

Foreword

Education can be a powerful force in the process of speeding up economic growth, improving income distribution and facilitating upward social mobility. It could also improve the quality of life (e.g., through its effect on life expectancy, fertility rates and infant mortality rates) as well as the nature of governance in a given society (through its effect on citizens' awareness and political participation). It is important to note, however, that these outcomes are neither automatic nor inevitable. Achieving them requires several prerequisites, including adequate financial resources that are allocated both efficiently and equitably.

The focus of this Policy Research Report (PRR) is on the extent to which this prerequisite is met with respect to higher education in 6 Arab countries: Egypt, Jordan, Lebanon, Morocco, Syria, and Tunisia. The report contains 6 chapters, each covering one case study, and a comparative chapter. By design, each country study deals with the same set of issues: an assessment of the adequacy, efficiency and equity of financing of higher education; an analysis of future financing challenges; a critical review of reforms to date; and recommendations to deal with the identified problems. To facilitate inter-country comparisons, the Egyptian case study was prepared ahead of the other cases.

The findings of the analysis are most revealing. For example, it turned out that the pattern of financing higher education at present is rooted in the socio-political history of the country in question (with Lebanon and Egypt providing clear examples). It was further shown that all countries in the sample could benefit from further reforms to better mobilize and allocate their resources. While some countries did better than others, the least performing countries were found to be the most vulnerable in terms of meeting future financing challenges. Finally, with the exception of Lebanon and Jordan, the rest of the countries studied are well advised to engage the private sector to a larger extent in higher education thereby allowing themselves to devote scarce government resources to basic education.

Besides being analytical, the report offers a menu of policy options to deal with the financing problems of higher education. I am certain the readers, especially policymakers among them, will find the report both rich in details and highly informative.

Ahmed Galal
Economic Research Forum

Taher Kanaan
Jordan Center for Policy Research and Dialogue

Acknowledgments

This Policy Research Report would not have been possible without the support of several individuals and institutions. Ford Foundation provided financial support and Dina El Khawaga was instrumental in making it all happen.

The successful completion of the project rests fundamentally with the team, who contributed different chapters: Tahar Abdessalem, Ashraf Al Araby, Mohammed Bougroum, Yasmine Fahim, Nader Kabbani, Taher Kanaan, and Cahrbel Nahhas.

No less important is the valuable feedback provided by the participants of a workshop, which was held in Cairo on February 2009, and a regional conference, which was held in Amman, Jordan in collaboration with Jordan Center for Policy Research and Dialogue on June 2009.

Finally, the report was the result of the tireless effort by Yasmine Fahim, who coordinated the project. Sherine El-Menshawy edited the report and Namees Nabeel ably finalized the layout and made final touches.

Contributors

Tahar Abdessalem, Ecole Polytechnique, Tunisia

Ashraf Al Araby, Institute of National Planning, Egypt

Mohammed Bougroum, Social Economics Research Team, Morocco

Yasmine Fahim, Economic Research Forum, Egypt

Aomar Ibourk, Cadi Ayyad University, Morocco

Nader Kabbani, Syria Trust for Development, Syria

Taher Kanaan, Jordan Center for Policy Research and Dialogue, Jordan

Cahrbel Nahhas, Ministry of Telecommunications, Lebanon

Siba Salloum, Syria Trust for Development, Syria

Noha Sami, Economic Research Forum, Egypt

CHAPTER 1

Comparative Assessment of Higher Education Financing in Six Arab Countries

Ashraf El-Araby

1.1 Introduction

Financing higher education in the Arab region is becoming increasingly difficult under the current set of education policies and tighter government resources, let alone the prevailing pattern of resource misallocation. This problem is likely to intensify in the future as these countries attempt to meet the expected increase in demand for higher education and for better quality of that education because of the demographic pressure and the emphasis on knowledge as a key factor in development.

To contribute to meeting these challenges, this chapter draws comparatively on six country case studies, the details of which are given in the rest of the report. The six country-case studies cover Egypt, Jordan, Lebanon, Morocco, Syria, and Tunisia.[1] The focus of the comparative analysis here, as well in the case studies by design, is on:

- Providing a critical assessment of the adequacy of spending on higher education, the efficiency with which resources are utilized and the equity implications of the current pattern of resource allocations.
- Identifying the future challenges that are expected to exert pressure on higher education finance in these countries.
- Assessing the reform efforts undertaken by different governments so far in order to face the financing challenges.
- Finally, proposing alternative strategies for the future, making a clear distinction between public and private provision of higher education and taking into account best practice and the socio economic specificities of the Arab region.

1.2 Higher Education Systems in the Six Arab Countries: A General Outlook

Higher education systems in the Arab countries are not homogeneous. These systems vary significantly in many aspects. In Tunisia, the higher education system is dominated by the public sector. The total number of students enrolled in higher education was almost 350 thousands in 2008, with an enrollment rate of about 31 percent. Approximately 99 percent of students were registered in the 190 public faculties, with the remaining 1 percent in the 30 private faculties (Abdessalam,

2009). The Moroccan system is very similar to that of Tunisia. The total number of higher education students is about 370 thousands; more than 93 percent of them are enrolled in free public institutions, while the private sector absorbs less than 7 percent. The enrollment rate is the lowest among our group of Arab countries; accounting only for 12 percent (Bougroum, 2009).

The story of higher education in Lebanon is significantly different. Historically, higher education was provided only by private institutions mostly established by missionaries, starting formally from 1866 when the Syrian Evangelical College (later named the American University of Beirut in 1920) was established by the American Evangelical Mission. The Lebanese University was founded in the late 19th century as the first, and still the only, public university in Lebanon. By 2001, the higher education system included 43 establishments: 24 universities and 19 higher education institutes. In 2007, around 160 thousand students were enrolled in universities, 45 percent of them in the public Lebanese university and the rest were distributed among the other 37 private institutions. In addition, some 100 thousand students are enrolled in technical and vocational studies (only 38 percent of them in public institutes). The higher education system in Lebanon can be seen as two adjacent systems; public and private, with no real partnership or coordination (Nahas, 2009).

In Jordan, higher education started in 1951 with a one year postsecondary teacher training college. Eleven years later, the University of Jordan was established as the first public university. Since then, the number of universities has continued to increase till it reached 26 universities in 2008, 16 of them are private. The system also includes 50 community colleges (half of them are private) that have been affiliated to Al-Balqa Applied University since 1997. By 2007, almost 200 thousand students were enrolled in higher education in Jordan, representing 30 percent of the total population in the relevant age group; 67 percent of them were in public institutions. As a reflection of the increasing demand for higher education, public universities started to offer "parallel programs" in the late 1990s that allowed less-qualified students to access higher education through paying higher tuition fees. Those students represented one fifth of total enrollment in higher education in 2007. Over the last decade, Jordanian universities became more attractive to Arab and non-Arab students whose number jumped to 25 thousand in 2007, representing more than 10 percent of total enrollment in higher education (Kanaan, 2009).

Over the last fifty years, the higher education system in Syria has been dominated by the public sector. Only in 2001, private universities were allowed to offer their services. By the year 2007, there were 11 thousand students enrolled in these universities, representing only 3.4 percent of total enrollment. Otherwise, the vast majority (309 thousands) were enrolled in public institutions that provide free services to students with very few regular students (10 percent or less) paying tuition (Kabbani, 2009).

Finally, the higher education system in Egypt is the largest in the Arab region. This system includes almost 2.5 million students in 2006/07, representing about 28 percent of total population in the age group of higher education. Public institutions (17 public universities and 8 technological colleges besides Al-Azhar University) absorb almost 80 percent of those students, while the rest are registered in private institutions; the vast majority of them (almost 430 thousand) are enrolled in the private higher institutes (El-Araby, 2009).

The significant variations among the 6 Arab countries in terms of the origin and evolution of their education systems, size of the systems and the way they are organized provide reasonable basis for learning from experience. It is true that the size of the sample is too small to allow prediction of what is likely to happen, but the in-depth analysis and the comparison of these cases can be very informative from the perspective of making normative statements about what ought to be done.

1.3 Financing Higher Education in the Six Arab Countries: A Critical Assessment

In assessing the financing policies of the six Arab countries, this section follows the criteria adopted in the individual case studies. There, financing policies are assessed in terms of whether they are adequate, efficient and equitable. To this end, it would have been important to account for both public and private spending in any given country. Unfortunately, however, systematic information is only available for public expenditure in all country cases. Beyond this, partial information about private spending is available in three countries:

Lebanon, Jordan, and Egypt. In the other three (i.e., Morocco, Syria, and Tunisia), where public provision of higher education is still dominant, information on private spending is not available. Accordingly, we will make use of all available data, noting their limitations as appropriate.

Starting with whether Arab countries allocate "adequate" resources to finance the increasing demand for higher education, we benchmark their performance against that of Lower-Middle-Income Countries since almost our sample of countries belongs to this group.[2] In addition, since the absolute values of spending do not give much insight in their own right, we rely on ratios such as the share of expenditure to GDP, total public spending and per capita GDP.

The results, shown in Table 1.1, indicate that Lower Middle Income Countries allocate, on average, about 4.5 percent of their GDP and 15.2 percent of their total public spending to public spending on education. The corresponding figures for the three Arab countries in our sample that rely almost entirely on public provision of education are higher. In Syria, public spending on education represents 4.9 percent of GDP and 16.7 percent of total public spending. The averages are even higher for both Morocco and Tunisia (5.9 percent of GDP and 27.2 percent of public spending in Morocco and 7.4 percent and 23.4 percent in Tunisia, respectively). In the other three countries, where private provision of education is either dominant, as in Lebanon, or significant, as in Jordan and Egypt, the pattern is different. Both Egypt and Jordan allocate less than the corresponding averages

Table 1.1
Key Indicators of Higher Education Finance, Most Recent Year

Indicator	Egypt	Jordan	Syria	Lebanon	Tunisia	Morocco	Lower-Middle Income
Public spending on education as (%) of GDP	4.0	4.0	4.9	3.1	7.4	5.9	4.5
Public spending on education as (%) of public spending	12.0	10.8	16.7	8.8	23.4	27.2	15.2
Public spending on higher education as (%) of GDP	1.0	0.77	1.04	0.5	2.04	0.99	1.0
Private spending on higher education as (%) of GDP	0.5	3.0	-	3.0	-	-	-
Public spending on higher education as (%) of public spending	2.9	1.96	3.57	1.5	6.45	4.3	-
Public spending on higher education as % of public spending on education	28.0	18.2	21.34	17.5	28	16.77	-
Expenditure per student in higher education as (%) of per- capita GDP	23.4	98.2	53	84	55.8	89.7	55.7
Gender Parity Index	0.67	1.13	0.98	1.17	1.44	0.87	-
Current expenditure as a % of total spending on higher education	78	88	85	99.6	75	92.2	-
Private returns to higher education (%)	8.0	10.4	4.5	3.5 (private) 7.0 (public)	10.1(M) 10.5 (F)	9.0	-
Unemployment rates among university graduates (%)	26.8	15	27	11.1	19	20.8	-
Share of private enrollment in tertiary education as % of total enrollments	16.5	24.7	3.4	49.3	1.1	5.1	-
GDP per capita (PPP $), 2004	4088.7	5120	3604.6	5422.4	7872.5	4397.2	-

Source: Case Studies, WB, 2008, and WDI 2007.

for Lower Middle Income Countries, whereas the figures for Lebanon are much lower.

A similar conclusion can be drawn with respect to higher education. As a percentage of GDP, all countries in the sample other than Jordan and Lebanon allocate the same or higher percentage to higher education as Lower Middle Income Countries. Tunisia, Syria, and Morocco are clear examples of high spending, whereas Egypt allocates the same percentage as the other developing countries. In relation to public spending, the average for Lower Middle Income Countries is not available. However, comparing the countries in the sample indicates that Tunisia spends a much larger fraction on higher education (6.5 percent) than Morocco (4.3 percent) and Syria (3.6 percent). The ratios are much smaller for Lebanon (1.5 percent), Jordan (2 percent) and Egypt (2.9 percent).

What the above finding suggests is that Lebanon, Jordan, and Egypt do not allocate adequate resources to higher education compared to the other Arab countries and Lower Middle Income Countries. This conclusion may not hold when we introduce the private spending to the analysis. Households spend considerable percentages of their budgets on education, especially in Lebanon and Jordan. In Lebanon, the typical household allocates more than 3.5 percent of their expenditures and 3 percent of the Lebanese GDP to higher education. Similarly, in Jordan, where tuition fees represent almost two thirds of university income, overall household spending on education exceeded 7 percent of the total spending in 2006. Almost 61 percent of this spending (3 percent of GDP) was allocated to higher education. By comparison, households' spending on education is less important in the case of Egypt, where the share of that spending was estimated at 3.6 percent of GDP in 2000, while the share of higher education relative to GDP and to the overall household spending were estimated at 0.5 percent and 1 percent in 2007, respectively. In the cases of Syria, Morocco, and Tunisia, the public sector is the main provider of higher education, thus one can confidently conclude that households do not allocate significant share of their expenditures to this level of education.

Combining both public and private spending on education, it seems that all 6 countries spend at least similar shares of their GDP on higher education as comparator countries. Where governments allocate less public resources to higher education, households compensate this deficiency. It is instructive nevertheless to look at expenditure on higher education per student relative to per capita income (in PPP) to check for the adequacy of resources within the sample. By this measure, Egypt spends less than 24 percent, compared with 53 percent in Syria, 56 percent in Tunisia, and 84 percent in Lebanon. In both Jordan and Morocco, this percentage reaches 98 percent and 90 percent, respectively. Thus, Egypt falls far behind the other Arab countries according to this indicator, while Syria and Tunisia are close to the corresponding figures for Lower Middle Income Countries (56 percent), whereas Jordan and Morocco are making a record that much exceeds all others.

Turning to the criterion of "efficiency", several indicators are commonly used. One set of indicators is related to internal efficiency and the other concerns external efficiency. The first indicator of internal efficiency is the share of capital expenditure on total public expenditure on higher education. The assumption is that the more resources allocated to capital spending, the better maintenance and development of infrastructure to adequately absorb the increasing numbers of students enrolled in higher-education institutions. Relatively speaking, Tunisia and Egypt are doing better than the other countries according to this indicator. Current expenditures in these two countries represent 75 percent and 78 percent, respectively, of the total public spending on higher education, compared with 85 percent in Syria, 88 percent in Jordan, more than 92 percent in Morocco, and almost 100 percent Lebanon.

Within current expenditures in higher education, the data reveal that at least 70 percent of total public spending in the Arab countries is directed toward salaries and wages. Non-academic staff receives a considerable share of these allocations. In Lebanon, this share is almost 53 percent, compared with 29 percent in Jordan. The situation is more severe in a country like Egypt where non-academic staff in universities absorbs almost 50 percent of the total, compared with 36 percent in Tunisia.[3]

With respect to external efficiency, two indicators are used. These are private returns to education and distribution of unemployment by level of education. Generally speaking, private returns to education in the Arab region are increasing with

the level of education, but are lower than the averages in the other regions of the world. The rate of return on higher education in Syria is extremely low (4.5 percent), while it ranges between 8-9 percent in both Egypt and Morocco, and around 10.4 percent in both Tunisia and Jordan. As for the Lebanese case, a significant difference in these returns exists between public and private education. While the average internal rate of return (IRR) for public higher education is almost 7 percent, it is estimated to be only around 3.5 percent for private higher education. All these rates are well below the rates in Lower Middle Income Countries (10.9 and 10.7 percent, respectively, cited in Psacharopoulos and Patrinos, 2002).

The data for the distribution of unemployment by level of education are equally revealing. Indeed, the probability of being unemployed is consistently higher for more-educated job seekers, indicting high level of inefficiency. In both Egypt and Syria, the rate of unemployment among university graduates is almost 27 percent, while the corresponding rate is almost 21 percent in Morocco, 19 percent in Tunisia, 15 percent in Jordan, and 11 percent in Lebanon. Higher unemployment rates among higher-education graduates represent a dead loss of the resources invested by both government and households.

Finally, we turn to the "equity" implication of resource allocations. The starting point is that allocations are more equitable if students are not denied access to higher education because of their income, region, or sex. While there is no strong evidence that the Arab countries suffer from gender inequality in higher education, there is evidence that the financing policies are biased against the poor. Higher-education students rarely come from the lowest income brackets. Poor students are more likely to drop out from schools. Children from the poorest population quintile in Egypt represent 25 percent of primary school students, 14 percent of secondary school students, and only 4 percent of higher-education students. A similar observation can be made with respect to the other Arab countries. In Jordan, enrollments in higher education institutions of students from the richest quintile represent over three times those from the poorest quintile. Similarly, in Tunisia, students from higher income households are over represented in higher education institutions relative to average population.

Further evidence of inequality stems from the fact that free public provision of higher education is characterized by poor quality and few economic and social returns. This encourages higher-income households to send their students to private institutions or special programs with higher fees in order to guarantee a better-quality education. Obviously, the poor have no options but going to free or quasi-free public institutions. At least in both Egypt and Morocco, "integrating the principle of equality of opportunity in the discussion on the higher education financing, makes it obvious that the present financing system, which shows only an apparent equity, is in fact basically inequitable, for the public financing is used to reproduce the opportunities inequality hence the reproduction of social inequalities." (Bougroum and Ibourk, 2009, p. 14).

In Jordan, 10 percent of public-university seats are allocated annually to lower-income students, besides 300 more seats are allocated to students from refugee camps. Although scholarships are directly provided to students, the distribution of these scholarships is not well targeted to the poor since they are offered on a competitive basis that favors better performers who are more likely to be non-poor who obtained their high-school diploma from private higher-quality schools (Kanaan et al., 2009). In Tunisia, "equity" does not seem to be a concern, since almost all higher-education services are publicly provided and various assistance schemes are available. These schemes include the provision of grants, subsidized accommodations and meals, as well as student loans, according to income conditions (Abdessalam, 2009).

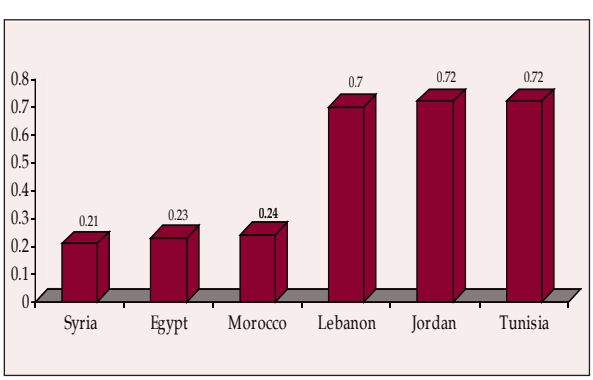
In Lebanon, higher education is mostly provided by private institutions in which tuition fees are not comparable to those in the Lebanese University (the only public university where the annual tuition fee is only US$ 83). At the same time, the rate of return on public higher education is double that of private higher education (7 percent compared to 3.5 percent, respectively). Nonetheless, admission in LU is strictly controlled by a quota system that depends on extensive examinations and minimum requirements that are more likely to be met by those who belong to high-income groups. Students who are unable to meet the requirements of the LU, many of them poor, are forced to pay a minimum fee of $6,400 to continue their higher education in private institutions (Nahas, 2009, p. 49).

1.4 Overall, Which Countries Performed Better and Why?

Ranking the six Arab countries according to their relative performance in financing higher education is not an easy task because of multidimensionality and the problem of weights. However, to conclude that a country did better than the others by relying on one indicator or a set of indicators that measure one dimension is misleading. To address this problem, we follow the methodology developed and used in a recent World Bank study on education in the MENA region (WB, 2008, p.166). The methodology builds a composite index that integrates the performance of countries on the basis of combining multiple dimensions.

To construct the index, we had to use not only the indicators that best describe each dimension, but also those available for the entire sample. Based on these two criteria, five indicators were used to build the index, namely: total expenditure on higher education as a percentage of GDP as a proxy for adequacy, gender parity index in higher education to reflect "equity"[4]; besides three indicators to measure the "efficiency": capital expenditure as a percentage of total spending on higher education as an indicator for "internal efficiency", and private returns to education and unemployment rate among the highly educated as proxies for "external efficiency. In building the composite index, we standardized the values of all indicators to range between 0 and 1, and gave equal weights to the three dimensions, as well as equal weights for the sub-indictors expressing "efficiency"[5]. The results are shown in Figure 1.1 below.

Figure 1.1
The Overall Performance of Financing Policies in the Six Arab Countries



Source: Calculated based on Table 1.1 and the methodology mentioned above.

As Figure 1.1 shows, the value of the composite index was the highest in both Jordan and Tunisia, followed by Lebanon, indicating that these countries are the best performers in the area of financing higher education. On the other hand, Morocco, Egypt, and Syria were the least-performing countries according to their relative achievement of the objectives of adequacy, efficiency, and equity. Having done that, one needs to dig deeper to justify this relative performance. Apparently, better performance has nothing to do with the type of service provision, public or private. Tunisia, the top performer, provides higher education services almost entirely through public institutions, whereas both Morocco and Syria that also rely on the public sector performed far worse than the performance of both Lebanon and Jordan which gave a major role to the private sector in providing higher-education services.

It is also evident that higher-income countries performed better than other countries. The ranking of the six Arab countries according to the relative performance of their financing policies almost exactly match their ranking according to per-capita income. The only exception was Jordan, which switched its ranking with Lebanon (Table 1.1). It is also clear that better-performing countries were also the better reformers. For instance, in Tunisia, the top performer, government subsidies to different universities are linked to a well-designed performance-based evaluation process that is undertaken by the National Authority of Assessment, Quality Assurance and Accreditation that has been created for this purpose. Moreover, a new higher education act has been recently applied to ensure a greater independency for universities and departments along with better accountability measures (Abdessalam, 2009).

Similar efforts have been undertaken in Jordan in the areas of strengthening the autonomy of higher education institutions, encouraging private provision of higher education, allowing public universities to charge higher tuition fees on so-called "parallel programs", revisiting admission criteria and implementing accreditation system - all examples of these efforts. Moreover, the Jordanian government has established the "Student Aid Fund" in 2004 to provide loans and grants for students who meet specific requirements. Moreover, students from the less-privileged areas are admitted to higher-education institutions on the

basis of a quota system, which allows the most competitive of them to be admitted relatively easily (Kanaan et al., 2009).

In Morocco, Egypt, and Syria, the least performers, several reform actions have been initiated but their impact has yet to be felt. In Egypt, the cost-sharing principle has been introduced in some "special" programs in public universities; the number of private universities and higher institutes are booming; a new staff's remuneration optional scheme that pays better-performing staff higher salaries has been recently introduced; and the National Authority for Quality Assurance and Accreditation of Education has also been established since 2006. The Syrian government has also taken many reform steps represented by the allowance of private universities, the establishment of the first internet university in the Arab world and putting down the required ICT infrastructure.

Similarly, in Morocco the National Charter of Education and Training (CNEF) was established in 1999, aiming for more financial involvement of the private sector and more decentralization and financial autonomy for public universities. The CNEF also calls for reconsidering the principle of free access to higher education and gradually introducing cost-sharing principles that deal with students from different income-groups differently.[6] Besides, an emergency program has been recently initiated to better link the distribution of government subsidies to a performance-based evaluation that takes into consideration the relevance of the education program to the needs of the development process in the country, rather than relying only on the number of the students enrolled in each university. Once again, the impact of these reforms has not so far been widely recognized.

1.5 Least-Performing Countries Are More Vulnerable to Future Challenges

Different countries face different challenges. This statement is true in our sample of Arab countries. Top performers, namely, Tunisia, Jordan, and Lebanon face different challenges than those faced by the least performers: Syria, Egypt, and Morocco. In this section, we try to address the future challenges that are expected to exert pressures on higher education finance in the Arab countries. Three types of challenges will be discussed: demographic challenges, quality-assurance challenges, and the transition from public to private provision of higher education.

1.5.1 Demographic challenges

Some countries are more likely to face a demographic challenge, known in the literature as "youth bulge". This term refers to the increasing share of youth in total population relative to other age groups. In Egypt, the number of students enrolled in higher-education increased by 115 percent between 1996 and 2006, a trend that is likely to continue in future with almost 35 percent of the current population below the age of 15. In Jordan, the situation is quite similar. Almost 37 percent of the Jordanian population is under the age of 15 where the largest five-year age cohort is the 10 to 14 age group. Available projections indicate that the youth bulge will be centered at age 18 in the coming few years, resulting in nearly 70 thousand more students (almost 15 percent increase) in higher education in the next decade.

In both Syria and Morocco, the demographic challenge seems less pressing. The data reveals that the "youth bulge" in Syria peaked in 2005 with a share of the 15-24 age group reaching almost 23 percent. This share is expected to fall to only 18 percent by 2020. In Morocco, starting from the mid 1990's, the country has witnessed significant falls in the birth and death rates; more participation in family-planning activities; and more girls continuing their education, leading to higher economic participation rates and a higher marriage age. All these factors combined, have resulted in a demographic transition that Morocco has been witnessing since 1994.

Tunisia and Lebanon, the top performers, do not face the "youth bulge" challenge. Future projections indicate that Tunisia is currently going through the last term of demographic transition and starting from the year 2009, the number of population at the age of higher-education is going to decline, with the number of those enrolled in this level of education reaching its peak by the academic year 2011-2012. Similarly, in Lebanon, recent studies assure that the country has already overcome the "youth bulge" phenomenon due to declining fertility and birth rates. Lebanon's youth population is expected to decline by 4 percent in the coming 20 years compared with a 16 percent increase in Egypt and 28 percent in Jordan.

1.5.2 Quality of higher education

The poor quality of higher education is the most important challenge that faces almost all Arab countries. The mismatch between the needs of competitive open labor markets and the skills gained in schools and universities is a common problem in these countries. Documenting this claim is not easy, given the scarcity of objective information about the quality of higher education systems. But, some indicators might be useful in this regard. For instance, none of the Arab universities are usually listed in the top 500 universities in the world according to all classifications. Higher unemployment rates among highly-educated job seekers is another indicative proxy. The poor quality of higher education is also evidenced by the fact that the majority of university students in these countries are enrolled in fields of humanities and social sciences rather than science and engineering or practical fields. "This pattern of enrollment is historically consistent with a policy of absorbing most university graduates into civil service jobs, but is ill suited to a development strategy that draws on private initiatives and dynamic manufacturing and service sectors." (World Bank, 2008, p.22)

The above conclusion is not equally applicable to all Arab countries. While almost two-thirds of university students in the Arab countries, on average, are enrolled in humanities and social sciences, this figure exceeds 75 percent in both Egypt and Morocco, while ranges around 60 percent in both Lebanon and Syria, and drops significantly to 56 percent in Jordan and only 49 percent in Tunisia. On the other side, the share of medicine, scientific, technical, and engineering disciplines in total enrollment in higher education is estimated to be 48 percent in Tunisia, 40 percent in Jordan, almost 37 and 34 percents in Syria and Lebanon, while reaches only 22 percent in Morocco and less than 18 percent in Egypt. Moreover, according to the 2008/09 Global Competitiveness Report that ranked 134 countries across the world based on the quality of higher-education system, Tunisia was ranked the 17th, followed by Jordan (27), while the ranking of Syria, Morocco, and Egypt was 91, 100, and 126, respectively. [7]

1.5.3 Transition from public to private provision of higher education

Although private provision of higher education has gained greater importance in the Arab region during the last few decades, its share in total enrollment is still low. The transition towards giving more room for private provision of higher education is likely to have negative implications on the "equity' dimension of financing policies. Private provision implies higher tuition fees that would, in the absence of efficient financial-assistance schemes, result in preventing disadvantaged students from continuing their higher education. Thus, the issue of securing equity while assuring quality is an added important challenge that Arab countries have to deal with in years to come.

As indicated earlier, this challenge may not exist, or at least will be less pressing, in countries like Lebanon and Jordan that have already experienced this paradigm shift many years ago, while this shift is likely to be more challenging in countries like Tunisia, Syria, and Morocco in which public sector is still the sole or major provider of higher-education services. Over the next years, this challenge along with other challenges will exert more pressures on the financing policies in

Table 1.2
Distribution of University Students by Field of Study (%, most recent year)

	Education & Humanities	Social Sciences	Medicine	Scientific, Technical, & Engineering	Others
Egypt	35.0	41.2	7.4	10.2	6.1
Jordan	30.0	26.0	10.0	30.0	4.0
Lebanon	21.2	38.8	8.5	25.7	5.8
Morocco	27.6	47.8	3.9	18.3	2.3
Syria	29.2	28.2	11.5	25.3	5.8
Tunisia	22.0	27.0	7.0	31.0	13.0

Source: W.B., 2008, p. 21

higher education, especially in both Syria and Morocco. Tunisia is in a better position compared to these two countries since it has the advantage of being the top performer that has better quality education, higher per-capita income, well-designed assistance schemes, and lower probability of facing the "youth bulge" phenomenon.

1.6 Lessons Learned and Alternatives for Consideration

The previous analysis provides some useful lessons that should be highlighted. The first one is that the better performance of the financing policies does not rely much on the nature of the service provider, public or private. Tunisia and Lebanon, the top performers, present two extreme cases. While the first follows almost entirely the public-provision scheme, the second relies mostly on the private sector. What really matters in this regard is to allow more room for private investment in higher education when public resources are inadequate. This particularly applies in the two cases of Syria and Morocco, and to a lesser extent in Egypt.

Secondly, economic growth is essential for better performance. The top performing countries have also the highest per-capita income among our group of Arab countries. Higher incomes allow more resources for the governments to finance higher education and also more opportunities for households to share the costs of higher education of their children. The least-performing countries should intensify their efforts to accelerate the growth of per-capita income while trying to improve the performance of their higher-education financial systems.

The third lesson is that better performance is not a matter of luck, but rather a natural outcome of serious and long reform policies supported by a strong political will. These reforms have the advantages of benefiting from other experiences while taking into consideration the specific characteristics of the national and local societies. The experience of both Tunisia and Jordan is very instructive in this regard. The least-performing countries should benefit from the experience of these two countries, especially in the area of effectuating public spending through ensuring the autonomy of public higher education institutions. Those countries gave more freedom to higher-education institutions in creating new funding sources and distributing financial resources amongst different chapters and departments based on objective criteria. At the same time, these institutions are held accountable according to a performance-based evaluation system that is strongly linked to the public subsidies to universities.

Free higher education for all does not guarantee equality. If poor students receive poor-quality education, as was the case in both Egypt and Morocco, the result will be a perpetuation of income inequality. To guarantee equal opportunities for poor students, efficient targeting mechanisms should be applied. Tunisia provides a good example in this regard. The targeting mechanism there allows poor students to choose their higher-educational institutions according to their preferences and on a more competitive basis. This guarantees equal opportunities among students from different income strata besides encouraging better quality education as a result of more competition among different universities to attract more students with public support.

Higher percentage of non-academic staff to the total is a major problem in some countries like Egypt. Tunisia may provide an instructive experience in this respect. Almost 45 percent of the teaching staff there are non-standard faculty who are contracted to teach specific courses. This type of arrangement does not require many non-academic staff to provide the necessary administrative services; a process that ultimately improves the efficiency of the financing policies in the least-performing countries in general and in Egypt in particular.

Transition from public to private provision of higher education should go hand in hand with introducing more efficient systems of financial assistance that guarantee equal opportunities to the disadvantaged groups of students. This lesson is particularly important for both Syria and Morocco. These two countries are among the least performers and their higher-education systems are still dominated by public provision. They can benefit from the Jordanian experience where such transition has accompanied better-quality services with a minimum cost of inequality. When such financial-assistance schemes do not exist as in the case of Egypt, transition from public to private provision may lead to lower-quality education and higher inequality among different income groups.

Finally, Arab countries that are more likely to face the "youth bulge" challenge - Egypt and Jor-

dan - need to apply more efficient demographic and higher-education policies to better deal with this challenge in the future. Positive incentives and conditional cash transfers have proven to be more effective in achieving the demographic targets than those policies that focus on the family-planning approach. However, in the short and medium terms, these countries need to allocate more resources, public and private, to finance the expected higher demand on higher education in the coming few years. This highlights the urgent needs of such countries to effectuate the public spending, allowing more room for private provision, introducing efficient financial-assistance schemes, and applying more performance-based mechanisms to distribute public resources among different higher-education institutions.

Notes

1. The six case studies are: Abdessalam (2009), Fahim and Sami (2009), Kabbani and Salloum (2009), Kanaan et al. (2009), Mohammed and Ibourk (2009), and Nahas (2009).
2. Only Tunisia and Lebanon are classified as Upper-Middle-Income countries.
3. Almost 45 percent of the teaching staff in Tunisia are non-standard faculty who are contracted to teach specific courses (Abdessalam, 2009).
4. Unfortunately, no indicators are available to measure income and geographic inequity. We tried to use Gini coefficients of education but, the data was not available for our group of countries.
5. This choice of weights is apparently subjective and could be subject to criticism, but the same critiques could be raised in case of assigning unequal weights.
6. So far, these principles have not been implemented.
7. Lebanon was not included in this report.

References

Abdessalem, Tahar. 2009. "Financing Higher Education in Tunisia" ERF Regional Conference on Financing Higher Education in Arab Countries, Amman, 17-18 June 2009.

El-Araby, Ashraf. 2009. "Financing Higher Education in Egypt: Current Status, International Experiences, and Financing Options." IDSC, Egypt (In Arabic).

Fahim, Yasmine and Noha Sami. 2009. "Financing Higher Education in Egypt", ERF Regional Conference on Financing Higher Education in Arab Countries, Amman, 17-18 June 2009.

Kabbani, Nader and Siba Salloum. 2009. "Financing Higher Education in Syria", ERF Regional Conference on Financing Higher Education in Arab Countries, Amman, 17-18 June 2009.

Kanaan, H. Taher, Mamdouh N. Al-Salamat, and May D. Hanania. 2009. "Financing Higher Education in Jordan", ERF Regional Conference on Financing Higher Education in Arab Countries, Amman, 17-18 June 2009.

Mohammed, Bougroum and Aomar Ibourk. 2009. "Access and Equity in Higher Education: Case of Morocco", ERF Regional Conference on Financing Higher Education in Arab Countries, Amman, 17-18 June 2009.

Nahas, Charbel. 2009. "Financing Higher Education in Lebanon", ERF Regional Conference on Financing Higher Education in Arab Countries, Amman, June 2009.

Psacharopoulos, George and Harry A. Patrinos. 2002. "Returns to Investment in Education: A Further Update." *World Bank Policy Research Working Paper* No. 2881, WB, September 2002.

World Bank. 2008. "The Road Not Traveled: Education Reform in the Middle East and North Africa." *MENA Development Report*, World Bank, Washington D.C.

World Economic Forum. 2008. "The Global Competitiveness Report 08/2009." WEF, Geneva.

CHAPTER 2

Access to and Equity in Financing Higher Education in Egypt

Yasmine Fahim and Noha Sami

2.1 Introduction

It is widely agreed that education is critical for faster economic growth, and, when provided widely, it is also critical for more egalitarian distribution of the benefits from economic growth (Birdsall and London, 1997, Lant Pritchett, 1996). Not surprisingly, most developing countries, including Egypt, have committed themselves in the wake of their independence to providing free access at all levels of education to all of their citizens. The legacy of this commitment continues today, as evidenced by the fact that the Egyptian government continues to be the main provider and funder of education, including higher education. In 2007/2008, public expenditure on education amounted to 4 percent of GDP, of which a good 1 percent was allocated to higher education.

The challenge facing Egypt now is twofold: (i) there is evidence to suggest that the returns to investment in education are relatively low, and (ii) the government budget is increasingly coming under pressure to meeting the ever growing demand for higher education. According to a recent World Bank report (2008), the returns from investment in education in terms of economic growth, improved income distribution, and poverty reduction are modest in Egypt and the MENA region as a whole. At the same time, the surge in the demand for higher education is fueled by demographic changes, technological innovations and a more competitive labor market environment at a time of tight budgetary constraints.

To meet the challenges of financing higher education in the future, Egypt has no other option but to search for alternative funding arrangements. This chapter is intended to contribute to the question of how to do so, keeping in mind the need to ensure equitable access to good quality education by those who cannot afford it.

To this end, the rest of the chapter begins with an assessment of public expenditure on higher education in Egypt, with respect to its adequacy, efficiency and equity. Next, the chapter analyzes the way in which demographic changes, the demand for quality education and the transition to private provision of education will impact the nature of financing higher education in the future. Finally, the chapter concludes with suggestions for alternative strategies for resolving the problem of financing higher education in Egypt.

2.2 Adequacy, Efficiency and Equity in Financing Higher Education

This section assesses expenditure on higher education in terms of the adequacy, efficiency and equity of this spending. Most of the analysis is based

on public expenditure, but an attempt is made to capture private spending by drawing on available data from household surveys as well as private provision of higher education. The analysis is also carried out comparatively, placing Egypt against a set of comparator countries as far as the data permits.

2.2.1 Adequacy

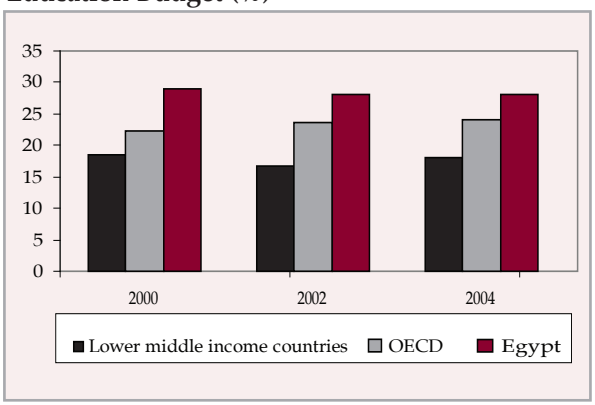
Overall, total government expenditure on education at all levels in Egypt was around 4 percent of GDP in 2007/2008. In addition, it is estimated that households spend approximately 3.6 percent of GDP on admission fees, textbooks, supplies, and private tutoring lessons (World Bank Study 2004). This brings the total spending on education to about 8 percent of GDP. This figure is more than the OECD average of 5.8 percent and the 5.4 percent average for lower middle income countries including public and private sources[1] (UNESCP-UIS 2007 and Edstats database). As a percentage of public expenditure, Egypt allocated 12 percent to education in fiscal year 2007/2008 (Ministry of Finance data), which is almost equivalent to the corresponding percentage for the OECD (13.4 percent but less than the average for lower middle income countries (15.3 percent) (UNESCP-UIS 2007).

The share of public expenditure on higher education in Egypt was about 1 percent of GDP in 2007/2008. This figure is close to the corresponding averages for the OECD countries (UNESCO-UIS 2007) as well as lower middle-income countries[2] (Global Education Digest 2007), both of which spent 1.4 and 1 percent of GDP respectively on average, on higher education. Figure 2.1 shows comparative expenditure on higher education for lower middle income countries, the OECD and Egypt. It is evident from this that in comparative terms Egypt outspends both groups of countries with respect to the proportion of the education budget that goes to higher education.

As Figure 2.1 shows, public expenditure on higher education in Egypt has been declining relative to total public expenditure on education and relative to total public expenditure between 1995 and 2005. It picked up in 2006, but these ratios did not reach their peak of 1999 again. Relative to GDP, spending on education remained more or less the same (See Figure 2.2)

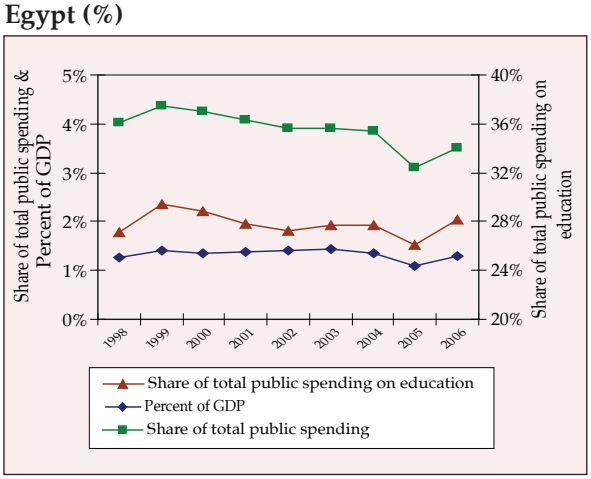
The relative decline in the allocations of public expenditure to higher education may be a reflection of the slow but steady increase in the provision of higher education by the private sector. But even then, the role of the private sector in the provision of higher education remains small. The number of registered students in private universities in Egypt represented about 5 percent of all students enrolled in public universities in 2006/07; 48,000 students in private universities

Figure 2.1
Share of Higher Education Spending in the Education Budget (%)



Source: Calculated average for the OECD and Lower Middle Income Countries from World Bank, Edstats database, Egypt data calculated from CAPMAS

Figure 2.2
Public Spending on Higher Education in Egypt (%)



Source: Calculated from CAPMAS, Statistical Year Book, Egypt 2007; and Ministry of Economic development data Note: The drop in public spending on higher education in 2005 was in favor of increasing expenditures for pre-university levels as well as other economic sectors, especially general public services and social security sectors.

versus 1.8 million students in public universities (IDSC, 2008). Also, while the number of private faculties increased from 32 to 51 faculties between 1999/2000 and 2005/06, the number of public faculties increased from 266 to 300 during the same period. In general, the share of student enrollment in private higher education (including technical institutes and other tertiary education institutions) in Egypt is about 17 percent – and 5 percent for university enrollment only- (Data from Ministry of Higher Education) compared to 25 and 28 percent in lower middle income and OECD countries respectively (Table 2.1).

Although education is constitutionally free, the information from the Household Survey of 2000 indicates that the share of household spending on education at all levels is about 3.6 percent of GDP (World Bank, 2004), and that spending on higher education (tuition and admission fees paid by households) represents 8.2 percent of total higher education spending (World Bank, 2002a). More recently, a study estimated the level of households spending on higher education relative to the overall household spending to be around 1 percent in 2007 (El Araby, 2009)

Despite the fact that Egypt spends relatively highly on higher education (higher than OECD and Lower middle income countries), if we look at the expenditure per student in higher education in terms of US$ PPP across countries with similar per capita income, Egypt does not fare well. Indeed, the figures in Table 2.2 not only indicate that Egypt spends much less per student than OECD higher education institutions, but also much less than lower middle-income countries.

In short, while the government of Egypt allocates relatively similar resources as a percentage of GDP to higher education as OECD and lower middle income countries, and even higher shares in terms of education expenditures, expenditure per student is much lower. Therefore the current level of funding of higher education in Egypt may be inadequate to deliver high quality education.

1.2.2 Efficiency of Spending

Turning to internal and external efficiency, this section traces how resources are allocated across different categories within higher education as well as the extent to which there is a match between graduates of higher education and labor market demand. Internal efficiency can be interpreted as a cost saving measure, while external efficiency can be interpreted as a return maximizing measure.

Internal efficiency

There are indicators that suggest that the pattern of spending on higher education in Egypt is not as internally efficient as it could be. For example, most of the resources are allocated to current rather capital expenditure. In 2007/2008, for example, current expenditures accounted for 78 percent, leaving a modest share for capital expenditure. Moreover, the trend is worsening over time, as can be seen from Figure 2.3. Given that current expenditures include wages, salaries, benefits, grants, subsidies and other operating costs, while capital expenditure includes purchasing assets, maintenance and updating infrastructure, this pattern of expenditure may be to the detriment of the quality of learning infrastructure.

Perhaps more worrisome is that the pattern of

Table 2.1
Share of Private Enrollment in Higher Education, 2004 (%)

Lower Middle Income average	28
MENA average	26*
OECD Average	25
Egypt	17

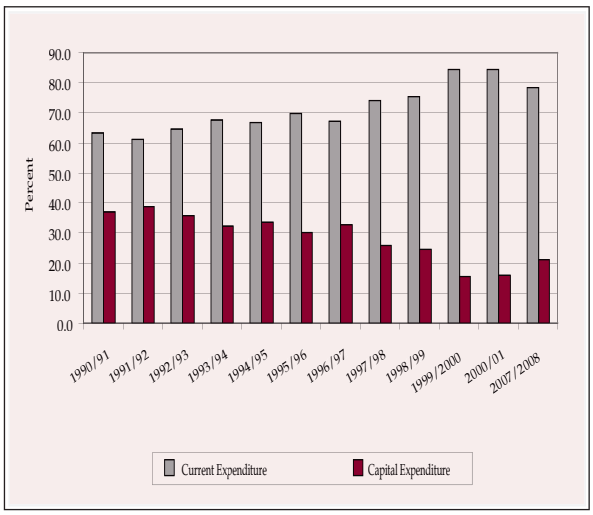
*Note: *World Bank, 2008*
Source: World Bank, Edstats database.

Table 2.2
Expenditure per Student in Higher Education in 2005 ($ PPP and %)

	US$ PPP	(%)GDP per capita
Egypt	902	23.38
OECD countries average*	9,984	36.65
Lower middle income countries average**	2,712	55.66

*Note: * All OECD countries except Canada, Germany, and Luxemburg; ** From 55 lower middle income countries, average is calculated from 20 countries*
Source: Calculated from CAPMAS for Egypt data; Edstats database; World Development Indicators 2007; and Global Education Digest 2007.

Figure 2.3
Distribution of Current and Capital Expenditure (%)



Source: Calculated from Ministry of Finance, Egypt and the closing account of 2007/2008 State Budget

current expenditures is not necessarily in favor of teaching staff. Wages and salaries represented, on average for the period 1990/91-2000/01, about 75 percent of public current expenditure in higher education, yet a large proportion of it is not allocated to teaching-staff who are relatively under paid. Universities are crammed with supporting administrative staff working under the same conditions of hiring as in the civil service. Indeed, the non-academic staff in 1998/99 was about 48 thousand compared to out 63 thousand of non-academic staff. This is a ratio of 1:1.3, the impact of which is to divert a good share of the resources away from more important academic functions of teaching and research (El-Baradei, 2004).

According to more recent data from the Ministry of Higher Education, this ratio has improved in more recent years, reaching 1:1.07 in 2005/06. But even then, further improvements are necessary if Egypt is to motivate its teaching staff to improve education outcomes and avoid "moon lighting" by selling lectures notes or by taking on consulting work. Such activities generate widespread absenteeism, and render them too busy to focus on teaching and evaluating student performance.

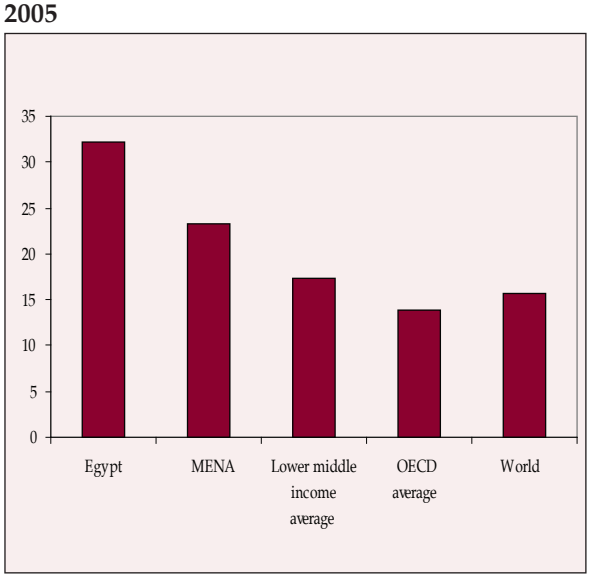
Another issue that exacerbates the problem of inefficiency in higher education is the student-teacher ratio which is relatively high and does not provide students with a conducive environment to learn and upgrade their skills or even to attend. In 2005, Egypt had a much higher students-teacher ratio of 1:32 compared to MENA, lower middle income countries, the OECD average, and the world (see Figure 2.4).

In conclusion, the misallocation of public funds suggests that higher education institutions are not receiving adequate maintenance and updating of infrastructure due to modest and decreasing appropriations for investments, hence the high ratio of students per teacher. In addition the diversion of a large share of the current expenditures away from academic staff is leading to an under-motivated teaching staff, which in turn leads to low quality higher education provision.

External efficiency

There is a positive relationship in Egypt between the returns to education and the level of education. Available evidence indicates that the private rate of return to higher education in Egypt is consistently higher than for employees with secondary education, but is consistency lower than the rates of return for those who can just read and write (Al-Arabei, 2008) (Table 2.3). However, data from the Egypt Labor Market Panel Survey 2006 indicate that there is a positive relationship between the rate of return and the educational level. For males, the wage of preparatory graduates is greater than

Figure 2.4
Students -Teacher Ratio in Higher Education, 2005



Source: Global Education Digest 2007

that for illiterates by about 23 percent, and about 16 percent higher than that of primary graduates. Also, those with university and above intermediate education receive higher wages than preparatory education graduates by about 65 percent and 29 percent, respectively. Similar results hold with respect to females. Females with preparatory education receive a higher wage on average, than the illiterate female by about 73 percent and higher than the female with primary education by about 48 percent. Finally, the wage of a university female graduate exceeds that of the female with preparatory education by about 34 percent, on average (Al-Arabei, 2008).

Across countries, the data indicate however that the return to higher education in Egypt is relatively low. As shown in Table 2.4, the rate of return to higher education in Egypt is slightly below that of Morocco and Jordan, but is much lower than more open and reformed economies such as Chile, Argentina and Uruguay.

Another indicator of external inefficiency is the distribution of unemployment by level of education, which is shown for Egypt in Table 2.5 for the years 1995, 2001 and 2005. The pattern that emerges is that unemployment is consistently the lowest among holders of education below the secondary level, followed by those with university degrees and finally those with secondary education. This pattern is worsening over time. Thus, much of the resources spent on education, including higher education appear to go uncompensated for. For example, unemployment among university graduates more than doubled during the last decade. This is also accompanied by a consistent mismatch between graduates and labor market demand, as revealed by business sector surveys conducted, for example, by the World Bank (see, for example, Doing Business Reports, different editions).

2.2.3 Equity of Spending

Equity in public spending can be viewed from several angles, including spending by levels of education, across income groups, and gender.

Is there a bias in favor of higher education?

Table 2.6 shows that the share of public spending on education dedicated to higher education in Egypt is relatively high compared to other countries. However, we observe that while the share of spending on higher education remained the same in recent years in Egypt, other countries tended to decrease public spending on higher education over time (e.g., Morocco and Brazil). The bias stems from the observation that the richer groups tend to go on in larger numbers to higher education, more than the poorer groups.

Table 2.3
Private Rate of Return to Education in Egypt (%)

	1995/96	1999/2000
Read and Write	13.2	11.8*
Secondary	-0.7	2.0
University	7.1	8.0

*Note: * Since returns could not be calculated for all areas because costs could not be identified; this is an average for areas where some costs could be identified: returns were 12.6 (Lower rural Egypt in 1999/2000) and 7.1 and 15.8 (urban and rural Upper Egypt respectively, in 1995/96)*
Source: World Bank, Arab Republic of Egypt, a Poverty Reduction Strategy for Egypt, 2004

Table 2.4
Private Rate of Return to Higher Education (%, Various Years)

Egypt (2000)	8
Morocco (1999)	9
Jordan (2004)	9
Argentina (1996)	16
Chile (1996)	20
Peru (1997)	12
Uruguay (1996)	12

Source: Carnoy, 2006

Table 2.5
Unemployment Rate by Educational Level in Egypt (%)

	1995	2001	2006
Below secondary	0.7	1.5	2.33
Secondary	31.5	22.4	61.81
University	11.8	8.8	26.80

Source: EHDR various issues 1996, 2003, 2008

Is there a bias against the poor?

The financing of higher education in Egypt is biased against the poor. As shown in Table 2.7, most of the public spending on higher education goes to the richest quintiles[3] because university students rarely come from the lowest income brackets.

The picture of enrollment rates by income level leads to the same conclusion (Figure 2.5). The poor have less access to higher education than the non-poor as entrance to universities is constrained by very restrictive grade requirements which students from non-poor families have a better chance to attain because they are able to afford better quality secondary education as well as private tutoring.

This situation has resulted because there is a trend of declining enrollment with increasing educational levels. Egypt has achieved near universal education school attendance at the primary level; the primary GER rose to 102 percent in 2005. However, the GER declines at the secondary level to 86 percent and at the higher education level it reaches 35 percent (World Bank, Edstats database). Furthermore, the decline in enrollment rates is larger for poor households than other households (World Bank, 2002a). A World Bank study showed that while children from the poorest population quintile represent 25 percent of primary school students, they represent only 14 percent of secondary school students and 4 percent of higher education students (World Bank, 2002a). This confirms that public expenditure on higher education is a subsidy to the middle class.

Table 2.6
Expenditure on Tertiary Education as a Share of Public Education Expenditures (%)

	2000	2002	2004
OECD	23.5	24.0	22
Lower middle income countries	18.43	16.64	18
Egypt	29.0	28.0	28
Morocco	18.0	16.0	15
Brazil	22.0	24.0	19

Source: calculations from World Bank, Edstat database and OECD online database. Data for Egypt calculated from CAPMAS Annual Statistical Yearbook 2007

Table 2.7
Public Education Expenditures Received by Population Quintile in Year 2000, (%)

	1	2	3	4	5	Total
Basic	15.6	19.5	22.2	22.6	20.1	100
Secondary	17.2	20.6	20.3	20.9	21.0	100
Higher	14.2	19.3	20.3	21.1	25.2	100

Source: El-Shawarby, 2003-World Bank Poverty Reduction Strategy 2004.

Is there a regional bias?

The regional allocation of public higher education expenditures (i.e. among governorates) in Egypt also tends to favor some governorates at the expense of others. The average rate of higher education enrollment in Egypt as a percentage of the total number of Egyptians belonging to the same age group is 28 percent, yet this average hides the disparity across different governorates. For example, this percentage increases to 70 percent in Cairo, 57 percent in Port Saeed and 47 percent in Alexandria whereas it falls to its lowest in Fayoum, Behaira, Luxor and Minya to reach 10 percent and less (Al Araby, 2009) (see Figure 2.6).

Consequently, as shown in Figure 2.7, the proportion of university graduates in urban governorates was higher than in rural areas throughout the period 1988-1998-2006 according to the data of the latest labor market panel survey conducted in 2006.

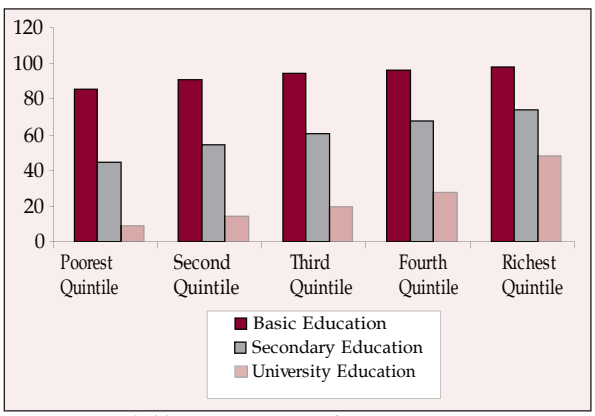
This inequality of enrollment opportunities across the different governorates highlights lower public investments in higher education in rural areas. In addition, correcting such imbalances imposes additional financial burden on the state and on the higher educational institutions.

Is there gender bias?

With regard to gender equality, during the past 20 years the number of female students enrolled in Egyptian universities has been continuously increasing as the literacy rate among females has increased (on average from about 30 percent to 59 percent over the last 20 years). As shown in Table 2.8, the gross enrollment rates for females in the tertiary level of education have continuously increased over the nineties, however the gender parity index remained almost stagnant over the decade.

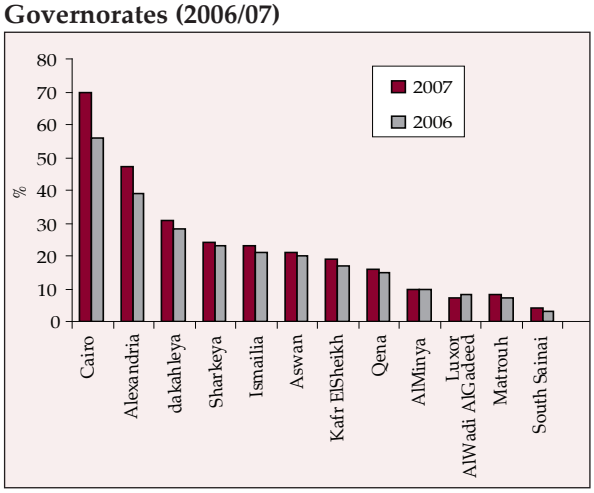
More recent tertiary GPI data was unavailable,

Figure 2.5
Enrollment Rates by Income Level, 2004/2005



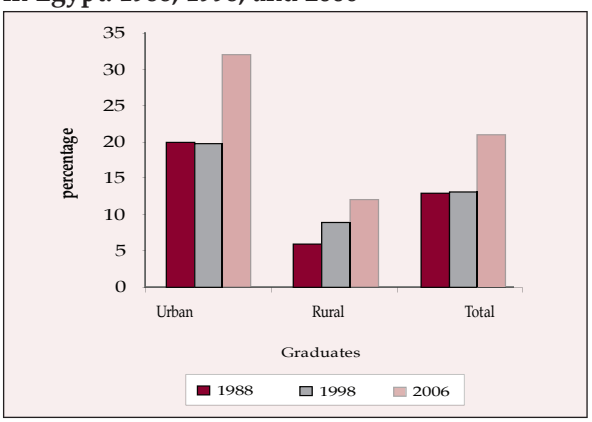
Source: Household Survey Data 2004/2005

Figure 2.6
Percentage of Higher Education Enrollment among 18-23 Year-Old Across Different Governorates (2006/07)



Source: Egypt Labor Market Panel Survey 2006

Figure 2.7
University Graduates by Urban and Rural Areas in Egypt: 1988, 1998, and 2006



Source: Egypt Labor Market Panel Survey 2006

Table 2.8
Male and Female Tertiary Gross Enrollment Rate and Gender Parity Index in Egypt (%)

	1994	1995	1996	1997	1999
Gross enrollment rate, tertiary, female	14	16	18	20	20
Gross enrollment rate, tertiary, male	22	24	27	30	30
Gender Parity Index	0.636	0.667	0.667	0.667	0.667

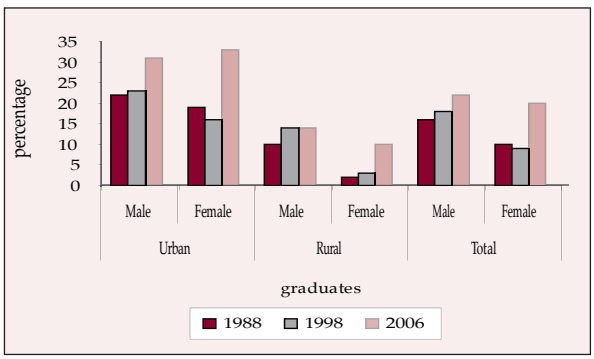
Source: World Bank, Edstats database

however, GPI for the secondary level of education was 1 in 2004, which means that women are at par with men in the secondary education level (Edstats database), and so it is expected that this would be positively reflected on the GPI at the tertiary level.

However, the proportion of female university graduates has come close to that of males. This progress is stronger in urban areas where the proportion of female university graduates actually surpassed the male graduates in 2006, as shown in Figure 2.8. It is also interesting to note that the ratio of females to males in tertiary education in 2005 reached 56 in fields of sciences and 99 in humanities (Figure 2.9) (Egypt Human Development Report, 2008).

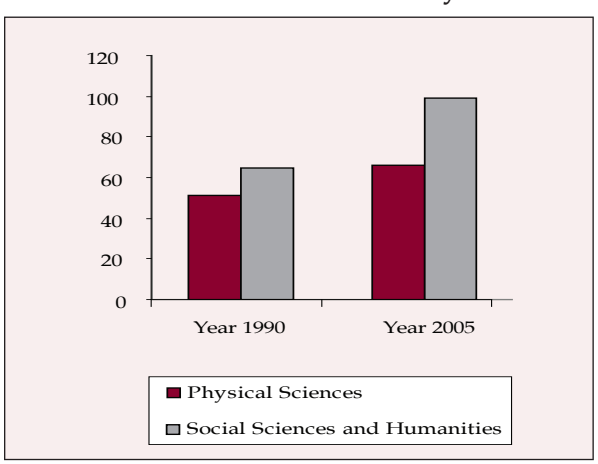
In summary, financing higher education in Egypt is not equitable, it is biased against the poor; the education available to them has been of such poor quality that it provided little real economic benefit and their access to higher education institutions is very limited. This leads to a vicious cycle of poverty, and may be perpetuating the current class structure. One positive aspect with regard to equity is that female participation in higher education has increased significantly over time.

Figure 2.8
University Graduates by Sex and Urban Rural Areas in Egypt: 1988, 1998, and 2006 (percent)



Source: ELMPS 2006 data base

Figure 2.9
Ratio of Females to Males in Tertiary Education



Source: Egypt Human Development Report 2008

2.3 Challenges

Not only does financing higher education require adjustments to make it adequate, efficient and more equitable in Egypt, but additional pressure is likely to mount in the near future to find alternative financing arrangements for several reasons. First, the demand for higher education will increase due to the so called "youth bulge". Second, more funding will be needed to upgrade the quality of education to meet a more sophisticated labor market demand. Finally, the increasing reliance on the private sector for the provision of higher education will require paying attention to equitable access to higher education by those who cannot afford it. Without a shift in the modes of financing higher education, expansion may occur at the expense of quality and access to higher education may become increasingly more inequitable. These challenges are elaborated below in turn.

2.3.1 The Demographic Challenge

Demography plays a big role—with key policies of education affected by the pace and the dynamics of population growth, and the composition of the population. These variables are crucial to education planning and financing, as the size of the school-age population and hence the potential demand for education affect educational decisions.

Egypt over the past 20 years has experienced a declining Total Fertility Rate (TFR), down from 5.3 in the 1980s to 3.1 births per woman in 2005 (WDI, 2007). In spite of this decline, fertility rates in Egypt are still higher than in lower middle income (with a rate of 2.1 births per woman), and the high income OECD countries (with a rate of 1.7 births per woman) (Figure 2.10).

The fertility rate in Egypt is expected to further decline to 2.2 by 2035. However, this rate is close to the current rate for lower middle-income countries and is much higher than the current fertility rate for high-income OECD countries (Figure 2.11). Translated into projections of the population in Egypt, the expectation is that the population in Egypt will be about 112.5 million by 2035 (WDI, 2007), from the current figure of about 80 million.

With nearly 35 per cent of the population below the age of 15, Egypt is going through a demographic transition known as a "youth bulge", a period during which the proportion of youth in the population is significantly higher than other age groups. As can be seen from the population pyramid below (Figure 2.12), the population in 2005 is dominated by young age groups, the biggest of which are those from 0 to 4 years old, at the base of the population pyramid. This youth bulge will make its impact felt on the demand for education, including higher education, in the years to come.

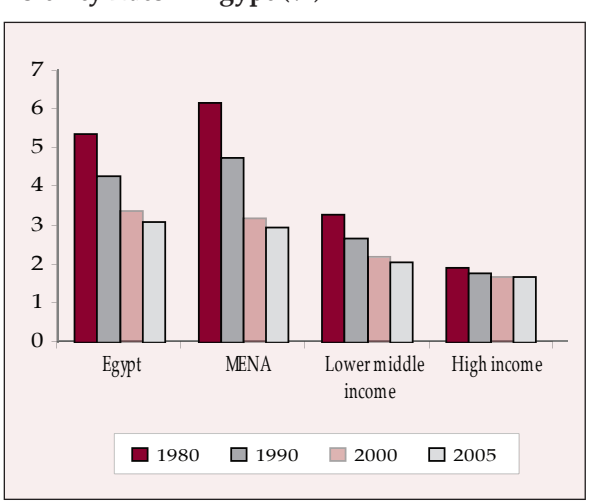
Universities, which traditionally educate students aged 18-to-25 years, will obviously be affected by the increasing numbers of their traditional target group in the long term (age group of 20-24 will increase from about 7 million in 2005 to about 9 million in 2035). In fact, university education has continuously seen a trend of increasing demand, during the last decade, with the number

of students in higher education increasing by 115 percent (CAPMAS, 2007) and the gross enrollment rate rising from 25 percent in 1997 to 35 percent in 2005 of the relevant age cohorts (World Bank, Edstats). This growth is expected to continue in the future, with the projected number of students increasing in higher education from the current 1.8 million to 2.6 million by 2015 (World Bank, 2002a).

Meeting this increase in demand for higher education, without adequate matching of resources, will be at the expense of education quality, as universities are placed under considerable strain regarding infrastructure, resources, and expertise. Moreover this will directly impact the decisions of education cost, school types, school mapping, and academic staff recruitment.

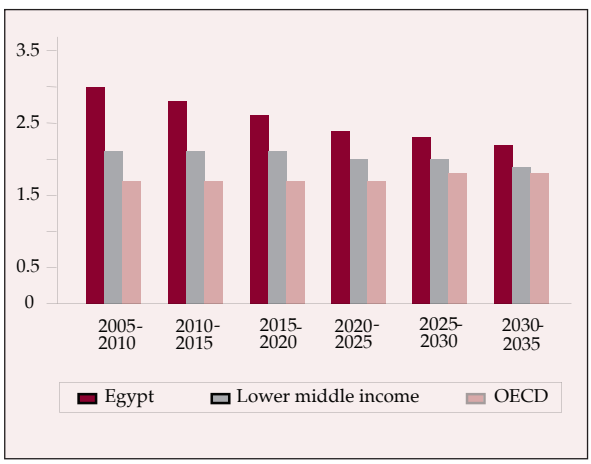
It can of course be argued that this youth bulge is a positive feature, from the point of view of generating economic growth and additional funding for education. This is the so called demographic dividend, which results from a high proportion of the total population being in a productive working age (with the young-age dependency reduced through fertility decline and the old-age dependency being not yet significant). And according to Bloom, Canning and Sevilla (2003), this demographic transition contributes to economic growth by increasing savings, which improves a country's prospects for investment and growth. The young and old consume more than they produce, whereas the working-age population tends to have both

Figure 2.10
Fertility Rate in Egypt (%)



Source: World Bank, World Development Indicators 2007

Figure 2.11
Fertility Rate Projections (%)



Source: World Development Indicators 2007

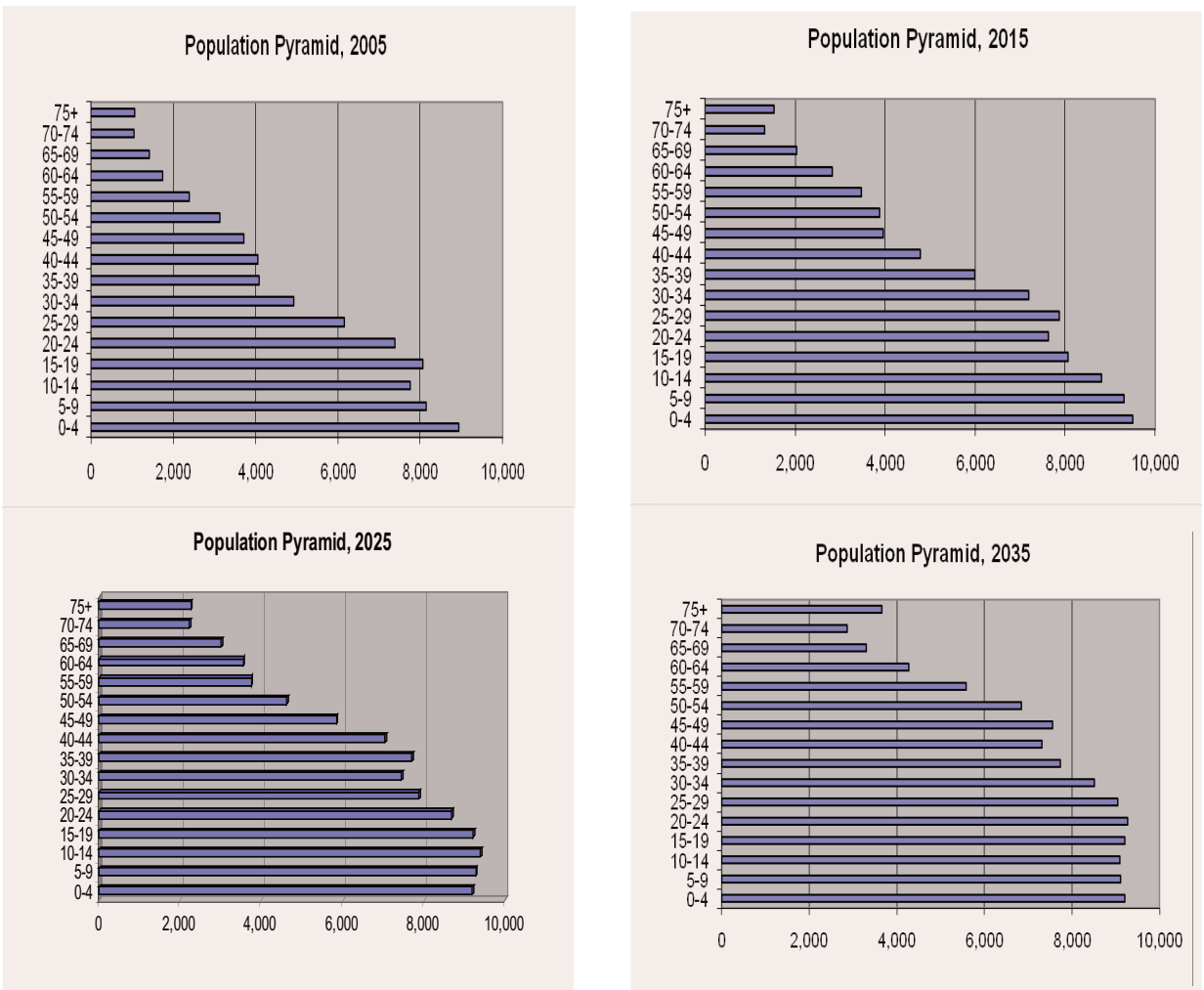
a higher level of economic output and a higher level of savings.

Nevertheless, the demographic dividend is not automatic. Its impact on economic development is not the same in different regions of the world. The East Asian nations have experienced the most success in achieving the demographic dividend produced by reduced fertility rates. This achievement has been less pronounced in other areas. For example, Latin America has undergone a fairly sharp demographic transition but, because of a weak policy environment, has not capitalized on it (Bloom, Canning and Sevilla, 2003). This suggests that if timely policy initiatives are adopted and correctly applied in Egypt, the population dividend will be delivered through enhanced labor supply, savings and human capital. In turn this is expected to ease the pressure on finding alternative financing for higher education.

Indeed in Egypt, the positive effects of the demographic dividend would not be automatically yielded if, for example, additional savings are not transformed into productive investment, and the extra labor force is absorbed through inefficient public employment. In this case, the same demographic trends may impose a fiscal burden on the economy, becoming a curse rather than a blessing.

The demographic dividend offers a chance of increasing growth, if, and only if, the right policies are adopted to capitalize on it. Such policies include investing in human capital and at the same time enhancing work force flexibility. The qual-

Figure 2.12
Egypt Population Projections, by Age Groups



Source: World Development Indicators 2007

ity of education must be high enough not only to meet today's economic needs and realities, but to also meet those of the future.

2.3.2 Quality of Higher Education

Upgrading quality is costly. And given the dire state of the quality of higher education in Egypt and the increasing demand for highly skilled labor now and in the future, finding the necessary resources to upgrade the quality of education is another major challenge that needs to be addressed.

The deteriorating quality of the higher education system is reflected in the results of the World Competitiveness Report 2008/2009's rankings for the quality of public higher education institutes in different countries of the world, where Egypt ranked the 126th out of 134 countries across the world. Also, for another indicator of quality, the degree to which the higher educational system satisfies the need of a competitive labor market, Egypt was also at the bottom of the rankings being ranked the 128th country out of 134. Perhaps these results are not surprising since universities in Egypt stress routine learning and memorization of facts, while more and more the demand for labor is turning toward the skills of "expert thinking" and "complex communication", and away from the ability to conduct routine tasks (World Bank, 2008). Hence, graduates are unable to cope

with the rapidly changing age of technology, and so they are unable to respond adequately to labor market demands.

Moreover, growth is increasingly dependent on investing in the knowledge economy (World Bank, 2002a) and technological adaptation. Unfortunately, the majority of university students in Egypt tended to specialize in fields of humanities and social sciences (79 percent of total graduates) instead of science and engineering or practical fields (22 percent of total graduates), compared to the pattern of student specialization in the OECD and lower middle income countries (Figure 2.13). Not surprisingly, recent studies in Egypt point out a huge mismatch between the skills demanded by new enterprises and those available in the work force, leading to an extended and difficult transition period when graduates are trying to find work (Assaad and Fahimi, 2007).

Concern for quality led Egypt to establish a "National Quality Assurance and Accreditation Committee (NQAAC)" in October 2001. This committee was supposed to promote quality assurance in higher education; encourage the improvement in academic standards and the quality of learning; facilitate the development and application of national reference standards taking into account the international standards; and support institutions, public and private, in the development of their internal quality assurance systems. In parallel, the government, with the support of the World Bank, embarked on a project called the "Higher Education Enhancement Project", with the objective of improving efficiency through reforming the governance and management of the higher education system; improving the quality and relevance of university education to respond to the labor market needs; and improving the quality and relevance of mid-level technical education (El-Berr, 2004). However, these initiatives have yet to produce tangible results.

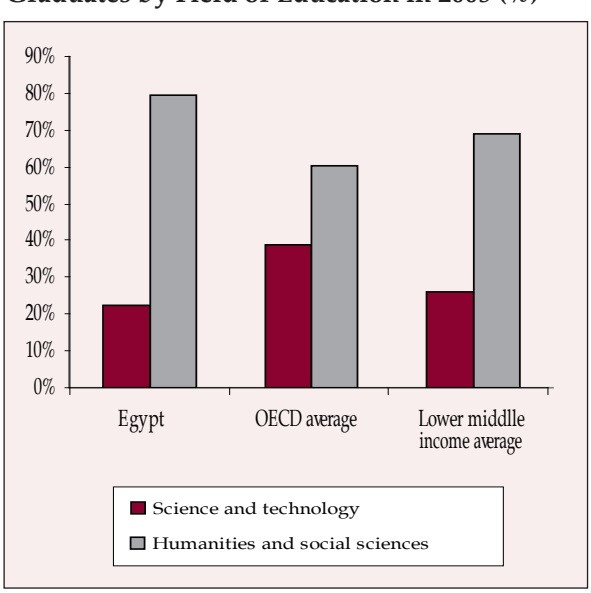
In short, improving the quality of higher education and ensuring that university graduates possess a wide range of problem-solving and world-class-professional skills poses a challenge, as it requires substantial resources to finance the technological upgrading and adaptation of higher education institutions, updating curricula, instruction techniques and learning methods, and upgrading academic staff skills as well as increasing their salaries, This is especially true in view of the expected future increase in the demand for higher education, the desire to improve the competitiveness of the Egyptian economy, and the need to maintain a high level of economic growth.

2.3.3 Transition from Public to Private Provision of Higher Education

In many countries, higher education was long viewed as a public service to be provided by the government. However, as higher education has increasingly been forced to compete for limited public resources with other important public services, such as health care, infrastructure, and primary and secondary education, gradually the private sector began to play an important role in financing and providing educational services. This shift brought to the forefront the issue of equity of access to higher education, especially by those who are qualified but are unable to afford it. This challenge is likely to increase in the future for most developing countries, including Egypt.

Historically, up until 1996, private universities were not allowed to operate in Egypt (except for the American University in Cairo, which was established in 1919). Since 1996, the role of the private sector in the provision of education has been on the rise. The number of private universities increased from 1 (American University in Cairo) to 16 private universities in 2006/07 (Ministry of Higher Education), and the number of students in

Figure 2.13
Graduates by Field of Education in 2005 (%)



Source: Global Education Digest 2007; Egypt from CAPMAS

private higher education increased by 200 percent between 2000 and 2005 (Figure 2.14). In spite of this trend, enrollment in private universities remains low (only about 17 percent of the total enrollment in higher education).

With the increase in the private provision of education and fees in some cases in public universities, the main concern is equitable access to higher education and cream skimming. On the one hand, less affluent students will not be able to enroll in these institutions, placing them at a disadvantage relative to the rich. Moreover, private universities, left to their own devices, may restrict entry to students with the grades and socio-economic classes that will assure them high results and accord them the capacity to attract more and more students of the same kind in the future.

This problem is particularly acute in Egypt as there are no loan or voucher schemes. Nor is there an explicit strategy as to the division of labor between the public and private sector. Moreover, there is no clear policy about abandoning the policy of free education for all in public universities. Coupled with the limited resources allocated to public universities, it is not surprising that some of them are trying to be self-sufficient, at least partially, by creating divisions within their faculties that are able to charge some fees.

In summary, then, the government will increasingly rely on the private sector for the provision of education. However, concerns for equity remain a real challenge in the future.

2.3 Alternative Financing Strategies

The public provision and financing of higher education in Egypt suffer from inefficiencies as well as deteriorating quality and inequality in access. In view of the increasing demand for higher education, the public sector can no longer afford to be the main provider in this sector. Moreover, the situation of constrained resources and the higher social rate of return to basic education suggests the following: (i) focusing scarce public funds on basic education; (2) allowing the private sector to play a bigger role; and (3) charging fees in public universities when socially and economically justified.

The Government recognizes these concerns and has already taken steps towards reforming the finance of the higher education system which allow the private sector to play a bigger role. But can the state leave the provision of higher education entirely to the private sector? Obviously, leaving the provision of education to market forces is likely to result in uneven provision and access by different socio-economic groups. This may also cause rising public resentment and protests. State intervention is necessary to guard collective social interests and ensure a balance, particularly in favor of the under-privileged who may not be able to afford the market cost of private education.

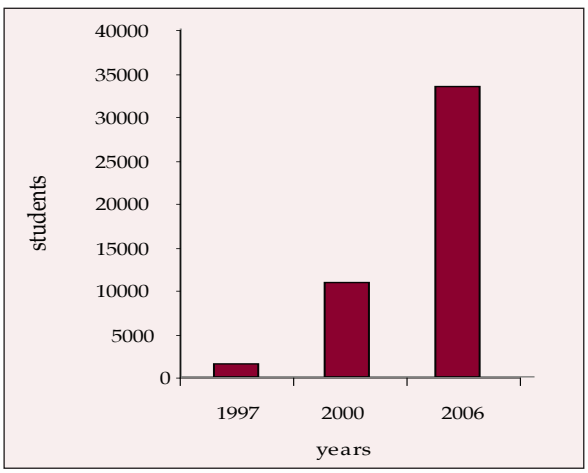
A balanced approach is more desirable. This approach combines encouraging the private provision of higher education through a favorable legal and regulatory framework in order to become the main supplier of higher education, while simultaneously rationalizing public provision of higher education in such a way as to make public higher education institutions more efficient and equitable. The government will have to play a supervisory role to ensure equity so that students from low socio-economic status benefit. After discussing below the reforms undertaken in this field so far, the features of this dual approach are elaborated.

2.3.1 Reform Attempts of Higher Education Financing

The Egyptian government recognizes the shortcomings of the current system, and has taken steps to address some of the challenges facing the higher education system. For instance, to address the issues of efficiency, the government has tentatively attempted to apply cost sharing to special programs in public universities; it has also attempted to link academic staff remuneration with the level of performance. In addition, the government has encouraged the private provision of higher education in order to meet the challenges of increased future demand for higher education.

Indeed, in recent years the government has allowed public universities to charge nominal tuition fees for special academic programs that are perceived to be of high quality and for which there is high demand. For example, state universities have introduced foreign language programs for which they charge tuition and where students cover at least part of the cost. Also, the number of applicants in some degree programs in public universities exceeds available spaces, a phenomenon which gives room for universities to charge tuition. This system, applied to admission to the faculties of Law, Commerce, and Arts, allows a less qualified student to obtain a place on paying a

Figure 2.14
Students in Private Universities



Source: Data from Ministry of Higher Education

relatively higher admission fee. While the tuition charged in this case is still only about 33 percent of the actual cost of the program, this arrangement sets a precedent towards cost recovery in public institutions (World Bank, 2002b). A gradual application of this approach to encompass more programs should be envisaged.

In addition, the government has introduced a performance based salary system for academic staff. The government has recently taken an important step towards advancing the reform of Higher Education through the introduction of a new salary/remuneration structure for faculty members since July 1, 2008. The new regulations for increasing the university staff salaries aim at linking the income to performance. University professors may be able to get additional pay in addition to their basic salaries depending on the performance. However, this new scheme is optional and university staff have the option to join. This casts major doubts on the merit of this scheme and whether it will actually have any impact on the performance of the academic staff or the quality of education. This is especially true since the general attitude towards this scheme is resentful and uncooperative due to cultural reasons.

Concerning promoting private provision of higher education, as discussed earlier, since 1996 the private sector has been characterized by increasing participation; however, its role is still very small covering only 17 percent of tertiary enrollment, and taking into consideration the expected increase in demand for higher education more private involvement is needed. In addition, most of the new private institutions are centered in Cairo and a geographical balance needs to be taken into consideration before approving new institutions.

In addition, most of the new private institutions are profit making institutions. Regrettably, the current Law 101 of the private universities stipulates that private universities are essentially not-for-profit. "Essentially" means that they could make profits, and indeed most of the operating private universities aim to make profits.

To tackle the shortcomings of Law 101, and in favor of allowing a bigger role for private higher education, a new form of private university is under consideration through a new draft law, which is awaiting approval from Parliament. The articles of the new draft law stipulate that private universities are not profit-making institutions, and that they can be established by one or several legal entities or individuals. They also stipulate that the funds of private universities should come from the contributions to their endowment funds and from investing their assets.

The government has attempted to address some of the challenges that the higher education system is facing such as issues of quality and meeting the ever-increasing demand. However, these attempts have hardly produced any tangible results, as solving these problems requires considerable financial resources beyond the means of government.

2.3.2 Rationalization and Diversification of Public Financing of Higher Education

As indicated above, public financing of higher education is inefficient and producing poor quality outcomes. Rigidities in the public financing mechanisms contribute to the inefficiency as financial resources in public universities are limited to mainly government funds (especially in the wages area), very modest student fees, and limited funds obtained from research activities. Moreover, universities do not enjoy financial autonomy. Budgets are allocated in a line item format and universities do not have the authority to allocate resources among different budget lines nor across different faculties according to their needs, student intakes, faculty hiring, or academic offerings. University officials have lim-

ited freedom in personnel management, which is constrained by regulations similar to those in the civil service where salaries are not linked to performance. Once an appointment is made, termination is very difficult. Consequently, funding levels and staffing reflect neither student demands nor changing needs (El-Baradei, 2004) which in turn affects the quality of education.

In order to improve the system's efficiency, the public higher education system needs to adopt more rational resource allocation mechanisms as well as reduce the financial control of the state and allow the devolution of responsibility to universities themselves, permitting public universities to freely use their financial resources to achieve efficiency and improve quality. This could be achieved through:

- Reducing the size of redundant non-academic staff to the actual needed level;
- Shifting more current resources towards academic staff remunerations and linking all promotion and salary increases to performance;
- Allocating government funds to universities on the basis of size of student enrollments, weighted to reflect cost differentials across faculties, as some faculties require more resources than others;
- Allowing autonomy with accountability to reallocate budgets across expenditure items and across faculties or for development purposes such as academic development, faculty and staff upgrading, refurbishing of facilities, and procurement of instructional equipment according to internal policies and goals;
- The development of new forms of accountability through reporting on performance and outcomes in achieving nationally-set goals for the sector, as well as institutionally set targets for quality and performance; and
- Providing financial incentives for universities to respond more quickly to changing labor market demand and upgrading teachers' skills.

Moreover, public higher education institutions must be allowed to diversify funding sources aside from government funding, and to achieve full autonomy over their assets. This opens the way for the use of a variety of funding sources including:

- Adopting tuition fees that reflect the actual cost, including limiting subsidies in conjunction with a system for scholarship programs for Honor Students; and applying a quota of grants for each faculty for poor students, while applying a special student loan system for public universities with favorable terms and low interest rates.
- Allowing public universities more freedom to generate revenue through the provision of scientific and technical assistance, consulting services, and educational training programs. This may lead to improved quality and quantity of contracted research and consultancy work due to competition with other institutions.
- Creating endowment funds for public universities financed by donations from alumni and other benefactors as well as grants from charities or foundations.
- Having long-term contracts with private sector organizations in which they build, operate, and maintain student residences and recover the costs from charging students rent.

These measures will increase the share of income from non-government sources, and allow higher education institutions a much-needed flexibility to allocate or reinvest the money it has earned. Universities can use the funds from these income-generating activities, to boost quality and efficiency through the improvement of curricula, infrastructure, equipment and student services as well as the development of instructional and research skills.

2.3.3 Looking Ahead: Alternative Financing Measures

While looking ahead and trying to meet all the challenges facing the financing of higher education, one must keep the issue of equity in mind. As most higher education students come from the middle class and since higher education has the highest private rate of return, private universities can charge actual costs while public universities can apply cost sharing, and rather than transferring public subsidies to all students; the government's subsidies must target the most disadvantaged to ensure more equitable access. This would be a shift from the supply-side funding (in which the government allocates funds to universities) to the demand-side funding (in which public funds go directly to students).

As indicated by the World Bank (1994), Friedman (1963, 1980) and Calero (1998), the reason be-

hind providing the funds to those who demand education and not those who supply it, is that since economically disadvantaged students are allowed to take their assistance package to any institution of their choice, they will have the freedom and the opportunity to make the same choices as their higher-income peers. Moreover, demand-side financing can ensure good quality as it will stimulate competition among different higher education institutions in order to attract students by delivering the best and most up to date curricula and advanced programs (Al-Lamaki, 2006).

In addition, to meet the increasing demand, the private sector in Egypt should play a bigger role in this field and expand provision of higher education. However, left to the private sector, students from disadvantaged groups may not be able to enter higher education institutions and the gap between rich and poor will widen.

Therefore, it is crucial that promoting the private participation would not turn higher education into a profit making business. It is important to highlight that the encouragement of private sector contribution in higher education should be intended for private non-profit (philanthropy) institutions. These institutions are owned and operated by trusts that rely heavily on endowments and fees collected from the students. Most of them are self-financing institutions. Some of the best universities in the USA, such as Harvard, MIT and Princeton, are private and have large endowment funds. Also, Egypt has the American University in Cairo, which operates under the same system. It is encouraging that the government is moving into this direction as stipulated in the draft law of private universities which encourages the establishment of this type of private higher education institutions.

So basically, to achieve the concept of equity, those who benefit from higher education and have the economic ability to pay should at least bear some, if not all, the costs of higher education. This concept of cost-sharing is now a worldwide phenomenon, wherein the burden of the cost of higher education is shifted from exclusive dependence on the government to the students, through tuition fees. This is seen in a number of developed and developing countries (Box 2.1) such as the introduction of tuition fees, along with the phasing out of student grants, in the UK and Austria, the introduction of tuition fees in China and other nations still holding to some elements of Marxist-Socialist ideology, the heavy reliance on private, tuition-supported colleges and universities in much of Asia (Japan, Korea, the Philippines) and Latin America (Brazil, Chile, Mexico).

In Egypt, the concept of cost-sharing should be introduced gradually through adjustments to the tuition fees at the public higher education institutions. This paradigm shift, however, must introduce a parallel system of financial assistance in order to ensure accessibility and equity such as student loans and grants given directly to the poor in the forms of voucher schemes and scholarships to ensure equity.

Student loan programs can be used as an important policy instrument to promote equitable access to higher education. Indeed, to increases accessibility to higher education, many countries rely on it. Student loan schemes that are reasonably comprehensive and conventional (i.e. are repaid on a fixed schedule of payments) and that have been operating long enough to be considered an established part of a total cost-sharing-and-student-finance policy would include governmentally-sponsored student loan schemes in, for example, the United States, Canada, Japan and South Korea. To these, we could add the more discretionary income contingent loans which are repaid on an income contingent basis, such as the programs in South Africa, Australia or Chile.

It is worth noting that in Egypt in 1998, the International Finance Corporation (IFC) conducted an extensive feasibility study on the market for student loans in post-secondary education in Egypt. This study recommended against launching a student loan program due to the following reasons: (a) limited market size; (b) underdeveloped debt/credit market; (c) cultural attitude uncomfortable with personal debt and loans; and (d) lack of a consumer credit agency (World Bank, 2000).

The above recommendations notwithstanding, many of the above mentioned reasons no longer apply now that the financial institutions have developed over time with the presence of foreign banks, new financial products such as car loans, personal loans and mortgage finance, The market has thus changed drastically since 1998.

In Egypt loans or grants could be provided to disadvantaged students from low income families. But without government support, students

who have no collateral may not be able to borrow; the role of the government in these cases is to act as the guarantor. Regarding sources of finance, private sources could be commercial banks, and firms that allocate student grants, as a strategy to fill its needs in terms of skilled labor (Perrot, 1988), so they finance students in higher education and training in certain relevant fields and hire them afterwards to fill their own skills gaps.

Repayment of student loans can take different forms classified according to the social and economic background of students: students coming from families with enough collateral to guarantee their children/relatives can borrow mortgage loans and pay back their loans over a fixed period of time; for those coming from families with insufficient collateral the government can play the role of the guarantor, and these students can borrow either an income contingent loan, or receive a mixed grant/loan scheme. For the income contingent loan, repayment is a function of the amount borrowed and a percentage of the income that graduates will earn once they complete their education and become employed. Students may choose to repay in this system either in fixed amounts, gradual amounts, or graduate tax. However, for this system to work efficiently, individual students' debts and graduates' incomes must be recorded accurately, the system of collection of repayments must be efficient and legally binding (e.g. income tax system in Australia, or through employer deductions in South Africa) In a grant/loan mix scheme, student financial aid may be provided partially as a scholarship and partially as a loan.

On the other hand, grants and scholarship schemes for the most needy and academically qualified students, unlike student loans, are free monies made available to the less economically advantaged students who have demonstrated potential for academic success and to scholars based on academic merit or other specific attributes (such as athletic scholarships). A quota of grants could be specified each fiscal year. To make grants more efficient, the voucher system, that is generally a payment (cash or coupon) given directly to students, can be used. Students then may submit vouchers to the higher education institution of their choice (Varghese, 2004).

Box 2.1 Examples of Cost-Sharing and its Worldwide Growth

Cost-sharing takes on many different forms. But in whatever form or forms, cost-sharing is generally increasing throughout the world at the start of the 21st century—as in:

- The United Kingdom: The UK in 1998 became the first European country to impose more than a nominal tuition fee. The tuition fee is high but is deferred for all students and repaid after graduation as a portion of earnings, at a rate of interest equivalent to the then prevailing rate of inflation (i.e. a zero real rate of interest).
- Japan: Japan, with one of the largest higher educational systems and highest participation rates in the world, has fully adopted the principle of cost-sharing. Japan also depends on the private sector, absorbing in 2006 more than 73 percent of all students. Financial assistance is mainly in the form of low interest loans capped by law at 3% and repayable over 20 years.
- Latin America: In much of Latin America, cost-sharing and revenue diversification generally have taken the form of increasing reliance on a tuition fee-dependent private higher education, with the public universities continuing to feature either no, or very low, tuition.
- China: Since 1997, China has charged tuition to nearly all students. New forms of student loans and means-tested grants begun in 2003 are still in 2006-07 being developed.

What these and other countless illustrations show is that governments throughout the world are embracing—however tentatively, policies like tuition fees and student loans, and employing some version of cost sharing in the forms of tuition, user fees, and official encouragement of a tuition-dependent private higher education sector.

Source: Johnstone (2007).

2.4 Conclusions

The current system of financing higher education in Egypt is inadequate, inefficient and inequitable, and one that is contributing to the perpetuation of the rigid class structure, creating a vicious cycle of poverty and regional imbalance instead of contributing to social mobility and equality of opportunities.

Egypt needs to face the challenge of financing

Box 2.2 Students Loans System in Chile

Within the theory and practice of cost-sharing, more and more countries are looking to student loan schemes as a way to allow students to bear a portion of the costs of their higher education. A good example of student loans programs that have achieved some stability is the experience of Chile.

Chile has two principal student loan programs: the University Credit Program and the Credit to Finance Higher Education Studies, both of which are means tested and cover only tuition fees. They both involve the higher education institutions in sharing the risk of non repayment. The former is an income contingent loan with a real interest rate of 2 percent. Repayment begins after a two year grace period at a rate of 5 percent of income. Any loan balance remaining after 15 years is written off. The universities are responsible for collecting payments.

The latter is a conventional loan that has an in-school grace period. Repayment begins 18 months after the student has finished his/her degree in a series of 240 monthly installments divided into three periods (those payments in the first period are slightly lower than those in the second and those in the second, are slightly lower than those in the third). The loans are partly guaranteed by the higher education institutions.

Source: Johnstone (2004)

higher education while satisfying the criteria of equity, efficiency and quality. To achieve this, a reformed education system is needed where the government limits the subsidies to the targeting of needy students and increases student fees in public higher education institutions to reflect actual costs. At the same time it should encourage an expansion of the provision of not-for–profit private higher education in a well regulated framework that is also concerned with equity and quality. Public and private institutions must be allowed to generate their own funds. Implementing cost sharing while attempting to apply student loan programs and grants will help ensure equity, as wealthy students will pay tuition fees reflecting actual costs while disadvantaged students can resort to loans or apply for a grant. This will help expand access to higher education to encompass the low socio-economic strata of the population that is currently characterized by low enrollment in higher education.

Notes

1. Data on OECD and Lower Middle Income countries averages are for 2004 and 2005.
2. Taking 2005 instead of 2006.
3. The public expenditures by quintile is calculated based on the data from the Egyptian households survey, where levels of education per quintile is identified and multiplied by corresponding cost per student.

References

Amer, Mona. 2007. "The Egyptian Youth Labor Market School-to-Work Transition 1998-2006," Working Paper No. 0702, Economic Research Forum.

Assaad Ragui. and Fahimi F. 2007. "Youth In The Middle East And North Africa: Demographic Opportunity Or Challenge?" *Population Reference Bureau MENA Policy Brief*, April 07

Birdsall, Nancy and J.L. Londono. 1997. "Asset Inequality Matters: An Assessment of the World Bank's Approach to Poverty Reduction." *American Economic Review*, Vol. 87

Bloom, David, Canning, David. and Sevilla, J. 2003. "The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change," RAND, Santa Monica, Calif.

Bloom, David and Canning, David. 2005. "Global Demographic Change: Dimensions and Economic Significance," Working Paper 1 (Boston: Harvard Initiative for Global Health, Program on the Global Demography of Aging).

CAPMAS. 2000. *The Income, Expenditure and Consumption Survey 1999/2000*.

_____. 2007. *Annual Statistical Year Book 2006*

Calero, J., 1998. "Quasi-market Reforms and Equity in the Financing of Higher Education," *European Journal of Education*, Vo. 33, N. 1.

Carnoy, Martin. 2006. "Higher Education and Economic Development: India, China and The 21st Century," Paper presented at the Pan Asia Conference: Focus on Economic Challenges, May 31- June 3, 2006, Stanford Center for International Development, Stanford University.

Elbadawy, Asmaa. 2007. "Education at a Glance: Selected Indicators Based on the Egypt Labor Market Surveys of the 1988, 1998 and 2006." *Working Paper*. Economic Research Forum.

El-Baradei, Mona and Laila El-Baradei. 2004. "Needs Assessment of the Education Sector in

Egypt." ZEF.
Fergany, Nader. 2000. Arab Higher Education and Development, An Overview. Almishkat Center for Research, Cairo.
Friedman, Milton. 1963. Capitalism and Freedom, Chicago: University of Chicago Press.
Friedman, M. And Friedman, R. 1980. Free to Choose: a personal statement, New York: Harcourt Brace Jovanovich
Galal, Ahmed. 2002. "The Paradox of Education and Unemployment in Egypt." *Working Paper 67*. The Egyptian Center for Economic Studies.
GUNI. 2006. Higher Education in The World 2006. The Financing of Universities, GUNI on the Social Commitment of Universities 1.
IDSC. 2008. "Characteristics of University and Higher Education," Information Reports, Second Year, issue #16, April 2008.
Johnstone B. and Marcucci P. 2007. Worldwide Trends in Higher Education Finance: Cost-Sharing, Student Loans, and the Support of Academic Research, UNESCO.
Johnstone B. 2004. "The Applicability of Income Contingent Loans in Developing and Transitional Countries," *Journal of Educational Planning and Administration*.
Perrot, Paul. 1988. Translated by Andre Devoust. Mobilization and Management of Financial Resources for Education: A Synthesis of A Few Case Studies, UNESCO, Paris.
Pritchett, Lant. 1996. Where Has All the Education Gone? Washington, D.C.: *World Bank Policy Research Working Paper Series* 1581.
M. Al-Lamaki, Salma. 2006. The Development of Private Higher Education in the Sultanate of Oman: Perception and Analysis. *International Journal of Private Education*.
Otieno, Wycliffe. 2007. Access and Equity in Higher Education: Assessing Financing Policies in Kenya (forthcoming)
Richards, Alan. 1992. "Higher Education in Egypt." *The World Bank Working Paper* 862.
Thomas, Vinod; Stephens, Peter. 1994, The Evolving Role of the World Bank: the East Asian Economic Miracle
UNESCO. 2007. Education Counts: Benchmarking Progress in 19 WEI Countries. World Education Indicators 2007. Montréal: UNESCO
_____. 2007. Global Education Digest, 2007, Comparing Education Statistics Across the World.
UNPD. 1996. Egypt Human Development Report 1998. New York: UNDP.
_____. 2003. Egypt Human Development Report 2003. New York: UNDP.
_____. 2004. Egypt Human Development Report 2004. New York: UNDP.
_____. 2008. Egypt Human Development Report 2008. New York: UNDP.
Varghese, N.V. 2004. Private Higher Education in Africa. UNESCO.
World Bank, EdStats – Global Country Data – Data Query System. (This database allows for flexible retrieval of the available data from UNESC Institutes for Statistics.)
_____. 2000. Arab Republic of Egypt, Higher Education. Report # PID9033
_____. 2002a. Arab Republic of Egypt Education Sector Review: Progress and Priorities for the Future (In Two Volumes). Report No. 249005-EGT.
----------.2002b. Arab Republic of Egypt Higher Education Enhancement Project (HEEP). Washington, D.C.: World Bank.
_____. 2004. Arab Republic of Egypt, A Poverty Reduction Strategy for Egypt, Report No. 27954-EGT.
_____. 2006. Egypt Higher Education Enhancement Project, Supervision Mission, HEEP Aide Memoire.
_____. 2007. World Development Indicators 2007, The World Bank, Washington DC.
_____. 2008. The Road Not Traveled, Education Reform in the Middle East and North Africa. Washington, DC: World Bank.
العربى، أشرف .2008. العائد الاقتصادى على التعليم فى مصر.
العربى، أشرف .2009. تمويل التعليم العالي فى مصر.: رصد الواقع – دراسة التجارب- و مصادر التميل المقترحة، نسخة معدلة، مركز المعلومات و دعم اتخاذ القرار

CHAPTER 3

Financing Higher Education in Jordan

Taher Kanaan

in collaboration with

Mamdouh Al-Salamat and May Hanania

3.1 Introduction

Higher education in Jordan started in 1951 with a one year postsecondary teacher training college. The first university program began in 1962 with the establishment of the University of Jordan. It did not, however, emerge as a significant economic sector until early in the last decade. Up until the end of the 1980s higher education in Jordan was entirely public sector owned and operated, and heavily subsidized by taxpayers. Mounting numbers of university students and the rigidity of both tuition fees and government subsidies drove public-sector universities into serious decline financially and qualitatively. This gave opportunity to private entrepreneurs to profit from setting up private universities, relieving the pressure of numbers on the public universities.

Demographic pressures associated with a disproportionately young population, coupled with the response of the private sector in accommodating the rising number of eligible students by creating private higher education institutions, led to a dramatic increase in the number of universities in Jordan. Today there are 10 public and 16 private universities in Jordan offering a variety of four-year degree programs. At the same time, the urgency of developing a vibrant higher education sector, compounded by Jordan's lack of natural resources and its subsequent reliance on human capital to remain competitive, led Jordan's leadership to place significant attention on the sector and push for concrete strategies to support and expand its performance. As a result Jordan has witnessed a large expansion in its education base with enrollment rates more than doubling in the last five years.

Parallel to this non-university and vocational education is offered at community colleges, which were created in 1981 by converting and expanding the existent teacher colleges. These institutions are meant to offer two-year career-oriented training, and prepare their students for work in middle-level professions. As of 1997, all community colleges (numbering close to 50, half of which are public and half private) have been supervised by and affiliated to Al-Balqa Applied University, which is a Jordanian public university. They offer about a hundred specializations distributed

through 11 programs: academic, administrative, agricultural, applied arts, computer, educational, hotel management, meteorological, paramedical, social work, and engineering.

Access to higher education is open to holders of the General Secondary Education Certificate (the *Tawjihi*) who can then choose between universities and community colleges. The credit-hour system, which entitles students to select courses according to a study plan, is implemented at universities. Admission is highly competitive, but students from the less privileged areas in the kingdom are accepted on the basis of a quota system, which allows the most competitive of them to be admitted relatively easily.

All post-secondary education is the responsibility of the Ministry of Higher Education and Scientific Research (MoHESR) which was established by the Higher Education Law in 1985. The Ministry includes the Higher Education Council (HEC) and the Accreditation Council (HEAC). In principle Jordanian universities enjoy a degree of autonomy. In reality, however, they are subject to fairly severe constraints imposed by the HEC and the HEAC.

Pre-university reform in Jordan has yielded nearly universal access at the basic level and an enrollment rate of over 80 percent at the secondary level. Combined with rapid population growth and an overwhelming young population (38 percent under the age of 14), this has created a strong demand for higher education that is expected to rise exponentially in the coming years. Close to 30 percent of 20 to 24 year olds (200,000) were enrolled in higher education in 2007; more than two-thirds of these attended public institutions. Enrollment in private universities has expanded from 7000 in 1992-93 to more than 57,000 students today.[1] The increase in the number of students attending private universities in part reflects the stringent admission requirements designed to constrain the number of publicly funded places available at public universities. The admission requirements are of course proportionately more demanding for faculties that are more costly to run, e.g. medicine and engineering, which therefore can afford a fewer number of publicly subsidized places.

The creation of privately owned universities was the response of the market to the mounting demand of students whose qualifications were not competitive enough to secure for them the subsidized seats in the public universities. After a while, public universities in turn responded to similar market incentives, and some of them decided to increase the number of seats they offer by creating the so-called "parallel programs". These admit eligible students who, because of insufficient *Tawjihi* scores, did not make it into the faculties they desire. For this advantage they are charged higher fees that cover as a minimum the marginal cost of such admissions. This system has existed for less than 10 years, and has led to a substantial number of non-regular (parallel) students at public universities. The number of such students currently stands at over 20 per cent of the regular student population, and these are included in the figures already cited.

Finally, one feature of Jordanian higher education not observed in many other countries in the region is the relatively large number of international students who attend Jordanian universities. In 2007, close to 25,000 foreign students were enrolled at Jordanian universities. Of this number 13,000 attended private universities and 6,686 were female. The majority of these students were Arab nationals. The relatively high number of foreigners (more than 10 percent of the total) is attributed to the reputation of Jordanian universities; diversity of program offerings; and the modern, yet conservative community, coupled with greater security and political stability than in other countries in the region. This has been highlighted by a recent World Bank Report that identified Jordan as a leader in higher education in the Middle East.[2] The high percentage of international students naturally brings both financial and moral benefits to Jordanian universities.

3.2 Adequacy, Efficiency, and Equity in Financing Higher Education in Jordan

Under the current financing arrangements, the higher education system in Jordan faces a number of constraints that affect the adequacy, efficiency and equity of funding. Major funding constraints include the fact that universities have no control over student tuition fees and public universities have no control over student enrollment. The government subsidies fluctuate considerably on a yearly basis and are unpredictable. Consequently, universities find it difficult to adopt long-term financing plans to support their activities.

This section will assess the expenditure on higher education on the basis of the criteria of adequacy, efficiency, and equity.

3.2.1 Adequacy

In assessing adequacy, this chapter looks at public and household spending on education. It compares the expenditure on higher education as a percentage of GDP and government expenditure both over time and in comparison with OECD and countries at a similar level of development. It also analyzes the trend of government subsidies to public universities and the household expenditure on higher education.

Public spending on education

The increasing number of children and youth coming of age to enter schools and universities has created pressure to increase financial resource allocation to primary, secondary, and higher education. In response to this, public spending on all levels of education continued to increase but at a somewhat lower rate than the increase in total public expenditure (See Table 3.1). As a percentage of the total fiscal budget, the share of education declined from 13 percent in 2002 to less than 11 percent in 2007, which is lower than the OECD average of 13 percent for the same year. As for higher education, Jordan spent 1.96 percent of total government expenditure on it, notably lower than the OECD average of 3 percent. However, as a percentage of GDP, public outlay on education during the same recent period remained almost stable at close to 4 percent, which is again significantly lower than the OECD average of 6 percent.[3]

Correspondingly, public spending on education has also been increasing but at slower rate. In 2007, Jordan spent close to JD 500 million on education (10.8 percent of its total public expenditure). Only 18.2 percent of this was on higher education, down from 24 percent in 2002. This indicates a shift in public spending on education towards non-tertiary education. Public expenditure on primary, secondary, and post-secondary non-tertiary education is now 4.5 times that of tertiary education, which is larger than the OECD average of 3 times. This is mainly attributed to the almost universal enrollment rates of students in pre-tertiary education, but also because the private share in expenditure on higher education has been rapidly increasing. As new universities were established, the government financial subsidy to higher education has been declining, decreasing from JD 71 million in 2002 to just over JD 65 million in 2007. In part, this reduction has been offset by an increase in the Student Aid Fund that is now available to provide loans and grants for poor students.

Public expenditure on higher education as a proportion of GDP reveals less than adequate spending compared with other countries. The proportion of public expenditure devoted to high-

Table 3.1
Public Spending on Education, 2002 and 2007

	Amount (million JDs)		Overall Spending on Education (%)		% GDP		% General Budget	
	2002	2007	2002	2007	2002	2007	2002	2007
Ministry of Education	240.1	407.5	76	81.8	3.53	3.48	9.95	8.85
Ministry of Higher Education	2.8	25	n.a	n.a	0.04	0.21	0.12	0.54
Govt University Subsidy	71.8	65.4	n.a	n.a	1.05	0.56	2.97	1.42
Public spending on Higher Educ (incl. subsidy)	74.5	90.4	24	18.2	1.10	0.77	3.09	1.96
Total	314.5	497.9	100	100	4.63	4.25	13.03	10.81
GDP	6,794	11,721						
Total Public Spending	2,413	4,604						

Source: Budget law for the years 2003 and 2008; public universities financial statements for the years 2002 and 2008; Central Bank of Jordan statistics for the year 2008.

er education as a percentage of GDP was a low 0.77 percent in 2007, (See Table 3.1). This figure is significantly lower than the OECD average of 1.5 percent[4] and also lower than other countries in the region as shown in Figure 3.1.

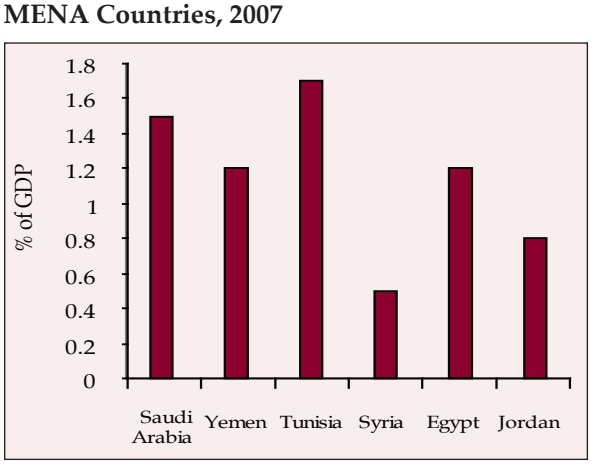
Household expenditure on higher education

Since public expenditure on higher education in Jordan is relatively low, Jordanian universities do not rely to any substantial degree on government funding. Instead universities earn significant amounts of their income beyond what they receive from the government. This in large part comes from tuition fees they charge their students, and the even higher fees they charge international and parallel students. In fact tuition fees, currently at 65.6 percent of university income and triple the amount provided by the government, represent a much higher proportion of public university income than is the case in the majority of other countries.

As a result of the fees charged by higher education institutions and the increasing role played by the private sector, overall household spending on education in Jordan reached 7.03 percent of total spending in 2006, up from 6.17 percent in 2002[5] . Of this level of expenditure, household spending on higher education as a percentage of total household expenditure on education is 61 percent. In 2006, household expenditure on higher education reached JD 298 million or almost 3 percent of GDP.

Figure 3.1

Government Expenditure on Higher Education as a Percentage of GDP in Jordan and other MENA Countries, 2007



Source: Global Development Indicators, Jordan Department of Statistics (DOS), 2008.

Given the relatively high level of household expenditure on higher education, it follows that the investment per student in universities in Jordan is better than comparative countries. Looking at the annual expenditure per student in higher education, in terms of US dollar purchasing power parities, shows that Jordan spends five times more per student than Egypt and almost twice the average for lower middle-income countries.

3.2.2 Efficiency

In assessing efficiency, internal efficiency is assessed using different indicators including the pattern of allocations between current and capital expenditure, cost per student, expenditures on academic and non-academic staff, and student-teacher ratios. External efficiency is assessed by looking at relative earnings, rates of return on education, and the distribution of unemployment by education category.

Internal efficiency

A number of indicators suggest that the pattern of expenditure on higher education in Jordan is not efficient. Although expenditures on university education have been steadily increasing over time, they hardly kept pace with the volume of enrolled students except by compromising quality. This is indicated by the stagnant, if not declining expenditure per student. The high student-to-teacher and faculty-to-non-faculty ratios also reflect internal inefficiency among universities in Jordan.

Table 3.2

Sources of Funds for Jordanian Public Universities, in million JDs

	Govt Subsidy	Tuition Fees	Other	Total Income	% Govt Support	% Tuition Fees
2001	68.4	85.9	18.2	172.5	39.7	49.8
2002	71.7	104.8	30.6	207.1	34.6	50.6
2003	87.3	128.7	34.0	250.0	34.9	51.5
2004	62.9	155.0	43.5	258.5	24.4	58.8
2005	57.5	172.1	35.9	265.5	21.7	64.8
2006	64.5	198.5	47.1	310.0	20.8	64.0
2007	65.4	205.6	42.3	313.3	20.9	65.6

Source: The Financing of Public Universities in Jordan, a study carried out by the Higher Education Policy Institute on behalf of the HERfKE Project, June 2008.

Table 3.3
Household Expenditure on Higher Education

	2002/2003		2006		
	Million JD	%	Million JD (current price)	Million JD (Constant price, 2002 = 100)	%
Household Expenditure on Community Colleges	10.3	5	13.7	11.8	5
Household Expenditure on Public Universities	89.1	45	167.5	145.0	56
Household Expenditure on Private Universities	85.2	43	103.7	89.8	35
Household Expenditure on Universities Abroad	12.9	7	12.7	11.0	4
Household Expenditure on all Higher Education	197.6	100	297.6	257.6	100

Source: Jordan Department of Statistics (DOS), Household Expenditure and Income Survey for 2002/2003 and 2006.

Table 3.4
Household Expenditure on Education as a Percentage of Total Household Expenditure

	2002/2003		2006		2006 times 2002/2003
	JD million	%	JD million	%	
Household Expenditure on all Higher Education	197.6	3.1	297.6	4	1.51
Household Expenditure on Pre-Tertiary Education	110.7	1.8	202.0	2.7	1.82
Household Expenditure on all Education	308.3	4.9	499.6	6.6	1.62
Total Household Expenditure	6305.6	100	7521.8	100	1.19

Source: Jordan Department of Statistics (DOS), Household Expenditure and Income Survey for 2002/2003 and 2006

Current vs. capital expenditure[6]

What is also indicative of limited improvement is the small proportion of expenditure allocated to capital formation. Capital expenditure of public universities averaged 12 percent of the total for the recent five years (2003-2007). That of private universities averaged even less at 9 percent over the same period, in spite of the fact that private universities are new and supposed to be expanding their facilities. Moreover, capital expenditure by both public and private universities both in absolute terms as well as a proportion of total expenditure has been continuously declining. (See Tables 3.6 and 3.7) This declining trend of capital formation in both public and private universities could have adverse effects since it suggests that productive capacity (university educational and research facilities) is not catching up with the intensity of capacity utilization required by the rising numbers of students enrolled.

Unit cost per student

Expenditure per student witnessed little positive change in recent years. In 2007 such expenditure per student in public universities amounted to JD 1775, somewhat lower than the average for the 2003-2007 period of JD 1811. In private universities, expenditure per student in 2007 was JD 1594, almost unchanged from the average for the period 2003-2007. Allowing for the rise in prices during the period, a perceptible decline in real terms expenditure per student appears to have taken place especially in the public universities. If focus is made on capital expenditure per student, the situation appears more alarming.

The observation that overall expenditures per student have been more or less stable in nominal terms, though decreasing in real terms on account of inflation, may be taken as indicative of an improvement in capacity utilization (efficiency) or of a decline in quality. Anecdotal evidence points to the latter as the more likely interpretation, particularly if we note that capital outlay per student in private universities in 2007 had declined significantly to only JD 76 relative to the average of JD 139 during 2003-2007. In contrast capital expenditure per student of public universities in 2007 was JD 140, up from an average of JD 215 for the 2003-07 periods.

Table 3.8 shows that the cost per student in public universities has been consistently higher

Table 3.5
Expenditure per Student in Higher Education in 2005 ($ PPP and percent)

	US$ PPP	(%)GDP per capita
Jordan*	4,421	98.24
Egypt**	902	23.38
OECD countries average**	11,512	36.65
Lower middle income countries average**	2,712	55.66

*Source: * Authors calculations based on financial statements of public universities 2005. **Financing Higher Education in Egypt, ERF, preliminary draft, December 2008*

Table 3.6
Public Universities Expenditure by Category

Year	Current Expenditure		Capital Expenditure		Total Expenditure
	Million JD	%	Million JD	%	Million JD
2001	153.0	82	34.1	18	187.1
2002	171.7	83	34.8	17	206.6
2003	191.8	87	29.0	13	220.8
2004	225.8	89	29.2	11	254.9
2005	233.1	89	29.1	11	262.2
2006	260.5	84	48.3	16	308.9
2007	279.5	92	23.9	8.0	303.4

Source: Financial Statements of Public Universities

Table 3.7
Private Universities Expenditure by Category

Year	Current Expenditure		Capital Expenditure		Total Expenditure	Tuition fees
	Million JD	%	Million JD	%	Million JD	Million JD
2003	60.2	81	14.4	19	74.6	90.5
2004	73.4	93	5.9	7	79.3	96.0
2005	78.3	94	5.2	6	83.5	105.0
2006	83.5	94.5	4.9	5.5	88.4	110.2
2007	87.2	95	4.4	5	91.6	113.4

Source: Financial Statements of Private Universities

than in private universities. In the public universities the cost per student during 2003-2007 averaged JD 1811, or 14 percent higher than the corresponding average for private universities of JD 1593. This may be taken as evidence that the private universities are more efficient due to smaller numbers of administrative staff relative to teaching staff despite the latter being better paid at the private universities than at the public universities. At least part of the observed difference could be explained by the fact that the public universities generally have larger capacities in the more expensive faculties, e.g. medicine and engineering. At the same time, nominal efficiency of the private universities is not matched by the real efficiency in terms of education quality which is judged to be generally better in the public universities. It should also be noted that capital expenditure per student was 55 percent higher in the public than in the private universities.

Students enrolled in university education who numbered 161 thousand in 2003, increased rapidly to 217 thousand in 2007, a growth of 35 percent in four years. The bulk of university education has been provided by the 10 public universities which accommodated 77 percent and 79 percent of enrolled students in 2003 and 2007 respectively.

The tuition fees paid by students of public universities which in 2001 accounted for 46 percent of total university expenditure, increased steadily in share to cover 68 percent of such expenditure. This increase was made possible, not by increasing fees for the regular students but by imposing higher fees on international (non-Jordanian) students as well as on Jordanian students admitted to the so-called "parallel" programs, which applied less stringent admission requirements in exchange for fees high enough to cover the marginal cost of such students. Average tuition fees charged to regular students fall far short of the average cost of providing for them. In the case of parallel students and international students, tuition fees cover their costs. Therefore, for every additional regular student enrolled, other things remaining equal, quality is likely to be compromised.

As for private universities, their financing is entirely dependent on tuition fees paid by students. The total per student in private universities during 2003-07 averaged about JD 1969 compared to JD 1811 in public universities, that is, the cost per student in private universities was higher by a

Table 3.8
Cost per Student, Public and Private Universities

	Current Cost per Student		Capital Cost per Student		Total Cost per Student	
	Public	Private	Public	Private	Public	Private
	JD	JD	JD	JD	JD	JD
2001	1,543	n.a.	343	n.a.	1,886	n.a.
2002	1,528	n.a.	310	n.a.	1,839	n.a.
2003	1,555	1,313	235	315	1,790	1,628
2004	1,623	1,480	210	119	1,832	1,599
2005	1,561	1,488	195	99	1,756	1,587
2006	1,602	1,472	297	86	1,899	1,558
2007	1,636	1,518	140	76	1,775	1,594
Average: 2003-07	1,595	1,454	215	139	1,811	1,593

Source: Authors calculation based on financial statement of Jordanian universities

margin of 9 percent relative to public universities. If we exclude capital expenditure and consider only "current" outlay, the corresponding costs per student are JD 1783 in private universities compared to JD 1595 in public universities, i.e. higher in the former by a margin of 12 percent. Implicit in the difference between the two margins is the lower capital cost per student incurred by private universities. This is an interesting finding in view of the fact that because private universities are still young and in the stage of formation, allegedly seeking a quality edge over public universities, one would expect from them a much higher capital outlay. This raises serious questions about the impact of profit incentives on "commercial" private universities in comparison to the private "non-profit" institutions of higher learning.

In conclusion, barring far reaching reform of the financing system, the mounting numbers of eligible students will cause the quality of higher education to remain under threat.

Table 3.9
Overall Cost per Student

Year	Public Universities		Private Universities	
	JD	US$ PPP	JD	US$ PPP
2001	1,886	4,748	N.A	N.A
2002	1,839	4,630	N.A	N.A
2003	1,790	4,506	1,628	4,098
2004	1,832	4,612	1,599	4,025
2005	1,756	4,421	1,587	3,995
2006	1,899	4,781	1,558	3,922
2007	1,775	4,468	1,594	4,013

Source: Authors calculation based on financial statement of Jordanian universities

Expenditure on faculty and non-faculty staff

Expenditure on staff (academic and non-academic) accounted for 70 percent of public current expenditure in higher education in 2007, compared to 66 percent for the OECD countries. A larger proportion of current expenditure in Jordan is allocated to teaching staff than to administrative staff. Nonetheless the salary bill for non-faculty staff is still significant reaching more than JD 62 million in public universities.

Public universities employ large numbers of academic staff, totaling 5,404 individuals in 2007. This number is up from 3,828 in 2001. Non-academic staff totals an even bigger number at 14,087. The ratio of faculty to non-faculty staff reaches 1 to 2.6 at public universities, and 1 to 1.16 at private universities.

The very large numbers of non-teaching staff has a substantial impact on the efficiency of any university. Large numbers of unproductive staff are a drain on a university's resources and consequently compromise its ability to make high-quality provision. In Jordan, a number of studies estimate that the great majority of non-teaching

Table 3.10
Current Expenditure for Public Universities by Item (%)

Year	Compensation of teachers	Compensation of other staff	Compensation of all staff	Other current expenditure
2001	45	29	74	26
2002	44	29	72	28
2003	41	30	72	28
2004	39	29	68	32
2005	41	30	71	29
2006	42	30	72	28
2007	41	29	70	30

Source: Financial Statements of Public Universities.

Table 3.11
Number of Staff and Salaries in Public Universities

Year	Faculty staff	Non-faculty staff	Salaries of faculty staff (Million JD)	Salaries of Non-Faculty Staff (Million JD)
2001	3,828	10,145	39.1	23.0
2002	3,958	9,863	42.0	25.3
2003	4,463	10,651	44.4	32.1
2004	4,792	10,960	61.0	43.6
2005	4,908	12,305	80.7	53.7
2006	5,266	12,872	92.3	61.1
2007	5,404	14,087	95.3	62.1

Source: Financial Statements of Public Universities and MoHESR Annual Reports.

staff are non-productive and are not essential for the efficient functioning of universities. Consequently, there is scope to increase efficiency if these numbers are reduced. Currently the ratio of faculty to non-faculty at public universities stands at 1:26 at a cost of JD 62 million. If this ratio were reduced to 1:2, then public universities could save JD 14.5 million directly on wages and salaries by reducing non-faculty staff.[7]

Student-teacher ratios:
Another issue that exacerbates the problem of inefficiency in higher education is the number of students per teacher in class. Despite the fact that the total number of academic staff has been increasing in recent years, the student teacher ratio has not improved. In 2007, the student-teacher ratio was 32:1 in pubic universities and 25:1 in private universities (up from 26:1 and 25:1 respectively in 2001). These ratios are also well above the OECD counties, at more than twice their average of 15:1. A recent World Bank analysis recorded that the student-teacher ratio in Jordan was also worse than any of the regional comparators considered, apart from Egypt.[8] Clearly then, faculty increases have not been able to keep up with growth in student enrollment.

External efficiency
Relatively scarce data are available to enable a careful analysis of external efficiency. Nevertheless, the following two observations lead us to conclude that higher education in Jordan is relatively inefficient compared with other countries. Unfortunately, the system seems to have created a supply of unskilled, unqualified graduates with poor quality of education, who are not necessarily in demand by the labor market.

Table 3.12
Faculty to Non-Faculty Staff Ratio for Public and Private Universities

Year	Public Universities	Private Universities
2000	1:2.7	1: 1.16
2001	1:2.7	1: 1.41
2002	1:2.5	1: 1.25
2003	1:2.4	1: 1.24
2004	1:2.3	1: 1.12
2005	1:2.5	1: 1.13
2006	1:2.4	1: 1.02
2007	1:2.6	1: 1.16

Source: MoHESR Annual Reports

Table 3.13
Student-Teacher Ratios in Public and Private Universities

Year	Enrolled (Public Universities)	Faculty Staff (Public Universities)	Student-Teacher Ratio: Public Universities	Student-Teacher Ratio: Private Universities
2001	99,187	3,828	26:1	25:1
2002	112,358	3,958	28:1	26:1
2003	123,374	4,463	28:1	25:1
2004	139,152	4,792	29:1	27:1
2005	149,325	4,908	30:1	27:1
2006	162,624	5,266	31:1	27:1
2007	170,901	5,404	32:1	25:1

Source: MoHESR Annual Reports.

Private rate of return to higher education
In 2000, the private rate of return to education in Jordan was 10.38 percent for higher education, -1.15 percent for secondary and 2.43 percent for primary education. Also, university graduates earn higher wages than secondary school graduates by about 75 percent (2005 estimate), indicat-

ing that the rewards for investing in higher education are higher than for secondary education and primary education.[9]

Relative to other countries, the rate of return to higher education in Jordan is relatively low as can be seen in Table 3.15.

Table 3.14
Private Rate of Return to Education in Jordan for the Year 2000

Education Level	Private Rate of Return to Education
Primary	2.43
Secondary	-1.15
University	10.38

المصدر: حسين طلافحة.العائد على التعليم في الأردن. المعهد العربي للتخطيط. *2002*

Table 3.15
Private Rate of Return to Higher Education

Country	Private Rate of Return to Higher Education
Jordan (1997)	7
Jordan (2002)	9
Egypt (1988)	9
Egypt (1998)	8
Morocco (1991)	12
Morocco (1999)	9
Argentina (1996)	16
Chile (1996)	20
Peru (1997)	12
Uruguay (1996)	12

Source: World Bank, The Road not Traveled: Education Reform in MENA.

Higher education and Unemployment

Another indicator of external inefficiency is the unemployment or underemployment of graduates. It appears that in Jordan an increasing number of graduates cannot find employment. Moreover, the incidence of unemployment among university graduates is more frequent than lower level graduates. In fact unemployment rates in Jordan are consistently highest among individuals with university degrees. Most research attributes this to poor quality of education resulting in severe mismatches between the education system and the labor market. If the only benefit of a degree is improved workplace productivity, this represents a wasteful investment of scarce resources. Large sums of money have consequently been invested in educating unemployed or underemployed graduates that could otherwise have been invested in job-creating productive programs.

Table 3.16 shows the pattern of unemployment by educational level in Jordan. It indicates that unemployment is highest among university degree holders, followed by holders of education below the secondary level and finally those with secondary education. In 2008, unemployment among university graduates was 15 percent – significantly above the OECD average of 3.5 percent. This pattern is not entirely surprising. It is common in the region for graduates to have the highest level of unemployment, though this is the reverse of the pattern in developed countries.

This phenomenon is in part the result of an outdated educational system that is geared toward preparing students to serve in the public sector, which used to be the primary employer of educated new entrants to the labor force. In the past, a university degree practically guaranteed a stable government job. Nowadays, the government sector is shrinking while the private sector is expanding. With the move towards more market-based economies in the region, the introduction of new technologies and greater integration into the world economy, the demand for particular skills is increasing, making much of the material taught in the existing public education system obsolete. However, the educational system has not caught up with this and is not producing graduates with skills needed in today's labor market. As a result, there is a significant mismatch between the human skills demanded by new enterprises and those available in the work force, leading to an extended and difficult transition period when graduates are trying to find work. And because education tends to raise a new entrant's labor market expectations in terms of job quality and stability, increased education has led to lengthier job search, and in turn contributed to the persistence of high unemployment. Many educated youth seem willing to wait for jobs in the public sector to open up and to register themselves as unemployed in the interim.

Table 3.16
Unemployment Rate by Educational Level in Jordan, Percent

	2005	2006	2007	2008
Below Secondary	15	14	12	12
Secondary	11	12	11	10
University	16	16	15	15

** Note: these are official estimates. Unofficial estimates of unemployment in Jordan are thought to be higher.*
Source: Jordan Department of Statistics (DOS), Employment and Unemployment Surveys.

3.2.3 Equity of Spending

Another area of prime importance is the issue of equity. It is essential that no students should be unable to enter higher education because of income, gender, or other biases.

Higher education enrollments by income levels

As shown in the Figure 3.2, higher education enrollments are highly correlated with income. Enrollments in higher education institutions of students from the richest wealth quintile represent over three times those from the poorest wealth quintile. The case is not different in public higher education institutions, where enrollments of the richest quintile represent more than twice those from the poorest income quintile. The distribution of public enrollments is generally used as an indicator of the equity of distribution of public subsidies because public spending is often based on the number of personnel and extent of capital expenditures proposed rather than on student characteristics and financial need. Data presented below thus implies that public funding in Jordan may be inequitably distributed at the higher education levels.

While grants provided directly to students and their families through, for example, scholarships, represent a very large share of public expenditure in Jordan (11 percent), only second to Malaysia (13 percent) and roughly the same for Chile (11 percent) and the OECD country average (12 percent),[10] 20 percent of these are not well targeted to poor students. Although admission policies to public universities allocate 10 percent of university seats to students from government schools who are considered less fortunate and 300 university seats are also allocated annually to students from refugee camps, most scholarships go to students who excel in their academics. These are likely to be students who have attended higher quality private secondary schools, thus representing higher income groups.

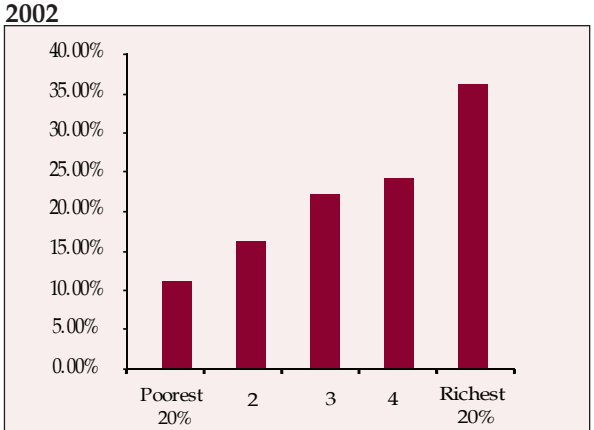
When looking at the share of public spending on education that is dedicated to higher education in Jordan, we find it is relatively small compared to OECD, Egypt and Brazil (Table 3.17). Expenditure on higher education as a share of public education expenditure has also declined over time, indicating that the priorities of public spending on education have shifted towards non-tertiary education.

While the trend for public expenditure on education to become less prominent relative to household expenditure is in itself not a bad thing, it does raise the question of equity. It is essential that no students should be unable to enter higher education because they cannot afford it. However, because household expenditure on education in Jordan is already high, there is a limit to how much more universities can obtain through tuition fees.

Higher education enrollments by gender

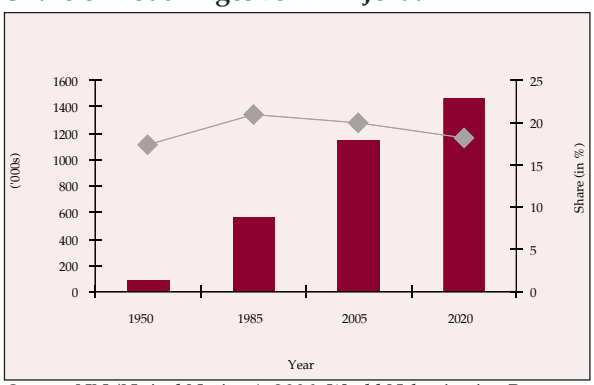
During the past 50 years the number of female students enrolled in Jordanian universities has been continuously increasing as the literacy rate among females has increased. Jordan has achieved gender parity in higher education, with female enrollment in bachelor programs reaching over 107,000 in 2007 or over 50 percent.[11] The gender parity index of gross enrollment rate in tertiary education in Jordan reached 1.13 in 2008, up from 0.49 in 1970.

Figure 3.2
Higher Education NER by Income Quintile, 2002



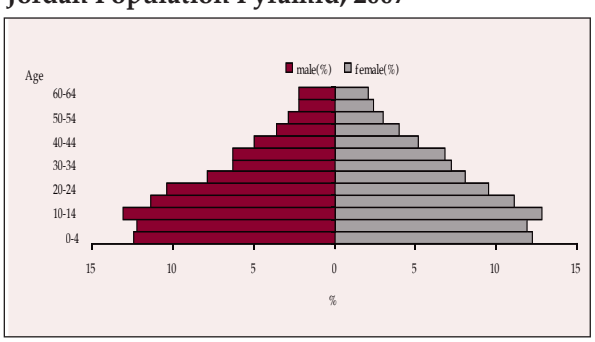
Source: Jordan Public Expenditure Review 2004, World Bank.

Figure 3.3
Share of Youth Ages 15-24 in Jordan



Source: UN (United Nations). 2006. World Urbanization Prospects: The 2005 Revision. Database. Department of Economic and Social Affairs, Population Division. New York.

Figure 3.4
Jordan Population Pyramid, 2007



Source: Jordan Department of Statistic (DOS), Annual Report 2007.

3.3 Challenges

Financing higher education in Jordan is likely to become even more difficult in the future, as the country faces the challenge of meeting the expected increases in demand for higher and better quality education because of demographic pressures and the emphasis on knowledge as a key factor in development.

3.3.1 The Demographic Challenge

The Jordanian population is characterized by its relative youth. Indeed, in 2006, an estimated 36.8 percent of the population were under the age of 15 and 59.2 percent under the age of 25. The total number of young people aged 15-24 has grown more than 10-fold since 1950 and is projected to reach 1.4 million in 2020, the equivalent of 18.2 percent of Jordan's total population.[12]

The current surge in the number of young people in Jordan is intimately linked to the demographic evolution of the country in the last few decades. Declines in fertility and infant mortality rates over time have resulted in an age pyramid characterized by a large base of child and youth population, which narrows at the top as the ratio of older persons in the population decreases. This increase in the number of youth, referred to as the "youth bulge", combined with fast growth in the overall population, has resulted in the most rapid growth in the number of young people in the country's history. Today the largest five-year age cohort is the 10 to 14 age group. This bulge will reach working age over the next decade, leading to increasing demand for education, including higher education.

Because of higher fertility rates in rural areas, the rural population has a younger age profile than the urban population, with 61.9 percent under the age of 25, compared to 58.8 percent in urban areas. Over the last decade, however, the growth in the youth population in urban locations has accelerated and the number of youth aged 15-24 is now over 1 million. At the same time, the rate of change in the rural youth population has decelerated and a decline has been witnessed in absolute numbers for both male and female youth.

Figure 3.5 shows the continuous age distribution of the Jordanian population in urban and rural areas by single year of age in 1995, 2000, and 2006. In urban areas, in 1995, the mode of the distribution centered around age 2. The mode shifted

Table 3.17
Expenditure on Tertiary Education as a Share of Public Education Expenditure (%)

	2000	2002	2004	2007
Jordan	24	24	18	18.2
OECD	23.5	24	22	
Lower middle income countries	18.4	16.6	18	
Egypt	29	28	28	
Morocco	18	16	15	
Brazil	22	24	19	

Source: Data for Jordan: MoHESR, Department of Statistics. Data for Egypt: Fahim Y. and Sami N. Financing Higher Education in Egypt Table (2.6) quoting CAMPAS Annual Statistical Yearbook 2007), For other countries: Ibid. quoting World Bank Edstat and OECD web data.

Table 3.18
Gender Parity Index of Gross Enrollment Rate in Tertiary Education (females as a proportion of males)

Year	GPI
1970	0.49
1985	0.93
2003	1.10
2008*	1.13

Source: World Bank, The Road not Traveled: Education Reform in MENA, 2008 and MoHESR, Annual report 2007; Jordan Department of Statistics (DOS)

to age 7 in 2000 and to age of 13 in 2006. In rural areas, the shape of the age distribution was flatter; especially in 1995 and 2006 where the proportion of children aged 3 to 14 is very large.

Jordan therefore is at the early stages of a youth bulge, which will begin to sharply increase the supply of young workers to the labor market over the next decade. By 2011, the youth bulge will be centered at age 18, the age at which many secondary school graduates enter higher education institutes.[13] Meeting this increase in the demand for higher education, without adequate matching resources, will come at the expense of education quality.

Predicting future higher education demand is difficult but it is important to carry out such projections in order to form a view about the likely future financial needs of the sector. Table 3.19 shows the results of a cohort analysis, which takes the numbers of projected population, aged 18 to 22, and multiplies them by the Gross Enrollment Rate (GER). On the basis of this analysis and assuming current ratios between public and private universities are maintained over time, there will be very substantial growth in demand for higher education in the next decade – by about 70,000.

The financial implications of the growth in total demand for higher education from the Jordanian population require additional funding from both the government and private investment. Table 3.20 shows the results of these implications and the need for additional government support to public universities over the next 10 years. Assuming that students will continue to pay the same level of fees as at present, the additional students will require government support of between JD 42 million and JD 55 million per year.

3.3.2 Quality of Higher Education

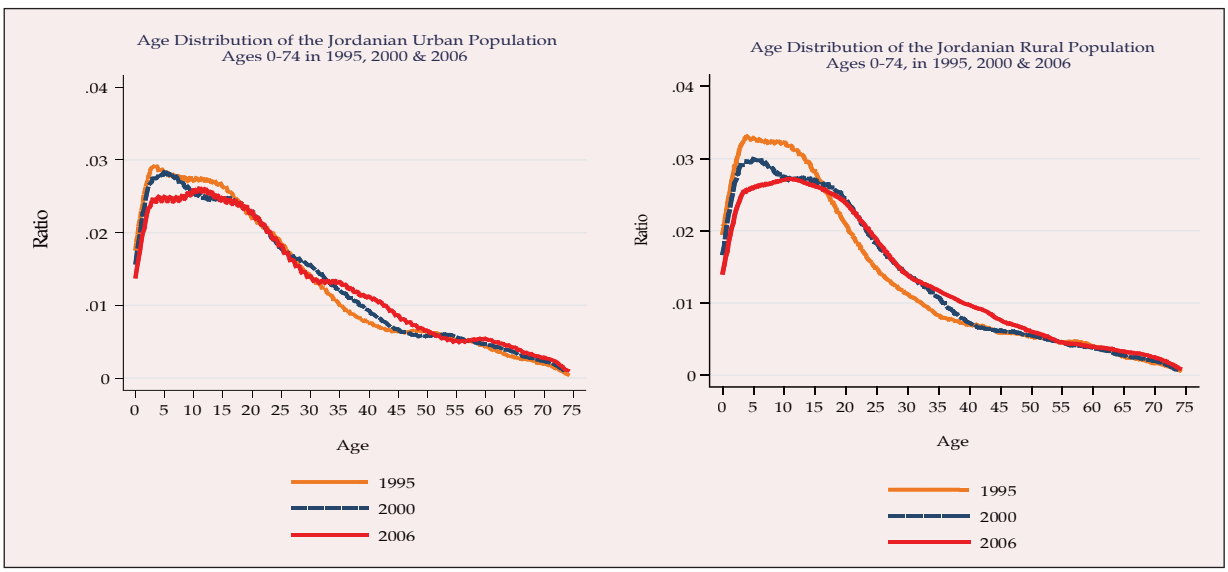
Little objective information is available about the quality of the Jordanian higher education system, and even less about comparative quality - compared with other higher education systems in the region. In particular, although individual universities have their own internal quality assurance processes, in the past there has been no systematic national quality assurance process in place that would enable such judgment to be confidently made (though that is now changing). Having said that, upgrading the quality of higher education requires more funding.

The fact that Jordan appears so attractive to students from other Arab countries does suggest that in comparative terms its higher education system is regarded as of relatively high quality; as is witnessed by the number of overseas students present at Jordanian universities – more than 10 percent of the total. However, that masks the fact that in terms of international comparisons Arab universities as a whole perform poorly, without a single university from the region in any of the rankings of the world's top 500 universities.

Moreover, the relatively high levels of unemployment that appear to prevail among university graduates suggests that the outputs of higher education are not universally valued in the job market (though this may of course be a reflection of the state of the job market and the economy more generally than a reflection of higher education quality). Over the past decade or so, more and more graduates have applied for jobs in the public sector. This figure has been at a continuous rise since 1990. In contrast, due mainly to the low rates of economic growth during most of the period between 1995 and 2001, new job opportunities created every year have not been of the number or the quality to absorb all or most of the young men and women graduating annually from Jordanian universities. New jobs in the Civil Service, to which the training of graduates is relatively most suited, have been coming up in small and decreasing numbers due, in addition to low rates of economic growth, to the fiscal discipline and constraints on budget deficits pursued in the context of structural adjustment policy.

Employment of graduates in the private business sector has been constrained by slow economic growth, and also by qualitative shortcomings in the suitability of graduates for available jobs. Most

Figure 3.5
Age Distribution of the Jordanian Population Ages 0-74 in 1995, 2000, and 2006



Source: Ragui Assaad, Mona Amer, Labor market condition in Jordan, 1995-2006. NCHRD, 2008.

Table 3.19
Projected Demand for Higher Education

Year	Total (1000)			Public Universities (1000)			Private Universities (1000)		
	B.A / B.Sc.	Graduate Students	Subtotal	B.A / B.Sc.	Graduate Students	Subtotal	B.A / B.Sc.	Graduate Students	Subtotal
2009	217.6	17.8	235.4	158.2	16.2	174.4	59.4	1.5	61.0
2010	220.2	18.0	238.2	160.1	16.4	176.5	60.1	1.6	61.7
2011	224.4	18.3	242.7	163.1	16.7	179.9	61.3	1.6	62.9
2012	227.4	18.6	246.0	165.3	16.9	182.2	62.1	1.6	63.7
2013	232.8	19.0	251.8	169.2	17.3	186.6	63.6	1.6	65.2
2014	240.0	19.6	259.7	174.5	17.9	192.4	65.6	1.7	67.3
2015	249.2	20.3	269.5	181.3	18.6	199.7	68.0	1.8	69.8
2016	261.6	21.3	282.9	190.1	19.5	209.6	71.4	1.8	73.3
2017	272.6	22.2	294.9	198.2	20.3	218.5	74.4	1.9	76.4
2018	282.0	23.0	305.1	205.3	21.0	226.1	77.0	2.0	79.0
2019	284.9	23.3	308.1	207.1	21.2	228.3	77.8	2.0	79.8

Notes: Assumptions: 1. Annual growth in GER= 0.5 % for male and female; 2. % Students enrolled in private universities = 27.3% (as in 2007)

Jordanian graduates lack the essential adaptability of attitude to the changing job requirements, analytical skills, up-to-date knowledge, computer skills, and strong language skills in particular English. Unfortunately, such factors greatly contribute to the individual's competitiveness in the labor market as they greatly influence the decision making process of employers. In general graduates from local universities do not prove competitive enough in the private sector.

The inability of public financing to grow in proportion with the demand on higher educa-

Table 3.20
Proposed Government Support to Public Universities

Year	Fees Per Credit Hour (A)	Number of Credit Hour (B=Enrolled x39)* (in Millions)	Total Fees (C= AxB) (in Millions)	Income from Investment (D=0.28209xC)** (in Millions)	Universities Spending (E=46xB) (in Millions)	Proposed Government Support (F= E-C-D) (in Millions)
2009	31	6.8	210.9	59.5	313.0	42.6
2010	31	6.9	213.4	60.2	316.6	43.1
2011	31	7.0	217.5	61.3	322.7	43.9
2012	31	7.1	220.3	62.2	327.0	44.5
2013	31	7.3	225.6	63.6	334.7	45.5
2014	31	7.5	232.6	65.6	345.2	46.9
2015	31	7.8	241.4	68.1	358.3	48.7
2016	31	8.2	253.5	71.5	376.1	51.1
2017	31	8.5	264.2	74.5	392.0	53.3
2018	31	8.8	273.3	77.1	405.5	55.1
2019	31	8.9	276.0	77.9	409.6	55.7

*Notes: * Student takes 39 credit hours per year on average; **Income from investment was (28.209%) of tuition fees in 2007, and assumed that this proportion will remain the same*

tion institutions has negatively impacted education quality. At public universities, the admission of parallel students while bringing in higher fees has come at the expense of quality and also at the expense of diverting faculty from research. The private universities, while relieving the pressure of numbers on public universities, have not delivered centers of academic excellence. Instead, the domination of profit making has dominated the scene resulting in little to no incentive to invest in research and development. Their only marketable product is the awarded university degrees which are accredited by the regulatory bureaucracies and not by users or representatives of the demand side of the market.

Another challenge for the higher education system in Jordan is the saturation of students in certain disciplines, particularly in social sciences and humanities. This is becoming a problem as graduates of these disciplines are not finding employment in the country. The proportion of enrollment in university in science and engineering versus humanities and social sciences could be viewed as index of the "quality" of human capital at the level of higher education.[14] The underlying assumption here is that scientists and engineers are likely to contribute more to economic growth than are social scientists and students of the humanities because of the increasing importance of technological innovation and adaptation in the development process. The data in Figure 3.6 indicate that about 56 percent of the Jordanian students major in social science and humanities, compared to 15 percent in engineering, 13 percent in medicine, dentistry, para-medical science, veterinary and pharmacy, 10 percent in math and computer sciences, and 7 percent in natural science and agriculture.

3.4 Financing Strategies

Financing higher education is becoming increasingly difficult under the current economic conditions of increasing scarcity of government resources relative to the increasing demand for higher education and relative to other claims on these resources. The government in recent years

has had to resort to gradually reducing its subsidies to public universities. Today the higher education sector is plagued with funding shortages and limited resources and this problem is likely to intensify in the future, as Jordan attempts to meet the expected increase in demand for better quality higher education in the context of the demographic pressure and the emphasis on knowledge as a key factor in development. The challenge to improve quality generates additional pressures to increase current levels of spending on education and together with improving its efficiency.

Higher education institutions now have to reconsider their financing structures and explore alternative strategies. The country has already begun reform efforts. This section will look at and assess these reforms and then suggest a strategy to address the financing of higher education in the future.

3.4.1 Higher Education Reforms in Jordan

The leadership of Jordan has expressed commitment to the modernization of Jordanian society and to developing the Jordanian economy into a knowledge-based economy. Reform of higher education is central to meeting these commitments.

Over the past decade, the Jordanian government has been working towards reforming the higher education sector by instituting policies aimed at improving the quality of education and ensuring that students have the relevant labor market skills needed to effectively compete for domestic, regional and international employment. To this end, curricula at different faculties and departments have been upgraded or reformed over the past several years. In 2003, the government, with the financial support of the World Bank, began its five-year Educational Reform for the Knowledge Economy (ERfKE) project. With a budget of US$380 million, the aims of the project are to: reform education policy, programs and practice; improve facilities and teaching standards; and establish IT capabilities and facilities.

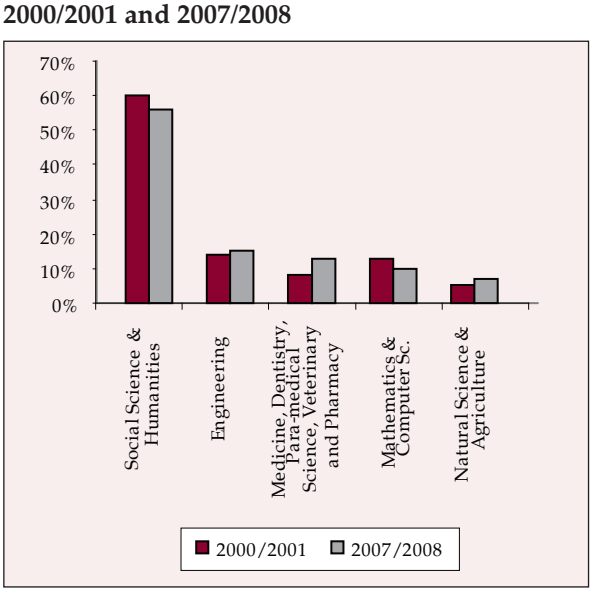
The government is also preparing to follow up on the recommendations made in the 2008 World Bank Development Report on Education in MENA, which suggests revisiting legislation governing higher education, guaranteeing financial, administrative and academic independence for the country's institutes of higher learning, revisiting admission criteria and implementing accreditation criteria. It also calls for activating the Scientific Research Fund and providing the country's financially troubled universities with financial assistance in addition to initiating a plan to secure qualified professors. Responding to these demands requires making decisions on some divisive issues such as changing the admission criteria and adjusting university fees.

3.4.2 University Student Aid Fund

In 2004, the government established the Student Aid Fund as a key component in the restructuring process of university financing. The purpose of the Fund is to support and fund students through loans and grants. Initially the government pledged 10 percent of total government subsidy allocations to the Fund over a ten year period, ending in 2014 when the government subsidy to universities was set to be lifted. Over the years, the government has been increasing the amount it provides for this fund in line with its general policy to remove subsidies and target government spending on those most in need. In 2007, the government allocated JD 3 million to the Fund. This amount, however, barely covers the financing deficits expressed as the difference between the real aggregate cost per student and the tuition revenue per student.

Figure 3.6

Distribution of B.A/B.Sc. Students Enrolled to Jordanian Universities by Field for the Year 2000/2001 and 2007/2008



Source: Authors calculation based on MoHESR annual reports

During this ten-year period, it is hoped that universities undergo a restructuring of their tuition and fee structure to compensate for the lifting of government support. As a result, universities are under pressure to reconsider the way in which they are financed and to devise alternative financing options to enhance their efficiency.

3.4.3 A New Outlook for Reform

Current practice of public-private cost sharing

Cost sharing, that is shifting part of the burden for financing higher education away from the state and onto students and families, is a phenomenon that has taken on global proportions. With a shortage of public funding, rapidly expanding enrollments, and strong endorsement from international aid agencies like the World Bank have all worked in concert to push cost sharing as the way for such nations to strengthen their fragile higher education sectors and spur economic growth.

The practice rests on plausible economic logic: since investment in higher education yields significant private returns, then whoever benefits ought to pay. At the same time, there are significant benefits to the society and polity of a broad coverage and best quality higher education, including responding to requirements of social equity by meeting the needs of deserving but financially disadvantaged students, as well as other externalities such as the impact on cultural and political life. Since both individuals and society reap the rewards of education, an equitable financing scheme implies sharing the costs between the two. The potential gains from cost sharing are readily apparent in the success of a number of western countries. Indeed one of the major strengths that distinguish higher education in western industrial countries is that financial resources allocated to their better universities far exceed their students' actual or potential ability to pay. Student fees are supplemented with significant public support and enormous private and civil society endowments which enable universities to exploit their supplemental income and leverage their reputations in order to acquire high-quality faculty, talented students, and state-of-the-art facilities. These countries have created schemes to make education nearly costless at the point of use, and to make repayment manageable over time and under differing economic circumstances.

The introduction of cost-sharing mechanisms in Jordan lead to the generation of much-needed revenues. At the same time, the unintended consequences stemming from the way it has been implemented has resulted in a number of problems.

The first problem is that instead of promoting equity, cost sharing in Jordan discourages it. Taxpayers fund various public services, but in most cases only a fraction of the public actually benefit therefrom. In places like the United States, all students who qualify for university education and do not have financial means end up getting it through credit facilities, partial scholarships, and full scholarships. In almost all good universities student tuition fees are not adequate to pay for their running costs. No "university" deserving its name would be viable by operating "for profit" as a commercial concern. Central and state governments subsidize the cost of tuition in government and state universities. In the prestigious private universities the negative balance between tuition fees and the running costs are financed from the returns on their endowments.

In Jordan all universities established before 1990 were state-owned and tuition fees were kept low by subsidizing universities from public revenues which used to include specific taxes for education and the universities. Moreover, a small number of academically distinguished students were accorded scholarships.

With the fiscal squeeze in the late 1980s and the early 1990s, government subsidies to the universities, all state-owned at the time, started to fall short of their needs in order to be able to provide education of declining quality to the ever increasing number of high school certificate holders with scores that qualify them for university admission. To relieve the pressure, the government in the early 1990s started to license commercial (for profit) private universities which were allowed to charge tuition fees high enough to cover their running costs plus commercial profit that rewarded their owners' investment. With the competition from the private universities and the latter's ability to attract faculty staff from the state universities by having the inherent flexibility to pay them higher fees, the pressure on state universities to find additional finance increased. It ended by letting them innovate "parallel programs" which exacted full cost fees from students ready to pay them in order to be admitted to their preferred universities or their choice study courses for which their secondary school certificate scores did not qualify

them. Aside from the question of equity, this state of affairs makes university entry even more problematic for students from poorer backgrounds, relative to those from wealthy backgrounds. In addition, not withstanding the Student Aid Fund, Jordan lacks the necessary support infrastructure for adequate schemes for students credit and grants in aid.

Second, this particular form of cost sharing is also hindering overall economic growth. Annual tuition at universities may only run into the low thousands but given that per capita GDP is less than $5,000, the up-front investment is remarkably high. Driven by the belief in what it can provide, cost sharing forces families to invest a disproportionately large percentage of their available income into higher education, focusing on a small number of professional fields. This leads to a reduction of demand for goods and services in other sectors of the economy. Rapid annual growth in the number of university graduates may be lauded by many, but the high unemployment level among such individuals provides evidence that this mode of financing may in fact be responsible for depressing national growth by oversupplying labor markets with redundant competences while simultaneously depressing consumer demand.

The third and perhaps most interesting problem is that the additional funding is being channeled mainly to newly-established private universities. Most of these are small for-profit institutions that offer study programs subject to "accreditation" by the Ministry of Higher Education, mainly in marketable disciplines such as business, education, or computer science. From an economic standpoint, it is questionable whether such significant tuition funding ought to be allocated toward the provision of a narrow set of program offerings at institutions that have considerable incentive to overcharge students and shirk on quality.

Unfortunately, devising better financing schemes is not easy. Basically, there are two principal financing scenarios that will improve on the cost-sharing mechanism in Jordan. The first involves funding the growing demand for university places by requiring students to pay higher fees, including through expanding private universities and parallel programs in state-universities. Managing the relationship between cost sharing and private expansion is tricky. An effective quality assurance mechanism is required to ensure that tuition fees going to private providers are invested in education activities rather than lining investors' pockets.

A new approach to public, private, civil society, and business sectors partnership

Generating additional income through entrepreneurial activity, civic action donations and other investments constitutes another financing option, which has not yet pervaded social culture and tradition. The role of the civil society should be enhanced in view of the impact of higher education on the quality of life in social and cultural terms, in addition to civil society's responsibilities for social equity. This would take the form, inter alia, of a breakthrough in the culture of social responsibility which is currently focused on "Awqaf" that are restricted to religious bequests, and cause its redirection to "Awqaf" as charitable endowments to meet secular social responsibility. The target is to enable state universities and other non-profit higher education institutions to become financially bankable and independent by augmenting their own income-generating capabilities.

In the case of Jordan, a new approach is needed which, while taking due account of market forces (demand, supply and prices), remains faithful to the basic proposition that higher education is also and to a critical extent, a "public good" the provision of which is subordinate to social objectives.

Reform that keeps social objectives in mind would involve the following policy measures:

- Establish the management and financial independence of every university under an independent board of trustees.
- Set university fees per student that assure recovery of minimum actual costs of delivering quality education.
- Create an independent Students Fund where all the monies allocated for subsidizing higher education are deposited. Independent management of the Student Fund will deal directly with the students qualified for support.

An upgraded version of the Student Aid Fund would change the character of subsidies from hidden to transparent and improve public accountability resulting in greater efficiency. It would consist of a system of partial or complete scholarships, totally independent of the management of

the universities. These scholarships would subsidize university fees for carefully defined categories of students selected in accordance with specific social objectives and criteria, within an investment budget established for this purpose. The Student Aid Fund may even issue vouchers for the qualified students leaving them free to choose the university they trust. The resulting competition among the universities to attract voucher-carrying students will improve quality all-round.

Management and financial independence of the universities renders performance accountability easier to apply. In addition to quantitative and financial efficiency controls, qualitative controls can be established by the following provisions:

i). Changing the examination culture from internal self-testing to independent and competitive examinations by professional boards and,
ii). By competitive tests set by employers.

Such provisions would, inter alia, cause university graduates to be employed on the basis of competitive examinations screening applicants. The deployment of such exams in public and private institutions will gradually deflate the nominal value of university degrees, and shift the rating of universities to their ability to graduate students of quality.

As for the entrepreneurs and other investors in private commercial universities, financial mechanisms need to be innovated in order to ensure their fair compensation or provide them with incentives to continue their partnership in financing higher education. One such mechanism to preserve the financial interests of the private owners of already established universities could take the form of converting the value of their capital "shares" representing their investment in the universities into interest yielding "bonds" representing loans owed to them by the universities.

New private NGO universities may be established by charitable founders who in collaboration with the government or with charitable financial institutions are prepared to raise donor's funds and to underwrite borrowing from the private sector through bond-issues to cover costs not covered by charitable endowments or donations. Such arrangements can help bridge the interim period up to the time when the sense of social responsibility and civic consciousness become mature enough to reach the stage when the culture of endowment or Awqaf directed to support education is so extensive as to cover all the support needed.

Notes

1. Source: MoHESR, annual reports
2. Source: World Bank. 2008. The Road Not Traveled: Education Reform in the Middle East and North Africa..
3. OECD, Education at a Glance Indicators, 2008:
4. Ibid.
5. Source: Jordanian Department of Statistics, Household Expenditure & Income Survey for the year 2002/2003 and 2006
6. Capital expenditure covers spending on assets that last longer than one year and includes spending on the construction, renovation and major repair of buildings. Current expenditure includes wages, salaries, benefits, grants, and other operating costs.
7. Based on researcher calculations.
8. The Financing of Public Universities in Jordan, a study carried out by the Higher Education Policy Institute on behalf of the HERfKE Project, June 2008.
9. Higher Education at a Glance in Jordan, Fayez Khasawneh, et al. 2008
10. OECD 2002
11. MOHESR, Annual Report 2008.
12. UN (United Nations). 2006. World Urbanization Prospects: The 2005 Revision. Database. Department of Economic and Social Affairs, Population Division. New York.
13. Ragui Assaad, Mona Amer, Labor market condition in Jordan, 1995-2006. NCHRD, 2008.
14. World Bank (2008), the Road Not Traveled: Education Reform in MENA, PP 20-22.

References

Aladwan, Yaser and Qutaishat, Munif. 2007. "Financing Options for Public Universities in Jordan: Current Status and Future Horizons," Working Paper, MoHESR.

Assaad, Ragui and Amer, Mona. 2008. "Labor market condition in Jordan." NCHRD

Bekhradnia, Bahram. 2007. "The Governance of Higher Education in Jordan, Working Paper," MoHESR.

Bekhradnia, Bahram. 2008. "The Financing of Public Universities in Jordan, A Study Carried Out

by Higher Education Policy Institute on Behalf of the HERFKE Project."
Fahim, Yasmine and Sami, Noha. 2008. "Financing Higher Education in Egypt." (Preliminary draft), ERF.
General Budget Department, Jordan. Budget Law for the years 2003 and 2008.
World Bank. 2008. Global Development Indicators 2008. World Bank, Washington DC.
Jordan Department of Statistics. 2007. Annual Report.
Jordan Department of Statistics. Employment and Unemployment Surveys.
Jordan Department of Statistics, Household Expenditure & Income Survey for the year 2002/2003.
Jordan Department of Statistics, Household Expenditure & Income Survey for the year 2006.
Khasawneh, Fayez and Mrayyan, Nader. 2007. "Governance in the Higher Education Sector: the Case of Jordan," Working Paper, MoHESR.
Khasawneh, Fayez et al. 2008. "Higher Education at a Glance in Jordan," NCHRD.
MoHESR, Annual reports, 20001, 2002, 2003, 2004, 2005, 2006 and 2007.
OECD, 2008. Education at a Glance 2008: OECD Indicators, www.oecd.org
Ronald Perkenson, 2007. Developing a Student Financing Facility: advancing access and opportunity for higher education in Jordan.
United Nation. 2006. World Urbanization Prospects: The 2005 Revision. Database. Department of Economics and Social Affairs, Population Division. New York.
Universities Financial Statements for the years, 2001,2002,2003,2004, 2005, 2006 and 2007, MoHESR
World Bank. 2004. Jordan Public Expenditure Review. World Bank, Washington DC.
World Bank, 2008.The Road Not Traveled: Education Reform in the Middle East and North Africa. Washington DC.
طلافحة، حسين، 2002، العائد على التعليم في الأردن، المعهد العربي للتخطيط.

CHAPTER 4

Finance and Political Economy of Higher Education in Lebanon*

Charbel Nahas

4.1 Introduction

Higher education is, at the same time and inseparably, a process of acquisition of skills and knowledge and a process of acquisition and consolidation of social status. Development economics and theories of human capital see the acquisition of skills and knowledge as a major factor for economic development and for the eradication of poverty, across all countries and at all stages of development. On the other hand, the necessities of state building and the dynamics of social promotion induced specific markers of social differentiation and preferential channels for integration among groups in each society, with a specific role given to higher education in the definition of these structures of differentiation and integration.

For this mix of reasons, developing countries focused, after decolonization, on enlarging access to higher education. In the Arab countries, a lot has been achieved, but the model that emerged in the fifties and sixties that relied on massive state intervention is now being challenged for three main reasons:

- the extension of general education to a very large proportion of the population has coincided with a demographic bulge, hence inducing a dramatic increase in the demand for higher education;
- the decreasing role and means of the state in most countries have eroded the traditional scheme of large-scale public hiring of higher education graduates and restricted its ability and willingness to finance higher education;
- the pressures on the skilled labor market, the increased economic and cultural openness of the globalized world and, more deeply, the re-emerging need for social differentiation in the ranks of the new elite have all pushed towards a greater place for private provision of higher education.

In this context, it is understandable that the "financing of higher education in the MENA region is becoming increasingly difficult under the current set of policies and increasing scarcity of government resources, let alone the misallocation of such resources. This problem is likely to intensify in the future, as many countries attempt to meet the expected increase in the demand for better quality higher education because of demographic

* *This paper has been produced with the valuable assistance of Hana Hamade.*

pressures and the emphasis on knowledge as a key factor in development."[1]

The common approach to higher education in the MENA countries appears to be based on three observations: 1) higher education provision is dominated by the public sector; 2) there is a major financing problem and 3) there is an increasing demand. On each of these points, the Lebanese case is different: 1) the private sector historically dominates the education sector: out of 41 higher education institutions, only one is public, the Lebanese University (LU), and the majority of the student body is enrolled in private universities; 2) financing of education in general and higher education in particular is exceptionally abundant; and 3) no demographic increase is foreseeable: in 2025, the youth population is expected to decrease by -5 percent.[2] But the peculiarities of its history and the present situation make Lebanon's valuable contribution to the comparative analysis of several Arab Countries, since they shed light on specific factors, trends and options that might still be pertinent in other cases.

Lebanon is nevertheless facing severe challenges in the field of human capital formation and mobilization that go far beyond problems of financing:

- In spite of the relative abundance of human and financial resources, growth outcomes are very poor;
- Investment in human capital is probably excessive and is directly related to migration: the severe outflow of skilled migrants that prevents the domestic accumulation of human capital; and while skilled labor is attracted by emigration, unskilled Lebanese labor faces the competition of large numbers of temporary foreign workers;
- The Lebanese government is unable to delineate a strategic vision for education in general and higher education in particular, resulting in the explosion of private higher education and diminishing means, quality and presence for the only public institution.

In this chapter, we assess the adequacy, efficiency and equity of higher education financing in Lebanon in both the public and private sector, respecting the common outline set for the six country cases,[3] while highlighting the challenges which are specific to the Lebanese case and reinterpreting some of the proposed headlines in light of that case, so as to broaden the general scope of the approach. The concluding section discusses different approaches and strategies to remedy the challenges of higher education financing in Lebanon.

4.2 History and Political Economy of Higher Education in Lebanon

This section traces the history and evolution of the education system in Lebanon.

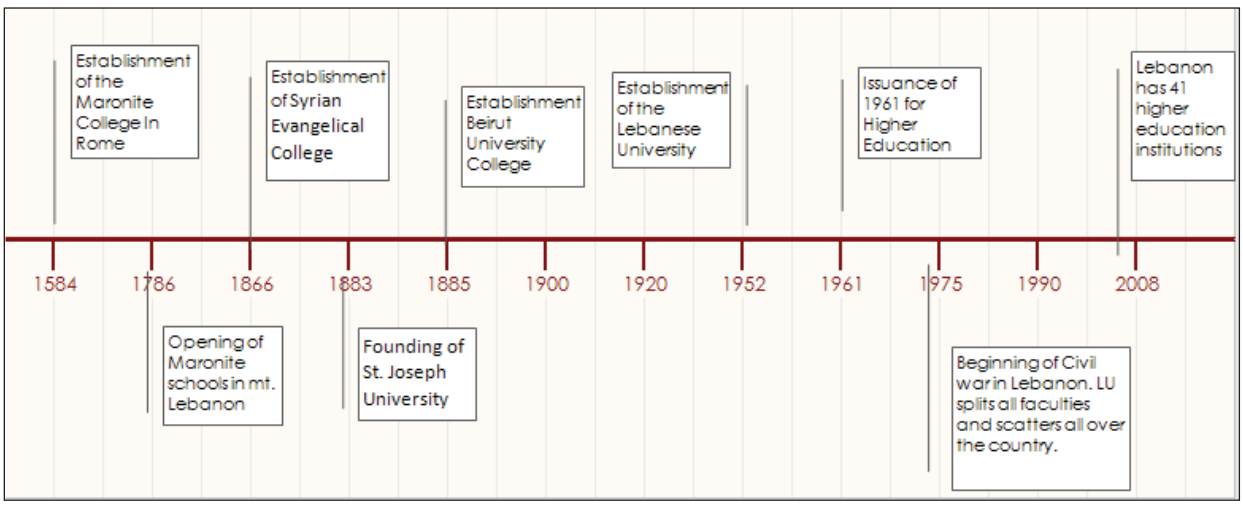
4.2.1 The Early Stages

The modern education base of Lebanon was structured by missionaries who came to the country centuries ago for the purpose of reinforcing the Catholic Christian communities through spreading education. In 1584, the pope Gregory XIII, established the Maronite College in Rome with the aim of training clergy men to open schools in rural areas in Mount Lebanon. In 1736, the Maronite Synodus generalized the opening of schools in most of the Maronite and mixed villages in Mount Lebanon. This led to two major results that are still effective today. One being an early alphabetization of the population and the second, a prominent position of the confessional structure in education since the Maronite example was progressively followed by all the other communities and then sanctioned in the Lebanese constitution.

In 1882, schools in Beirut already gathered 13,000 students compared with 7,000 in Damascus, which had twice as many inhabitants. Girls already represented more than 40 percent of students in Beirut whereas their proportion did not exceed 25 percent in Damascus and Aleppo.

The establishment of formal higher education in Lebanon began with the founding of the Syrian Evangelical College by the American Evangelical Mission in 1866, which in 1920 came to be known as the American University of Beirut (AUB). In 1883, the Society of Jesus founded St. Joseph University (USJ) to counter the Protestant influence. This university was a branch of the University of Lyon in France, and it gained its independence in 1975. In addition to these two institutions, a third institution was founded by the American Protestant Mission in 1885. It was primarily established as a women's college named Beirut College for Women (BCW). A number of years later it became

Figure 4.1
Historical Timeline of Education in Lebanon



co-educational and is presently known as the Lebanese American University (LAU).

For several decades, higher education in Lebanon was monopolized by these three institutions until 1937 when a private Lebanese Association established the Lebanese Academy of Fine Arts, the first not linked to any foreign institution. The Lebanese government inherited from the Ottomans a small nucleus of schools (Ma'arif) that was progressively expanded, increasing the need for teachers. In 1952, the Lebanese University was established with the main function of providing training and learning for instructors and teachers (Faculty of Pedagogy). It was the first public Lebanese institution for higher education. The Faculty of Social Sciences was established in 1959; and later on, the Faculty of Fine Arts was established in 1965. Then came the Faculty of Science. The development of the Lebanese University became a major theme of mobilization during the late sixties and the early seventies, a period during which rural –urban migration accelerated.

In 1959, in the context of an attempt to modernize the state and expand its social responsibilities, led by President General Fouad Chehab and in the aftermath of a "small" civil war, a decree created a faculty of law in the Lebanese University. The decree gave it the exclusivity of granting degrees in Lebanese law but stated that it would comprise two branches, the first being run by the LU and the second by the USJ according to its own rules.

Soon thereafter, with the spread of Arab Nationalism and Nasserism in the region and at the peak of the confrontation between France and the Arab Nationalist movement because of the war in Algeria, and also with the beginning of tensions between Egypt and Saudi Arabia (the two regional powers that used to support the Sunni political leaders in Lebanon), the Beirut Arab University was formally founded in 1960 by "Al-Birr wal Ihsan" society. It was a pro-Nasser Sunni Moslem charitable association, but it was actually and academically affiliated to the Alexandria University in Egypt. Its creation provoked a tense political debate that focused on two points. Firstly, the opening of a law school that pretended to enjoy the same rights as those granted to the USJ; and secondly, the recognition of the Egyptian baccalaureate as equivalent to the Lebanese baccalaureate. The sectarian dimension of the debate was clear, that is, the Sunni petite bourgeoisie was directly contesting the status quo in which the Christian segment of the elite was still dominant at the time. In their eyes, the Lebanese University was considered as part of the system and disregarded as an option. Reproducing the ambiguity of the 1959 decree, the objective was to establish a "University for the Sunnis", with the aid of Egypt in the same way the Christians had "their University", sponsored by the French.[4]

The powerful lawyers association, dominated by the Christians, violently opposed these two points and imposed complex regulations to the practice of law including a long period of apprenticeship in the existing law firms and exams organized by the lawyers' association itself. This

conflict led to the reinforcement of corporatist defenses beyond the university. It also indirectly led to the adoption, in December 1961, of the Lebanese higher education law, the first text that provided some form of structure and organization to higher education in Lebanon. This general law ratified the de facto situation that had emerged in the meantime. It forbade the equivalence with non-Lebanese baccalaureates and devoted several articles to the specific case of the law studies.[5]

4.2.2 The Lasting Effects of the War

At a time when the neighboring Arab countries were still bearing the marks of the wave of nationalization of the sixties and the consequent migration of parts of their elite, and before the Gulf countries had established any higher education institutions, Beirut represented a significant intellectual pole and attracted large numbers of students from the whole region.

At the beginning of the Lebanese Civil war, Lebanon had 5 universities (allowed to open many faculties) and 7 higher education institutions (restricted to one discipline), all located in Beirut, except for the University of Kaslik-USEK, which is located in the city of Jounieh (USEK was simply a faculty of theology and religious studies at the time). The civil war (1975-1990) had devastating and lasting effects on higher education:

- A certain number of foreign institutions closed, namely the prestigious French "Ecole des Lettres" and "Centre d'Etudes Mathématiques", situated on the front line. Their premises were later used to house the French research centre called "Cermoc".
- A massive wave of emigration struck the Lebanese society and affected especially the highly educated, many of them being encouraged by the oil boom that happened in the same period. This emigration created a massive new diaspora (in reference to the large wave of migration that had occurred at the end of the XIXth at the beginning of the XXth centuries) that made further emigration much easier for the young Lebanese, in terms of residence and work information and facilities.
- The remittances from the diaspora helped residents to survive under war, along with the "political" money that was pouring into the country in the form of subsidies from foreign governments to the fighting Lebanese and non-Lebanese militias. The feeling of insecurity and the appeal of emigration led to an intensification of investment in human capital due to the fact that it enjoys mobility unlike physical capital, which can fall prey to destruction and ransom.
- This propensity for higher education was fuelled by large numbers of scholarships provided by foreign countries, especially from Eastern Europe, and channeled through leftist parties (several thousands a year and about 40,000 in total). During the eighties, the wealthy Saudi-Lebanese businessman Rafic Hariri created a foundation that distributed around 30,000 scholarships, half of them to the USA and Western Europe. It is estimated that each of these channels implied a total investment of 1.5 billion USD. The impact of these systematic scholarships on the social composition of the professional elite in Lebanon was huge and more than half of the graduates emigrated for good (a much higher proportion for the "Hariri" students).
- Because of the war, which was particularly intense in Beirut and its suburbs, and the de facto partition of the country into a patchwork of territories controlled by fighting militias, most of the faculties of the Lebanese University split and "branches" were located in the different regions of the country. This led to a complete reshaping of the geography of higher education that spread to the whole territory and deeply affected the internal functioning of the Lebanese University, encouraging the emergence of autonomous units and jeopardizing the efficiency of the education process.
- The war also affected the composition of the student body enrolled in higher education institutions. Lebanon was an international centre for education in the region, attracting a large number of students from different nationalities into its institutions. However, with the outbreak of the civil war and the associated political instability for years afterwards, the number of foreign students enrolled in higher education institutions in Lebanon dropped significantly from almost 50 percent in 1970 to 20 percent at the end of the war and down to 12 percent in 2000, because of the large investments in higher education in other countries of the region.

Table 4.1
Number of Lebanese and non-Lebanese Students in Universities

Academic Year	Number of Students (1000)	% Lebanese	% Non –Lebanese
1969 - 1970	39.3	53.0	47.0
1970 - 1971	42.6	52.0	48.0
1974 - 1975	56.6	42.7	57.3
1977 - 1978	78.6	54.4	45.6
1979 - 1980	85.0	65.0	35.0
1980 - 1981	79.0	60.8	39.2
1981 - 1982	70.3	62.5	37.5
1982 - 1983	73.0	60.0	40.0
1983 - 1984	63.0	72.0	28.0
1985 - 1986	78.5	70.5	29.5
1986 - 1987	84.0	74.0	26.0
1994 - 1995	79.0	77.5	22.5
1995 - 1996	82.4	81.3	18.7
1996 - 1997	87.9	82.2	17.8
1997 - 1998	87.3	86.2	13.8
1998 - 1999	101.4	84.7	15.3
1999 - 2000	103.8	87.1	12.9
2000 - 2001	119.5	88.3	11.7

Source: Centre of Research and Education Development (CRDP)

At the end of the war, Lebanon had around 20 higher education establishments: 6 universities (allowed to open many faculties) and 14 higher education institutions, having risen from 5 and 7 before the war. Between 1995 and 2001, 23 additional establishments were created, 10 were formally authorized in 1999-2000 and 9 in 2000-2001, totaling 43 establishments: 24 universities and 19 higher education institutes, 38 actually operational.

4.2.3. How Did Lebanon Get to Where It Is?

Education in general and higher education in particular are directly linked to the process of elite formation in any society whether through the impact of education achievements on revenues or through the prestige attached to diplomas.

The territories that constituted Lebanon after the collapse of the Ottoman Empire and especially the city of Beirut enjoyed an early and marked advantage on the entire surrounding region, polarizing much of its intellectual activity (universities, press, knowledge of foreign languages, translations, modern skills, etc.) and attracting an "elite" of diverse origins. The elite was mostly formed in non-governmental institutions and was deeply involved in international trade.

For a long period, until the sixties, they felt strong and sufficiently widely-dispersed to avoid the "massification" of higher education through the development of public higher education and more generally through larger involvement of the state in the economy, which would have brought competitors from poorer origins. This was the case after the early fifties in most of the neighboring countries where the military coups brought new elites to the front stage at the expense of the isolated old bourgeoisie.

This "advance", coupled with myopia turned into fragility and when the rural migration accelerated, the competition of the newcomers and their ambitions to join the circles of the elite transformed into violence. But the outcome was not "normalization" along the lines of the Arab model. The result was segmentation. The old elitist system was preserved, with the prestigious classical universities, it expanded to welcome the new strata of elite brought during and after the war, while a parallel system of "lower quality" (or a perception of as such) was linked with the Lebanese University. This played a pivotal role and an increasing number of "second class" private universities gravitated around it, targeting niche markets and/or asserting the socio-political positions of their sponsors. This specific path deserves comparison with the experiences of other Arab countries (Syria, Egypt, Jordan, Tunisia, and Morocco) with regards to the modes of incorporation and/or substitution of elites.

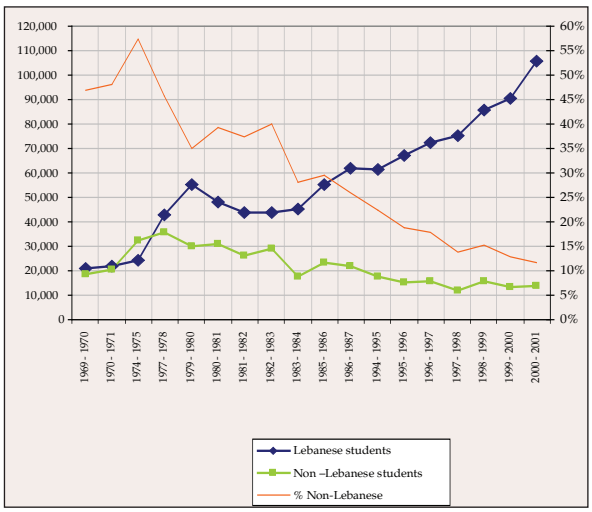
4.3 Institutional Structure

This section reviews the institutional structure of the education system in Lebanon with a particular focus on higher education.

4.3.1 A Dual System or Two Adjacent Systems?

Education in Lebanon is theoretically structured around a dualist system,[6] where both the private and public sectors work hand in hand, but this is not the case in practice. This alleged dualist system is the direct consequence of a historic heritage where education was, at first, only provided by

Figure 4.2
Number of Lebanese and Non-Lebanese Students in Universities



private schools, characterized mostly by missionaries, followed by the delayed establishment of public education which appeared in the wave of the Ottoman modernization process, at the end of the 19th century. However, no real partnership was ever established between these two systems to allow a form of cooperation to take place. Consequently, the most accurate description of "adjacent systems" is more precise than that of a "dual system", since the two sectors (private and public) function independently of one another, with minimum bridges and coordination.

Both from an economic and from a social equity perspective, public involvement in education is normally expected to be maximal in the basic cycles of education and to diminish with higher cycles. In Lebanon, the "public sector" accommodates 37 percent of students enrolled in the Lebanese educational system and education as a whole is controlled mostly by private institutions. However, important discrepancies exist between the cycles. The share of the public sector (in terms of the number of students enrolled) varies from 22 percent in kindergartens to 32 percent in the primary cycle, then to 42 percent in the intermediate, only to reach 53 percent in the secondary cycle and close to 50 percent in the university.

The "pyramid" seems to be inverted, where the government's role (through public schools) increases significantly in the cycles of general education and university level, reaching almost 50 percent, while the private sector dominates the vocational education.

The role of the government in supervising and controlling the quality and the learning aspects of private higher education is weak. Other than enforcing minimum requirements for establishment and structure, the government plays a weak role in enforcing standards on the quality of learning. The classical "Lebanese baccalaureate" exams that used to determine the end of the secondary cycle and the entry to university is more and more disregarded by the private schools where the students pass foreign exams (French or American) and get equivalences to the official diploma.

The inversion of the "educational pyramid" in Lebanon reveals that the Lebanese attach a greater importance to the educational and sociological "quality" increments in basic education than in middle or higher education. This means that the critical threshold of social and economic differentiation seems to be attached to low levels of formal education and probably relates to the mastering of foreign languages and basic intellectual skills rather than to the acquisition of more developed knowledge. Differences at this level are perceived as largely irreversible and drive the parents to enroll their children in private schools. This is not to say that no attention is given to differences in the educational and sociological quality of middle and especially of higher education. However, in higher education the differentiation of courses and disciplines as well as the modulation of the conditions of access make the choices more complex and allow the supply to be much more flexible to adapt to the different components of the demand. The distinction between private and public becomes less and less relevant and the degree of accessibility becomes probably more pertinent be it through the level of fees, through entrance exams, or through other forms of rationing.

Many indicators show the heterogeneous character of the Lebanese educational system. On average in Lebanon, out of 1,000 students that integrate the school system (from the first year of primary cycle), 75 students obtain the baccalaureate without repetition. This number is 161 for students living in Beirut, 48 for North Lebanon and 24 for Bekaa. It reaches 224 for students of middle-class families, and 27 for students of dis-

advantaged families. Nationally, this rate is 9 students in public schools, and reaches 255 students in private schools.[7]

It would be however erroneous to draw, on the basis of these indicators, hasty conclusions on the relative "quality" and "efficiency" of the public and the private sectors. It is well known that the performance of the educational system is strongly correlated with two types of variables that are hard to disentangle. The first type includes the external characteristics of the students, which directly impact their education performance (educational background of parents, social class, family income, etc.), and the second type includes endogenous variables to the system (quality of teaching, availability of equipment and laboratories, qualifications of teachers, conditions of work, overall educational environment, etc.). In addition there are circular causalities that deepen the initial difference. They include the best teachers going to the institutions that attract the most "gifted" and the "wealthiest" students who, in turn, target the same institutions because they offer the "best education" (intrinsic quality of education is, at best, difficult to assess). And what is commonly observed is the mixed result of self- fulfilling perceptions and reinterpreted facts.

4.3.2 Basic Data

In 2007, 917,977 students were enrolled in general education, 160,364 in university studies and 99,731 in technical and vocational studies. Thus, about 1.178 million were registered in the academic year 2007-2008, representing about 31 percent of the resident population of Lebanon.[8] Table 4.2 shows, for each of the sub-sectors and cycles in question, the distribution of students between the public and private sectors.

General education

There are three categories of schools in Lebanon Public, Private and Private Free.[9] At the pre-school level, 22 percent are enrolled in Public, 16 percent in Private Free, and 62 percent in Private schools. On the other hand, the percentage of enrollment at the elementary level in the same year was 32 percent in Public, 22 percent for Private Free and 45 percent for Private. The role of the public sector increases dramatically in secondary schooling where the percentage of students enrolled in public schools amount to 52 percent for general education and 38 percent for Technical and Vocational education.

Vocational education

Lebanon has a large number of vocational and technical institutions. Vocational institutions, both public and private, constitute a large segment of the student body. In 2007 alone, 37,446 students were enrolled in public Vocational Schools, whereas 62,285 students were enrolled in private vocational schools, this makes up almost 62 percent of the number of students enrolled in higher education institutions, both public and private. Table 4.3 provides a snapshot of the 2004 vocational schools data for both public and private sectors pertaining to number of students, number of institutions per region and number of instructors.

Higher education

Considering that the resident population of Lebanon in 2005 was 4 million, the ratio of students in higher education (including vocational institutions) for every 100,000 is 0.41.[10] This ratio is one of the highest in the Arab region. In the academic year 2006-2007, the total number of students registered in universities amounted to 160,364 of which

Table 4.2
Distribution of Students Per Cycle and Sector, 2007

Level	Total Number (1000)	Number in Public (1000)	Share of Public (%)	%. of Students
Pre-School	150.7	33.3	22	13
Elementary	450.6	145.9	32	38
Intermediate	193.3	81.8	42	16
Secondary	123.3	64.4	53	10
Total General Education	917.9	326.5	36	78
University	160.4	73.0	45	14
Technical & Vocational	99.7	37.4	38	8
Grand Total	1,178	436.9	37	100

Source: Centre of Research and Education Development (CRDP).

45 percent were registered in the LU, the rest were divided among the other 37 private institutions. The Lebanese university graduates made up about 45 percent of the Lebanese graduate body on a yearly basis, whereas the other 55 percent of graduates were from 37 different private institutions.

4.3.3 Legislative Aspects of Higher Education

Ministry of Education and Higher Learning

All forms of education in Lebanon are governed by the Ministry of Education and Higher Learning. The current structure of this ministry goes back to 1959. Two major amendments were made over the years. In 1971 the Centre of Educational Research and Development was created as a public institution with total financial and administrative independence, supervised by the Minister of Education and Higher Learning. It was established as per the decree number 2356, 10/12/1971. The 1990s witnessed an attempt to distribute the Ministry's task and obligations between three Ministries (Vocational & Technical Educational, Culture and Higher Education, Nationalism Education). However, this idea was disregarded and all aspects of education were joined under the umbrella of one ministry, which is independent from all culture and sports related issues. Currently the decision making process in the Ministry is divided between two management units: the General and Vocation Education unit and the Centre of Educational Development and Research. The Higher Education management unit was established a few years ago, it supervises all aspects of higher education but does not have any executive decision-making power. Moreover, article 10 of the Lebanese constitution states that "Education is free insofar as it is not contrary to public order and morals and does not interfere with the dignity of any of the religions or creeds. There shall be no violation of the right of religious communities to have their own schools provided they follow the general rules issued by the state regulating public instruction".

Table 4.3
Distribution of Vocational Education Students among Sectors and Mohafazas, 2004

Sector	Public	Private	Total
School-Institutes	64	368	432
Beirut	0	58	58
Beirut Suburbs	16	131	147
Mount-Lebanon	6	44	50
North Lebanon	16	72	88
Bekaa	10	22	32
South Lebanon	9	28	37
Nabatieh	7	13	20
Number of Students	32,655	67,223	99,878
Share of Sectors (%)	32.7	67.3	100
Number of Teachers	8,532	7,660	15,292

Source: Centre of Research and Education Development (CRDP)

The 1961 law

The 1961 law issued on December 27th 1961 is made up of 28 articles that state and describe the legal framework of establishing and running private higher learning institutions, the conditions for this establishment, the specifications of obtaining a degree in Lebanese law, and the penalties of opposing the contents of the law.

By looking closely at the law, its occasional nature (equivalence, law studies, etc.) appears clearly. Very little is actually said on requirements pertaining to the faculty members, the buildings and supplies, etc. The decision body comprises the Minister of Education, the General Director of the Ministry, the General Director of the Ministry of Justice, the President of the LU, and the heads of professional orders concerned by the specializations concerned. But it is left without clear criteria and the supervision process and the control of the quality of education are left vague.

Decree number 9274, 1996

The 9274 decree was issued on October 5th 1996, and consists of 11 articles that lay down the criteria, standards and conditions for establishing an institute of higher education. These include the buildings and facilities, libraries, faculty and staff, and administrative bodies.

Article 7 of this decree, calls for the establishment of an Education Committee made up of eight members headed by the Minister of Education. Six of these eight members are chosen from the candidate list which are provided by the following

universities: American University of Beirut, Saint Joseph University, Beirut Arab University, University of Kaslik, Lebanese American University and Balamand University. The other two candidates are selected from a list provided by the Lebanese University. This committee is tasked with looking over all applicants for the establishment of new institutions for higher learning and ensuring that all requirements and criteria that are described in this decree and the 1961 law are met.

4.4 Adequacy of Financing Higher Education

The term adequacy is adopted to account for the quantitative appraisal of the resources allocated to higher education. Broadly speaking, spending on education in Lebanon can be divided into household spending, government spending and external or private grants. In reality, financing education in general and higher education in particular exhibits two striking features: the amounts mobilized are very high in absolute and relative terms, with the bulk of these resources coming from families while the share of government does not exceed one third for the sector and one fifth for higher education.

4.4.1 Government Spending

Government spending is divided into direct and indirect spending. Direct spending covers funds channeled to the Ministry of Education and Higher Learning and to the LU to finance all levels of education. Indirect spending covers the cost of the Centre for Educational Research and Development, mainly in the form of educational allowances and transfers to support the operations of "free" private schools operated by various organizations; and secondly, to government employees at certain levels to cover the tuition of their children in private establishments.

Government expenditure on education at all levels, General, Vocational and Higher Education was slightly above 3 percent of GDP for the years 2004 to 2007. In the 2008 World Bank MENA Development Report, the average public expenditure on education as a percentage of GDP for 18 Arab countries stood at 6.4 percent in 2003. This puts Lebanon well below this average, and well below the averages of 5.4 percent and 5.3 percent for low middle income and OECD countries. However, as indicated in Table 4.4, government expenditure on education as a percentage of primary spending is close to 17 percent over the period (excluding 2006 and 2007 which were affected by the war) and the percentage to total spending is around 11 percent for 2007 and 2006 and 9 percent for 2005.

Direct government spending

Direct government spending on education covers the cost of operating different levels of public education institutions. It represents, on average, 85 percent of total government spending on education and about 2.5 percent of GDP. Of these sums, 70 percent goes to General Education, 10 percent to Vocational and 20 percent to the LU.

The bulk of the outlays (about 90 percent) are devoted to wages, salaries and compensations. The rest goes to construction, maintenance and supplies, in all cycles of education, implying low levels of service (except for the new campus of the LU where maintenance is still covered by the contractor for one more year as part of the construction contract). Direct spending on Higher Education does not exceed 0.5 percent of GDP, which is far below the average levels of OECD countries and lower middle income countries, which both amount to 1 percent of GDP.

Indirect government spending

Indirect government spending is divided into three categories, support of the Centre of Educational Research and Development, support to "Free Private Education" and Education Allowances. The Centre for Educational Research and Development is a public institution with total financial and administrative independence, supervised by the Minister of Education and Higher Learning. It was established by decree number 2356, 10/12/1971.

Free private education is provided by private institutions (supposed to be non-profit) and its cost is covered by transfers from the General Budget. It absorbs 14 percent of enrollment (126,000 pupils), compared to 33 percent in public schools and 52 percent in private schools. It is restricted to the primary cycle and is highest in the peripheral areas of the country.

Around 75 percent of civil servants are paid by government to enroll their children in private schools or universities that are considered of higher quality. These education allowances make up a large portion of government spending on education. Also included in this spending is the amount of university scholarships.

Table 4.4
Government Spending on Education (in Billions of LBP)

	2004	2005	2006	2007
Wages General Directorate of Education	481.0	534.0	478.0	506.0
Benefits and pensions	130.0	132.1	137.0	140.8
Centre for Research and Educational Development	9.5	11.0	11.0	11.0
Contribution to NGOs (private Schools)	82.0	89.0	108.0	107.0
Construction under execution	21.0	40.0	29.0	28.0
School Rent and Maintenance	18.5	19.2	17.0	20.0
School Stationary	0.0	0.1	0.0	0.0
Education allowances in Private Sector	70.8	69.5	72.9	77.0
Total Government Spending on General Education	**812.9**	**894.8**	**852.9**	**890.1**
Spending on General Education % of primary Spending	8.0	8.8	6.8	6.7
Spending on General Education % of total Spending	2.5	2.7	2.5	2.4
Spending on General Education % of GDP	13.0	13.3	10.4	10.4
Wages General Directorate of Technical Education	58.0	61.0	71.0	70.0
Construction under execution	5.3	10.0	7.3	7.0
Total Government Spending on Vocational Education	**63.3**	**71.0**	**78.3**	**77.0**
Spending on Vocational Education % primary Spending [11]	1.0	1.1	1.0	0.9
Spending on Vocational Education % of total Spending	0.6	0.7	0.6	0.6
Spending on Vocational Education % of GDP	0.2	0.2	0.2	0.2
Wages General Directorate of Higher Education	1.0	0.0	1.0	1.0
Contribution in the Salaries of the Lebanese University	149.0	146.0	152.0	161.0
Construction under execution	6.0	11.4	8.3	8.0
Students University Scholarships	0.8	0.9	0.4	0.4
Education allowances in Private Sector	32.2	31.5	33.1	35.0
Total Government Spending on Higher Education	**188.9**	**189.9**	**194.8**	**205.3**
Spending on Higher Education % of primary Spending	3.0	2.8	2.4	2.4
Spending on Higher Education % of total Spending	1.9	1.9	1.5	1.5
Spending on Higher Education % of GDP	0.6	0.6	0.6	0.5
Total Government Spending on Education	**1065.1**	**1155.6**	**1125.9**	**1172.4**
Spending on Education % of primary Spending	17.0	17.1	13.7	13.7
Spending on Education % of total Spending	10.5	11.4	9.0	8.8
Spending on Education % of GDP	3.2	3.5	3.3	3.1
Primary spending	6,256	6,739	8,197	8,560
Total spending	10,177	10,149	12,578	13,292
GDP	32,815	32,955	33,824	37,754

Source: Economic Accounts of Lebanon, Presidency of the Council of Ministers, 2007 and author's calculations

Table 4.5
Summary of Government Spending on Education (in Billions of LBP)

	2004	2005	2006	2007
General education	650.5	725.3	661.0	695.0
Vocational education	63.3	71.0	78.3	77.0
Higher education	156.0	157.4	161.3	170.0
Direct spending	869.8	953.7	900.6	942.0
Indirect spending	195.3	201.9	225.4	230.4
Total spending	1065.1	1155.6	1125.9	1172.4
% direct spending	82	83	80	80
% indirect spending	18	17	20	20

Table 4.6
Indirect Government Spending (in Billions LBP)

	2004	2005	2006	2007
Centre for Research and Educational Development	9.5	11	11	11
Education allowances in Private Sector	103.8	101.9	106.4	112.4
Contribution to non-profitable organizations (private schools)	82	89	108	107
Total Indirect Spending	195.3	201.9	225.4	230.4
% of primary spending	3.1	3.0	2.7	2.7
% of GDP	0.6	0.6	0.7	0.6

4.4.2. Household Spending on Education

Due to the strong presence and spread of private education, household spending on education in Lebanon far exceeds that of government spending at all levels of education. Based on the Household Survey data of 2004, we were able to derive household spending on different types of education as shown in Table 4.7.

This survey unfortunately does not cover all expenditures on education. However, total household expenditure is not in line with the estimations of domestic consumption as per the National Accounts. One has therefore to go back to the 1997 survey that was used as a base for the National Accounts and that included, besides fees and tuitions, expenditure on books and stationery, other education expenditure and costs of studying abroad. The 1997 figures were adjusted to 2004 by applying the total CPI index for total expenditure and the education CPI for education expenditure, leading to the results presented in Table 4.8.

The two series are inconsistent at a global level but, within categories of comparable levels of expenditure, the structure of expenditure is reasonable. This allows for the integration of the items disregarded in the 2004 survey, leading to the results in Table 11. Hence, private expenditure on education exceeds 10 percent of the households' total expenditure and 9 percent of GDP, out of which 3.5 percent of the total expenditure and 3 percent of GDP are devoted to higher education. These levels are exceptionally high by any standard.

4.4.3 Complementary Financing

On top of government and household expenditure, education benefits from external or private grants as a third source of funding that is not negligible, especially at the level of higher education.

Some universities that follow the American model (mainly the American University of Beirut (AUB) and the Greek Orthodox Balamand University) benefit from endowments and gifts that finance buildings, equipment, programs and scholarships. For the AUB, whose accounts are accessible, the amount in 2007 reached 21.5 millions USD.

Foreign Governments give support to some universities and schools through the provision of professors or teaching material or the support of joint programs. This is particularly the case with the French. The amounts received are not regularly published.

Many charitable and/or political foundations and some foreign governments grant scholarships to students (such as Rafic Hariri, Issam Fares or Walid Bin Talal foundations).

Many Lebanese students study abroad, especially in countries where higher education is free. The survey carried by the Jesuits' Université Saint Joseph (USJ) in 2002[12] estimates their number at 12,500, 37 percent of which went to Western Europe, 30 percent to North America and 20 percent to Eastern Europe.

Finally, many schools and universities belong

Table 4.7
Households' Expenditure on Education (Based on 2004 Survey)

	< 3600	3600-5999	6000-7799	7800-9599	9600-11999	12000-14399	14400-19199	19200-28799	>28800	Total
Expenditure on Education	375.8	493.4	809.6	1,073.9	1,329.8	1,724.8	2,321.8	2,690.2	4,091.5	1,478.3
KG and Primary	177.5	278.9	404.2	487.2	640.0	866.5	884.5	655.6	955.3	563.2
Secondary	125.9	153.4	247.7	319.0	404.1	543.6	750.1	847.7	1,063.5	446.6
Post Secondary	70.8	59.1	152.6	262.8	281.4	310.1	669.9	1,167.4	2,017.8	458.5
Tuitions Total	374.2	491.4	804.5	1,068.9	1,325.5	1,720.2	2,304.4	2,670.7	4,036.6	1,468.2
Special Programs	1.6	2.0	5.1	4.9	4.4	4.5	17.4	19.5	54.9	10.1
Total expenditure	9,150.3	10,955.8	13,011.1	16,161.0	17,635.1	20,979.8	23,986.5	30,965.9	45,348.3	19,210.1

Table 4.8
Households' Expenditure on Education (Based on 1997 Survey)

Annual income category of household (in thousand LBP)	< 6900	6900-11100	11100-16600	16600-22200	22200-33300	33300-44400	> 44400	Total
Expenditure on Education	814	2,040	3,340	4,202	5,376	8,105	12,051	4,895
Fees and Tuitions	632	1,472	2,390	2,954	3,922	5,793	9,320	3,609
Expenditure on books and stationery	35	128	334	300	266	477	295	263
Other education expenditure	141	422	578	797	1,066	1,617	1,833	874
Costs of studying abroad	7	17	37	151	121	217	604	149
Total expenditure	10,013	16,580	23,903	28,511	36,774	48,483	82,384	33,893

to religious communities that provide not only the land but also the labor cost of the religious personnel who work as teachers or in the administration (priests and nuns). It is not easy to assess the value of this complementary financing but an estimate of 120 billions LBP seems reasonable.

4.4.4 Total Spending on General and Higher Education

It is possible to put together the three sources of financing of education (calculated for the academic year 2004-2005 because of the availability and representativeness of data). Accordingly, about 4.200 billion LBP (2.8 billion USD) are devoted annually to formal education in Lebanon. Two thirds go to general education and one third to higher education. For analytical purposes, vocational education has been split among general and higher. Public expenditure covers about one quarter of the total. It reaches 27 percent for general education but only 16 percent for higher education. Complementary assistance accounts for 9 percent of the financing of higher education.

This means that as much as 13.1 percent of GDP is devoted to education. Controlling for the age structure and the levels of enrollment, the average yearly cost per student for education in total is 3.600 million LBP (2,400 USD or 45 percent of GDP per capita), it reaches 6,800 million LBP (4,500 USD or 84 percent of the GDP per capita) in higher education and 3,000 million LBP (2,000 USD or 37 percent of the GDP per capita) in general education.

In order to show the exceptionality of the Lebanese case, it is worth comparing the global picture of education financing in Lebanon with that of various other countries with different age structures and levels of economic development (Table 4.13). With such high levels of expenditure, the question turns to: how efficient is the response?

4.5 Efficiency in Financing Higher Education

In broad terms, internal efficiency of education is understood as the efficiency of the use of available resources for a given outcome, while exter-

Table 4.9
Households' Expenditure on Education, A Synthesis

	1997 survey		2004 survey		Result for 2004		
	% total expenditure	Elasticity to expenditure	% total expenditure	Elasticity to expenditure	% total expenditure	%GDP	Billions LBP
Education	11.2%	1.27	7.7%	1.53	10.6%	9.1%	2941
Fees and tuitions	8.2%	1.27	7.6%	1.53	10.6%	9.0%	2927
KG and Primary Levels			2.9%	0.99	3.9%	3.4%	1086
Secondary Level			2.3%	1.44	3.1%	2.7%	862
Post Secondary Education			2.4%	2.30	3.5%	3.0%	979
Other programs			0.1%	2.15	0.1%	0.0%	15
books and stationery	0.6%	1.01					
other education expenditure	2.0%	1.23					
costs of studying abroad	0.3%	2.20					

nal efficiency can be understood as the efficiency of producing the maximum outcomes in terms of quantity and quality, out of a given set of resources. This section first presents recent trends of demand, supply and prices of higher education. Next, internal efficiency is approximated through a number of partial comparisons for which data were available. External efficiency of higher education is then studied more carefully, first through the calculation of returns on higher education and next through an assessment of some salient features of the labor market.

One important point to state at the outset is that higher education in Lebanon has become increasingly driven by emigration. This explains the steep increase in the supply at the levels of quantities and prices. Domestic returns to higher education are very low. The flexibility of supply is remarkable and several categories of universities have emerged covering a broad spectrum of demand for various learning options, work and migration strategies.

4.5.1 General Trends: Demand, Supply and Prices

The number of students in higher education has steadily increased over time, while the population remained essentially stagnant. At the same time the number of students in the VTE was also rapidly increasing: since 1992, higher education students have doubled (5.1 percent yearly) and VTE students have increased five times (11 percent yearly).

In the same period, public expenditures on education increased by 9 percent on average each year, and rose as a share of GDP from 2.1 percent in 1994 to an average of 2.6 percent since 1998 and to 3 percent in 2005. The budget expenses attributed to LU grew from LBP 52 billion for 1993 to LBP 173 billion for 2005.

More globally, during the past three decades, the cost of the educational system in Lebanon rose from approximately 8.6 percent of GDP in 1973, to 11.4 percent in 2001 and to 13 percent in 2005. Based on the CPI calculated by the "Consultation and Research Institute", prices of education services in the household budget increased, on average, between 1991 and 2007, at a yearly rate of 13.9 percent while the overall CPI increased at an average yearly rate of 7.7 percent. The increase was much steeper until 1999 (28 percent a year) than after (Figure 4.3).

All these indicators show clearly the intensity of demand for education in general and higher education in particular. The opening of many new universities at the end of the nineties did probably ease the pressure on prices.

4.5.2 Internal Efficiency

It is unfortunate that financial information about individual universities is not available, even to the public authorities because of the peculiarities of the Lebanese system. Apart from the Lebanese University, the only accessible accounts are those of the AUB. This situation prevents direct analy-

sis of internal efficiency in a systematic way, discipline by discipline. However, some general remarks can be made, as described below.

Transfers and unit costs

From Table 4.12, the cost per student in the public education system is almost half that in the private system. In general education, the cost in the private exceeds that in the public by almost 50 percent while the difference in higher education is as high as five times. Surprisingly, the cost per student in the Lebanese University is even lower than that of a student in the general public education.

This striking result holds in spite of the high level of overstaffing in general education. It is somehow supported by the apparent swell in the number of students of the LU due to non-attending first year registered students in specific faculties. But it nevertheless indicates a good performance of the LU, at least in relative terms, and that is recognized by the desire of students to join it.

Table 4.10
Overall Expenditure on Education by Source

(Billions LBP)	General education	Higher education	Total
Private expenditure	1,957	985	2,941
Public expenditure	937	218	1,156
Complementary financing	30	120	150
Total expenditure	2,924	1,323	4,247
% GDP			
Private expenditure	6.0	3.0	9.1
Public expenditure	2.9	0.7	3.6
Complementary financing	0.1	0.4	0.5
Total expenditure	9.0	4.1	13.1
Number of students	981,378	194,298	1,175,676
Expenditure per student			
Private expenditure	1,994	5,068	2,502
Public expenditure	955	1,123	983
Complementary financing	31	618	128
Total expenditure	2,980	6,809	3,612
% GDP per capita			
Private expenditure	0.25	0.63	0.31
Public expenditure	0.12	0.14	0.12
Complementary financing	0.00	0.08	0.02
Total expenditure	0.37	0.84	0.45

Table 4.11
Education Expenditure as Share of GDP in Selected Countries in 2000

Country	Public Expenditures (%)	Private Expenditures (%)	Total Expenditures (%)
China	2.2	-	-
Japan	3.6	1.2	4.8
Korea	3.8	2.8	6.6
Mexico	4.2	0.8	5.0
Ivory Cost	4.6	-	-
United States	4.9	2.2	7.1
Hungary	4.9	0.6	5.5
France	5.8	0.4	6.2
Lebanon	4.1	9.1	13.1

Source: Public expenditure: World Bank, private expenditure: OECD; figures for China and Mexico for 1998.

The LU versus the AUB cases

Total expenditure for LU for 2007 amounted to USD 100,424,000 whereas the total expenditure for AUB amounted to USD 108,130,000. The university costs per student enrolled in that particular year were USD 1,380/student for LU and USD 15,500/student for AUB, which is almost 11 times greater than LU. In 2007, there were 72,900 students enrolled in LU as opposed to 6,057 students enrolled in AUB.[13]

The tightness of the LU budget translates into an overwhelming share of expenditure going to wages and salaries, the least compressible item: LU capital expenses make up 5 percent of the total expenses, whereas the operating costs make up 90 percent, these operating costs include 41 percent on wages and salaries for academic staff and 41 percent for administrative staff. In 2007, LU allocated around 5 percent of its expenses to capital expenditures, which make up for maintenance and construction. In comparison, at AUB salaries, wages and benefits make up 62 percent of the

overall university expenses whereas maintenance and updating of infrastructure makes up 8 percent. AUB has implemented an average increase of 5 percent in wages and salaries over the last few years, which falls in line with the 5 percent average yearly increase in tuitions.

Another common indicator of efficiency is to compare student/teacher ratios. UL has a 1:16 ratio, AUB 1:8 and Saint Joseph University (USJ) has 1:7 ratios. These ratios are relatively low compared to those of Egypt, which are 1:32 and the MENA region, which is 1:32. This indicates these institutions are meeting the minimum requirements of ensuring that the student body is being placed in a suitable learning environment.

Humanities and sciences

References have become frequent in the literature to the distribution of university students over humanities and sciences specializations, suggesting more or less explicitly a positive appreciation of scientific courses. The distribution of university students for the year 2007-2008 shows that "Humanities and Arts" are the fields of study of less than one fifth of the students. Considering private universities alone or male students alone, the share of "Humanities and Arts" falls down to less than one seventh (Table 4.14).

The most attractive field of studies is, by far, "Social sciences, business and law". It attracts more than 40 percent of the students. Science and engineering account for 26 percent, while health accounts for 8 percent. This pattern reveals a close adaptation of the outcomes of Lebanese universities to the economic structure of the country and to the labor market. It also shows that a significant number of female students, almost 20 percent of the total university students, even though (or rather because) they have little hopes for finding a job, register mainly in humanities and, to a lesser extent, in social sciences and science.

4.5.3 External Efficiency: Returns on Higher Education

In spite of the apparent simplicity of the definition, it is often difficult to assess in practice returns to education. In the Lebanese case, the difficulties related to the quality of data are compounded with the very wide range of the costs of higher education on one hand and, on the other hand, with the very wide range of expected income when both the domestic labor market and emigration are taken into account, bearing in mind the weight of emigration in the decisions of investment in education.

But when looking carefully, even the definition is not so simple: "In common usage, the coefficient on schooling in a regression of log earnings on years of schooling is often called a rate of return. In fact, it is a price of schooling from a hedonic market wage equation. It is a growth rate of market earnings with years of schooling and not an internal rate of return measure".[14] We have therefore adopted a progressive approach to the problem of evaluating the returns to higher education in Lebanon.

Figure 4.3

Comparative Evolution of the General CPI and the Index of the Cost of Education (1991-2008)

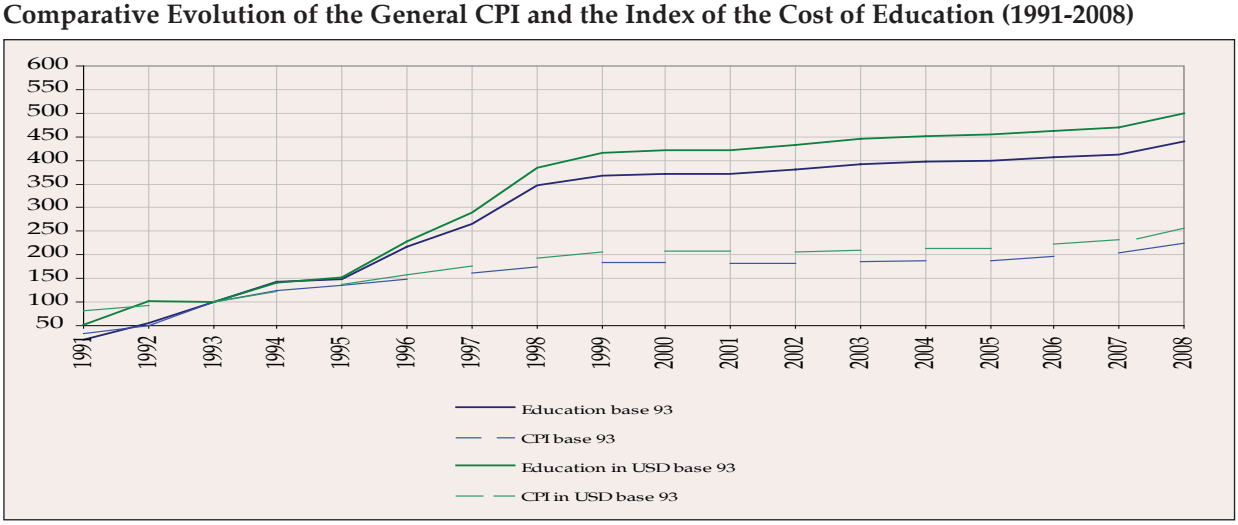


Table 4.12
Overall Expenditure on Education by Channels of Expenditure (in Billions of LBP)

	General education	Higher education	Total
Expenditure by source			
private expenditure	1,957	985	2,941
public expenditure	937	218	1,156
foreign expenditure	30	120	150
Total expenditure	2,924	1,323	4,247
Transfers from public to private	158	32	0
Expenditure by target			
in private education	2,145	1,136	3,281
in public education	779	187	966
Number of students	981,378	194,298	1,175,676
in private education	630,178	104,122	734,300
in public education	351,200	90,176	441,376
Expenditure per student (000s LBP)			
in private education	3,404	10,913	4,469
in public education	2,218	2,071	2,188

Indirect assessment through the regression of wages on years of schooling

The official 1997 data give estimates of wages along categories of professions that can be related to an average level of education and therefore to a given number of years of schooling. Regression gives a rate of increase of wages by year of education of 8.6 percent (that is a rough indication of the private rate of return of schooling for students in the public sector who do not incur fees). If the average public cost of education is accounted for and deducted from the wages, the rate of increase (that roughly captures the social return of schooling for students in the public sector) falls to about 3.0 percent, while, if costs of schooling in the private sector are taken into account, the return becomes negative.

The study by the USJ on the Youth in Lebanon in 2002 only covers people under 35 years old but provides direct data about wages in relation to the levels of education (and implicitly the years of schooling). It therefore allows doing the same calculations. It shows that the average monthly wage in 2002 was 640,000 LBP. The results are quite similar: the rate of increase of wages by year

Table 4.13
Comparison of Revenues of AUB and LU in 2007 (in thousands of USD)

Revenues 2007 (103 USD)	American University of Beirut	Lebanese University
Student tuition/fees	82,708	5,871
Scholarships	7,690	n/a
Grants	13,271	n/a
Endowment	7,880	n/a
Government transfers	n/a	80,000
Investment	7	415
Other revenues	16,169	37,532
Total	127,725	123,818

Table 4.14
Distribution of University Students by ISCED Categories of Specialization (Year 2007-2008), (%)

ISCED categories	Males	Females	Private Universities	Lebanese University	Total
Agriculture	0.4	0.2	0.3	0.3	0.3
Education	0.6	3.4	2.1	2.1	2.1
Engineering, manufacturing and construction	14.5	5.1	11.4	6.8	9.4
Health and welfare	6.5	9.8	11.1	4.7	8.3
Humanities and Arts	13.8	24.1	13.3	27.1	19.4
Science	19.4	15.2	12.9	22.5	17.1
Services	1.9	1.4	2.4	0.6	1.6
Social sciences, business and law	43.0	40.8	46.5	35.9	41.8
Total	75881	91384	92989	74276	167265

Source: Centre for Research and Educational Development.

of education is 7.6 percent; the social return in the public sector stands at 3.6 percent; and, in the rate of return in the private sector is negative.

Comparison of data with administrative sources

Since declaration of income is often biased, it was useful to confront the results of surveys with the administrative database of the National Security that might also be biased but to a much lower extent since the benefits are linked to the declared wages. Unfortunately the database does not include any information about the levels of education; it includes only age and sectors. It covers 270,000 wage earners whose average monthly salary stands at 895,000 LBP. For some sectors, data was available also for age. The average wages are shown in Table 4.16, for these sectors, for all workers on one hand and for the youth below 35, on the other hand.

Apart from the banking and insurance sectors who enjoy well-known privileges, the results are in line with those of the surveys. Under-declaration could be in the order of magnitude of 15 percent and that should slightly improve the estimated returns.

IRR calculations under different hypotheses

On the basis of available information, it was possible to go beyond the marginal IRR and to try evaluating the economic return on the whole process of schooling. For this purpose the lifecycle NPV was calculated as a function of the discount rate and the number of years of schooling in the public and in the private sector. Results are shown in Figures 4.5 and 4.6.

From there on, it was possible to calculate the relative variation of the lifecycle NPVs as a function of the discount rates first by looking at the whole schooling period above primary education, then by looking only at higher education, and this from three perspectives: the flow for the individual in public education, the flow for the individual in private education, and the social flow for studies in the public sector.

It appears that, for the individual, in the public education system, it is on average advantageous to continue studying one more year as long as the discount rate does not exceed 10.25 percent (the average IRR); more specifically, it is interesting to continue into higher education one more year for discount rates lower than 8 percent. From a social perspective, public education as a whole shows an average IRR of 8 percent and higher public education an IRR of 7 percent. Things are much darker in private education: the overall IRR falls down to 5 percent and the higher education IRR does not exceed 3.5 percent. It is obvious that the overwhelming demand of the Lebanese for higher education, including private higher education, cannot be explained on the basis of the laws of the domestic labor market.

4.5.4 External Efficiency: Human Capital and the Labor Market

One of the most prominent classical arguments for higher education is its impact on productivity, employment and growth through the accumulation of Human Capital. It is therefore necessary to examine the external efficiency of higher education against such objectives.

Table 4.15

Evolution of Young People Wages by Level of Education

Monthly wage in thousands LBP	Men	Women	Total
Without any diploma	482	321	462
intermediate general	617	407	577
intermediate technical	623	470	580
baccalaureate general	769	507	667
baccalaureate technical	729	560	662
university	1170	814	984
masters	1469	1021	1247
university technical	1040	701	907
Total	661	584	640

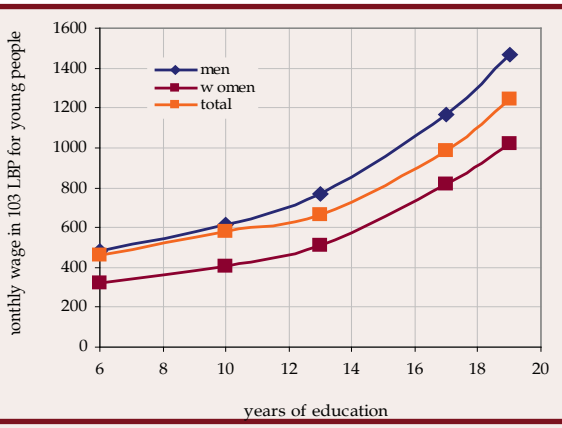


Table 4.16
Average Wages by Sector

Sector	Average monthly wage LBP All workers	Average monthly wage LBP below 35 years	Average age	Number of workers
Insurance	1,621,616	1,127,890	38.8	1,619
Trade	777,434	655,742	36.6	32,143
Public services	841,828	773,538	47.6	3,081
Banks	2,202,431	1,395,404	40.0	11,414
Transports	1,025,761	678,120	41.7	9,492
Printing	875,364	607,311	39.1	3,813
Total	1,162,220	792,407	38.8	61,562

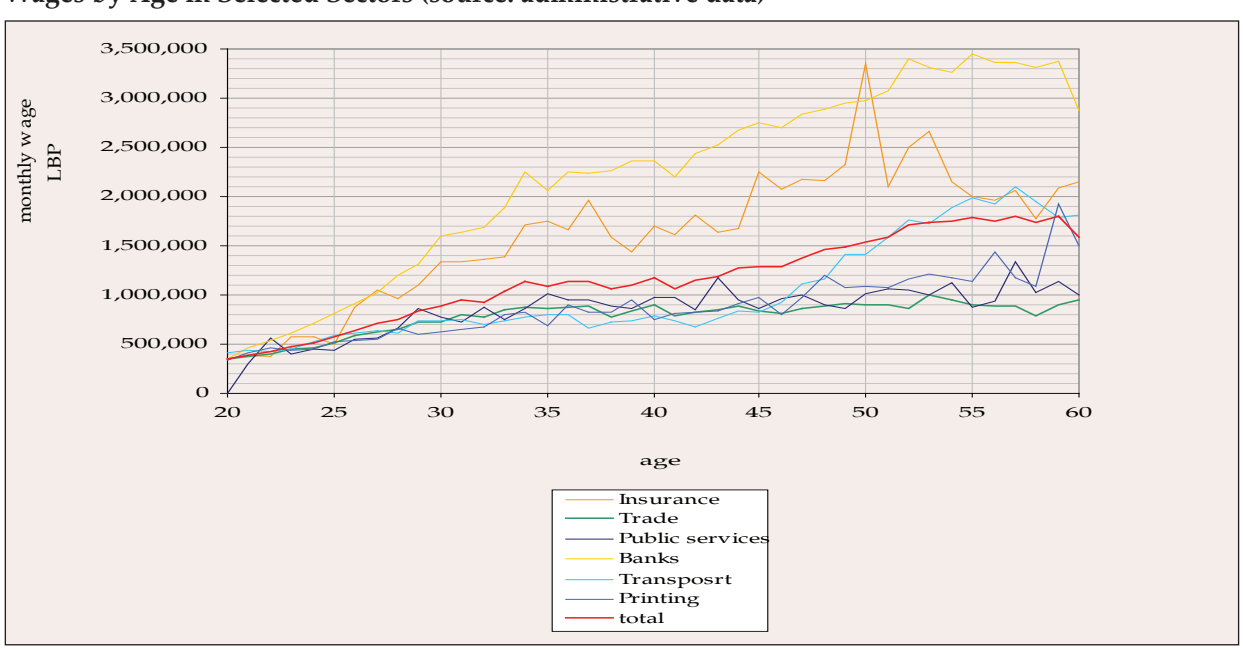
Demographic trends and qualitative misalignments in the labor market

The steady increase in the number of higher education students and graduates does not derive from a demographic bulge in Lebanon. The population in the age bracket of 20-25 is stagnant and the pyramid of age is shrinking at its bottom. But the working age population should still grow (emigration put aside for the moment) at a pace decreasing from 2 percent now to 1.4 percent in the period 2010-2020. It is estimated that over the next 10 years, with stable participation rates, there will be an average of 19,000 new entrants to the labor market each year.

Looking backwards, Lebanon witnessed during the past three decades a sharp decrease in the share of the youth (less than 14) from 42 percent to 28 percent of the resident population while the share of the elderly (65 and more) increased slowly. Over the past eight years, the absolute numbers of the 0-14 age group decreased by 8.4 percent, those of the elderly increased by 9.2 percent, while the whole population was also decreasing. Hence the ratio of demographic dependency fell from more than 90 percent to 50 percent. In the meantime, the rate of activity for the 15-64 years category remained stable around 47 percent, which is quite low. Actually the size of the workforce has not expanded over the last ten years, showing a zero elasticity of jobs to growth.

These quantitative facts rule out the argument of the youth bulge and seriously challenge the classical linkages between growth and employment. Looking at the qualitative side, over the same period, the levels of education of the labor force have been improving, but not at a pace com-

Figure 4.4
Wages by Age in Selected Sectors (source: administrative data)



mensurate to the outcomes of the education system because of emigration and the fact that migrants have a higher level of education than the average.

In qualitative terms, the distribution of the labor force among sectors has evolved in favor of the services and more specifically in activities related to personal services and tourism that are typically low qualified.

The freeze on hiring in the Public Sector since 1996 has also severely limited domestic opportunities for higher education graduates and the little recruitment that took place outside the military services were mostly at low skill levels. The suc-

Figure 4.5

NPV of Private and Public Education as Function of the Discount Rates and the Number of Years of Schooling

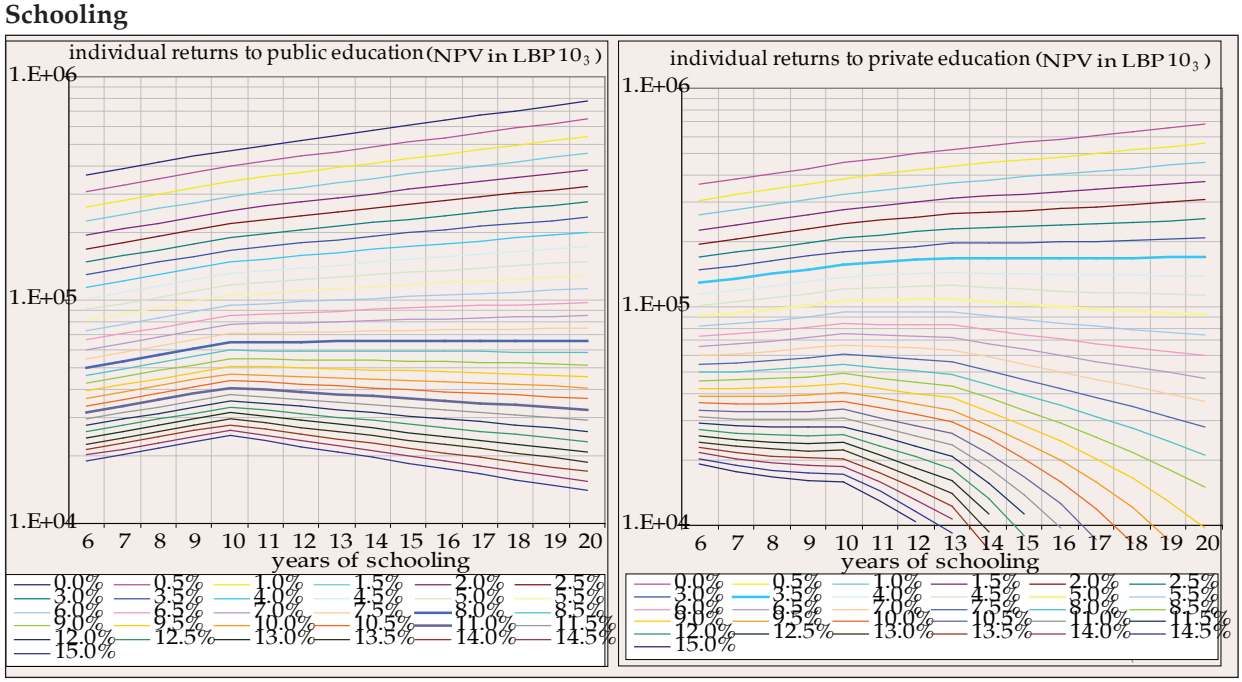


Figure 4.6

Relative Rate of Variation of the Lifecycle NPV per Year of Schooling

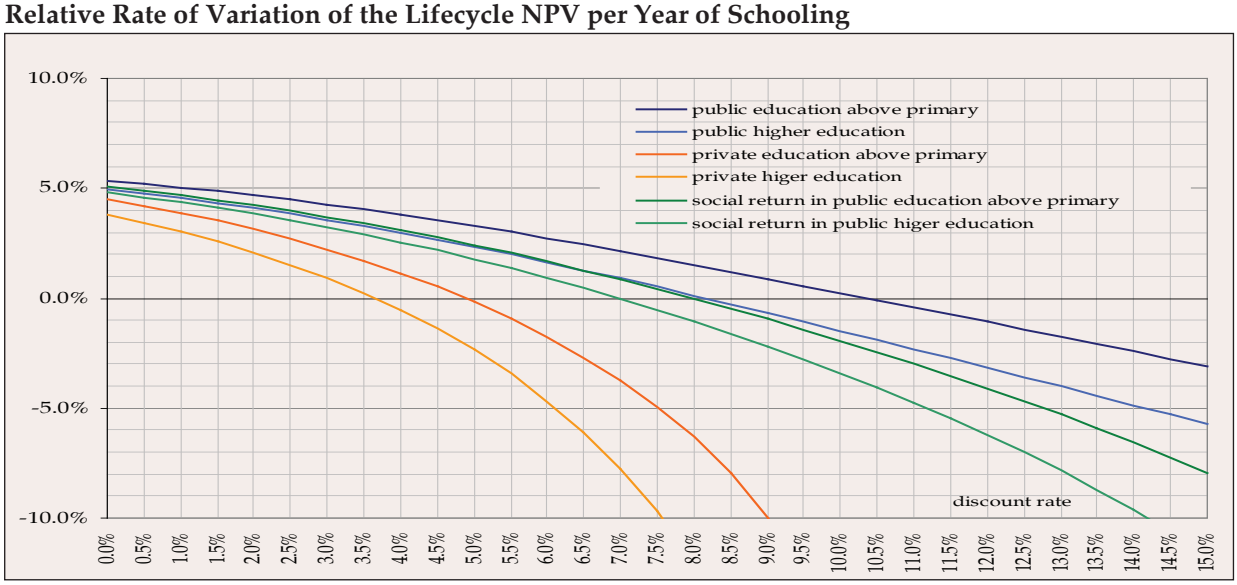


Table 4.17
Evolution of the Main Demographic Indicators (1970-2004)

	1970	1996	2004	1970 to 2004 variation (%)	1996 to 2004 variation (%)
0-14 years (in millions)	0.91	1.12	1.02	12.8	-8.4
15-64 years (in millions)	1.11	26.05	2.45	120.2	-6.0
65 years and more (in millions)	0.11	0.26	0.28	168.0	9.2
Total (in millions)	2.12	3.98	3.75	76.7	-5.7
Effective workers (in millions)	0.50	1.18	1.06	113.9	-9.6
Unemployed (in millions)	0.03	1.28	1.15	192.1	-11.7
Working population (in millions)	0.53	1.28	1.15	118.6	-9.8
Rate of activity (15-64) (%)	47.5	49.1	47.1		
Unemployment rate (15-64) (%)	6.0	8.2	8.0		
Demographic dependency ratio (%)	0.9	0.5	0.5		
Effective dependency ratio (%)	3.3	2.4	2.5		

Table 4.18
Elasticity of Employment of Resident Lebanese to Growth

Elasticity of Employment of Resident Lebanese to Growth	1997 -2004	2004 -2007	1997 -2007
Agriculture	-1.182	0.534	-2.175
Industry and Construction	-0.768	-1.682	-1.199
Trade, Services & Transports	0.193	0.786	0.351
Whole Economy	-0.039	0.104	0.001

Source: Authors based on National Accounts 1997-2007, Labour Force Study 1998, Household Survey 2004, Living Conditions 2007

Table 4.19
Evolution of the Structure of the Labor Force by Levels of School Attainment (1997-2007)

	% of Labour Force		
Educational Attainment	1997	2004	2007
Illiterate	8	5	4
Read & Write, Pre-school	9	6	4
Elementary	29	28	24
Intermediate	21	22	23
Secondary	17	16	18
University	16	20	25

Source: 2007 Living Conditions Survey, 2004 National Survey of Household, Living Conditions, La Population active en 1997.

cessive wage increases were all capped and the last one was a lump sum narrowing the range of wages and making the public sector wages higher than those of the market for low skills but significantly lower for medium and high skills. Employment in the public sector does not get the interest it deserves.[15] It appears that, in 2002, the public sector employed 15 percent of the labor force, 11.2 percent in the civil service, 4.1 percent in the military and 16 percent of the female working force. The hiring in civil employment declined since the early eighties: 32 percent are older than 50 as opposed to 16 percent in the private sector, the average age is 42 years as opposed to 36. Women stay longer in the public sector (average age 40 versus 32 in the private) and represent a clear majority among the young employees. 21 percent of the civil employees hold university degrees.

Unemployment and migration

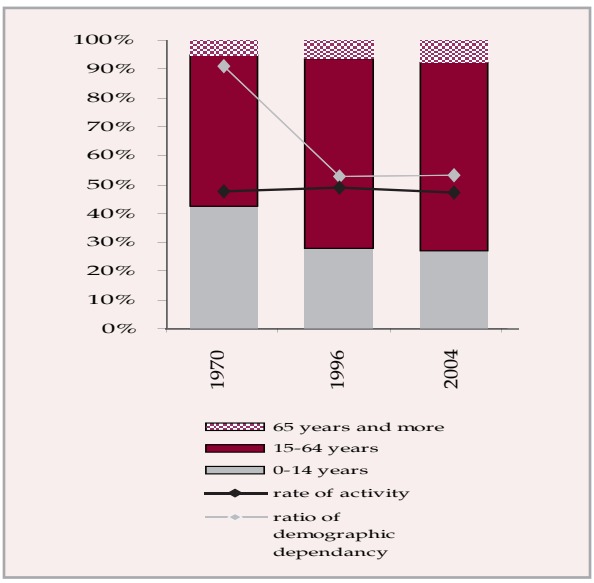
The consequence of this quantitative and qualitative misalignment of the supply and demand of an increasingly qualified young labor force is twofold: unemployment for a small part and migration for a larger part (Tables 4.21 and 4.22 and Figure 4.9).

In a recent study tracing the whereabouts of the graduates of USJ the following data from 2000 to 2004 was collected, presented in Table 4.22.

On the basis of these results, it appears that after five years of graduation, 40 percent of male graduates 20 percent of female graduates would have emigrated.

The complementarity between unemploy-

Figure 4.7
Evolution of the Demographic Structure (1970-2004)



ment and migration can be easily demonstrated in Figure 4.9.

The interaction between the labor market rules and the structure of the "reservation wages" translate opportunity costs and unaccounted-for externalities and lead to some paradoxical results in Lebanon: women's participation rate is extremely low; the rate of unemployment for university graduates is the highest, whereas the lowest unemployment rate is that of the illiterate. However education appears as a major factor in the categorization of households into poverty brackets, that is, the lowest rates of poverty in Lebanon are found with households whose head holds a university degree. University degree holders have the highest rate of unemployment but enjoy the lowest rate of poverty. The question is: what is the direction of causality?

Accumulation of human capital

Accumulation of human capital in the country is negatively affected by low rates of return to education and by external factors that increase reservation wages and take the more qualified workers abroad. Human capital seems to be poorly valued in Lebanon's domestic labor market. The private returns to education are very low by international standards. This is, in part, is a reflection of low levels of productive investments in sectors

Table 4.20
Evolution of the Structure of the Labor Force by Sectors of Activity (1000)

Employment by sector	1997	2004	2007	% change in employment (1997 -2007)
Agriculture	100.6	83.3	80.8	-19.71
Industry	164.3	165.8	154.5	-5.97
Construction	125.1	96.8	62.6	-49.94
Trade	281.3	244.4	253.1	-10.01
Transport, Post and Telecom	59.7	82.8	78.3	31.24
Services	360.3	414.3	464.9	29.02
Financial Intermediation & Insurance	24.0	20.2	23.0	-4.40
NA	2.5	0.4	1.1	
TOTAL	1,117.9	1,108.1	1,118.4	0.04%

Source: 2007 Living Conditions Survey, 2004 National Survey of Household; Living Conditions, La Population active en 1997.

Table 4.21
Unemployment by Levels of Educational Attainment, (%)

	Unemployment Rate		
Educational Attainment	1997	2004	2007
Illiterate	5.2	9.6	4.9
Read & Write, Pre-school	6.3	6.2	5.0
Elementary	10.2	8.4	8.4
Intermediate	10.1	10.1	9.2
Secondary	8.3	9.6	9.7
University	6.1	9.0	11.1
National Average	8.6	7.8	8.6

Source: 2007 Living Conditions Survey, 2004 National Survey of Household, Living Conditions, La Population active en 1997.

that demand skilled labor. A low stock of physical capital per worker can also reduce returns to education by reducing the level of labor productivity. Under these conditions, it is not surprising that investments in education are made with the expectation of finding a job abroad. Thus, the educational level of Lebanese emigrants is significantly higher than that of residents (See Kaspar-

Figure 4.8
Percentage of Graduates Remaining in Lebanon by Years of Graduation

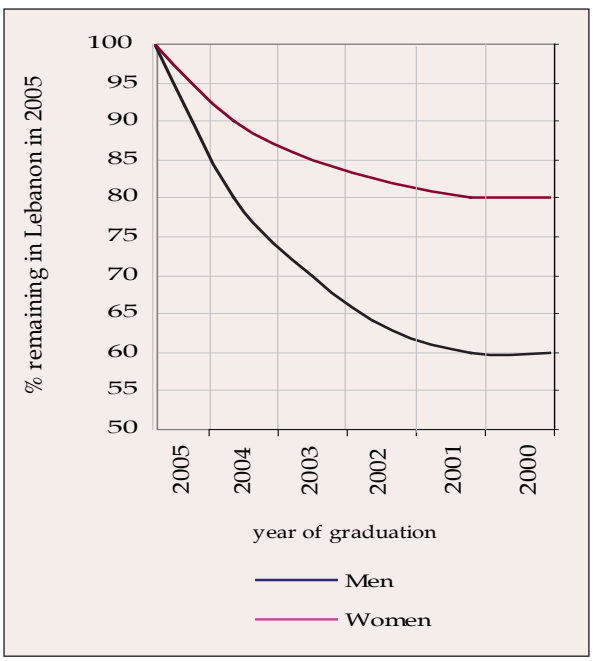
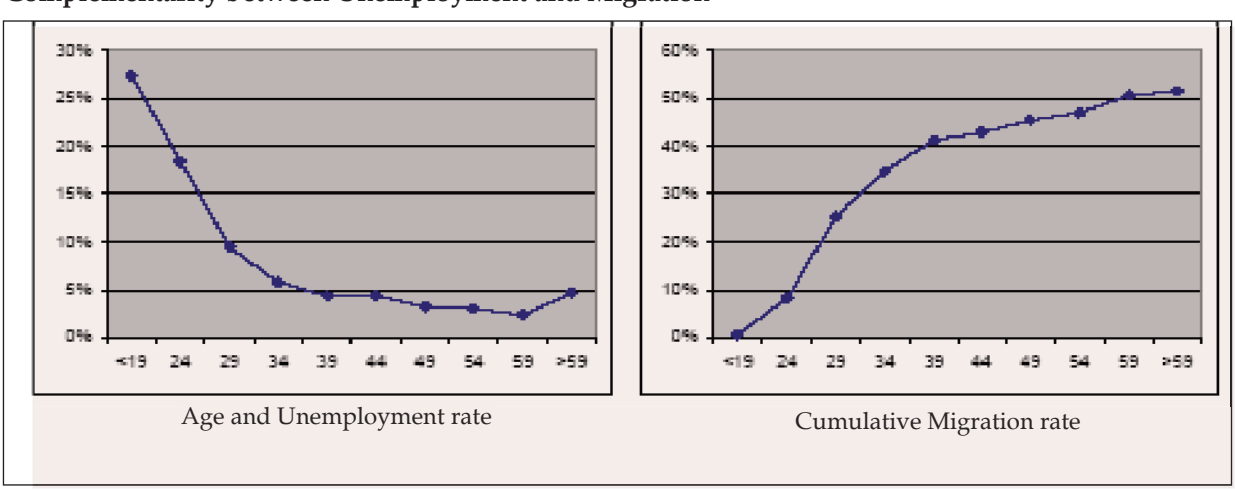


Table 4.22
Percentage of Migrants among Graduates by Years of Graduation

	Year of degree					
	2000	**2001**	**2002**	**2003**	**2004**	**Total**
Male (%)						
Lebanon	61.7	59.8	63.2	73.2	78.8	69.9
Abroad	38.3	40.2	36.8	26.8	21.2	31.1
Number	164	189	230	297	324	1204
Female (%)						
Lebanon	80.7	77.6	84.9	87.3	86.2	84.1
Abroad	19.3	22.4	15.1	12.7	13.8	5.9
Number	229	326	396	594	662	2207
Total (%)						
Lebanon	73.1	71.3	76.6	82.3	83.5	78.5
Abroad	26.9	28.7	23.4	17.7	16.5	21.5
Number	393	515	626	891	986	3411

Source: University of Saint Joseph.

Figure 4.9
Complementarity between Unemployment and Migration



Source: Berthélemy, J., Dessus S., Nahas C. 2007. Exploring Lebanon's Growth Prospects. World Bank, Policy Research Working Paper, No. 4332

ian, 2003). Under current migration patterns, approximately half of a given generation will have eventually left the country at the age of 59.[16] Consequently, Lebanon's active population is stagnating, its human capital progressively eroding, and its resident population ageing. To reverse such worrying trends, not only the number of jobs created every year should increase, but their quality as well. Demand for skilled labor remains indeed structurally much below its supply, given the very high level of education expenditures in Lebanon.

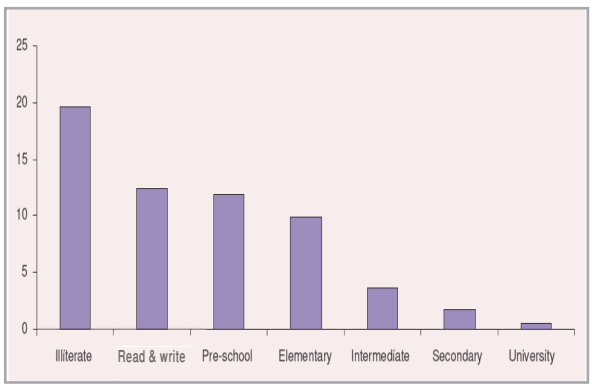
4.6 Inequality in Higher Education Financing

Inequality is a major dimension of education in general and of higher education in particular and this is so because education has significant positive externalities for the community, such as the extension of knowledge and culture, and economic and institutional innovation. It is hence recommendable that education investment is concentrated on the most talented individuals and that they not be missed. This objective militates strongly in favor of publicly funded education based on competitive exams. However:

1. Education is a decisive factor in the definition of lifecycle income of the individual; this makes the provision of education by public means or on public funds, beyond the level that is considered as the universal norm that should be provided to the whole population, a regressive transfer.
2. If the performance in the acquisition of knowledge and skills is related to the innate individual talents, it is also largely influenced by the social environment of the individuals, reducing significantly the fairness of the selection process based on individual merits; and if education is private this "social" heritage mechanism is amplified by the "economic" selection logic that gives the wealthy a double privilege in the access to good quality higher education.
3. Private universities, in their search for prestige and resources (especially in the attraction of renowned professors and researchers) tend, in response, to focus their recruitment on the students who enjoy both "social" and "economic" advantages along with "innate" inclinations; such policies reinforce the social and professional network of the alumni and a self reinforcing phenomenon of segregation tends to develop.
4. The positive externalities of education are seldom captured and require proper institutional setups and depend largely on circular effects of agglomeration: the distribution of human capital tends spontaneously to be more and more concentrated, be it across regions within a single country or across countries, through the migration of the highly educated.

The theoretical principle of the equality of access clearly falls short of addressing the complexity of the problem of inequality in higher education with its individual, financial, social, economic and spatial dimensions. In each country, the institutional setup gives specific answers.

Figure 4.10
Extreme Poverty Rates by Educational Status of the Head of Household (2004-5)



4.6.1 Economic Inequality

Household budget surveys show that the elasticity of expenditure on higher education (be it domestically or abroad) to total expenditure is 2.3 as compared to 1.0 for primary and 1.4 for secondary.

The exceptional level of overall expenditure on education in Lebanon clearly demonstrates that education is perceived as a necessity to confront the pressures and opportunities of the complex labor market. According to their economic means, households adopt specific strategies that deserve specific research in their own right. In this paper, we advance the following ideas:

- The flatness of the rate of return on education as a function of the length of schooling explains the relatively high level of drop outs among the poorest before the completion of the secondary level.
- The low level of labor participation of women after marriage cannot be explained by some "cultural" factor and is probably related to the exceptional importance given to the education of children as compared to the low level of expected wage for women in Lebanon (wages are low and wage earning jobs are rare). It should rather be seen as an investment decision.
- Women are less mobile than men in terms of migration because the importance of family ties both with the parents and the children.

This decreases significantly their average expected income.

- The allocation of available resources of the household is "optimized" over time and among the different members of the family:

  - since formal education is a long process where cost increases with grades and where results follow a sequential chain pattern, more resources are devoted to the early grades where the marginal returns on the whole process are the highest (children get a "good base") and hence the "inverted pyramid" that characterizes the place of public education (whose share increases with the levels of education);
  - since the expected economic return for girls is significantly lower than for boys, the share of women in public education is higher than that of boys and significantly increases with grades, to reach its maximum in the Lebanese University.

The "supply side" of education aligns itself along with these "demand side" trends. In this process one has to bear in mind the inertia that governs the education process. Apart from the length of programs, the build-up of institutions and that of their "reputation" need a lot of time and explain alone a large part of the alleged mismatches between the "market needs" and the "education outcomes". This characteristic lays the foundations for a phenomenon of circular causality. For instance, once the public sector education (as a whole or in a specific segment) is perceived as being of lower quality than the private sector, it tends to attract socially and economically less favored students, its outcomes in terms of pedagogic success and in terms of labor market appreciation are therefore negatively affected, this in turn tends to confirm and reinforce its poor image of quality. Initial conditions and brutal shocks acquire a determining influence while image building and niche consolidation strategies become decisive. In this perspective, the brutal rise of the "commercial" and "community" universities in Lebanon in the past years deserve being seen as a remarkable phenomenon.

The very high flexibility of the "supply response" can be seen at the level of the very wide range of tuitions available. At one end, Lebanese University students pay only a symbolic annual registration fee of LBP 125,000 (USD 83), at the other end, the American University of Beirut appears as a fairly costly university even by international standards; and the nearby "LAU" (Lebanese American University) that offers programs similar to those of AUB but with lower academic requirements is even more costly. The "commercial" and "community" universities came to fill the range in between.

The trade-off between selectivity and cost is a basic feature of the higher education system and many of the commercial universities have built their strategy on offering, at significant costs, specializations for which the LU imposes competitive entrance exams.

But other factors also play a role. The tuition fees at the USJ have always been significantly lower than at AUB probably because of the differences between their respective American and French models, with good quality higher education being mostly private and costly in the first and mostly public and free in the second. Tuition fee disparities between these two universities are extensive as shown in Table 4.23.

USJ and AUB are roughly the same size in terms of numbers of students (2 percent more students in USJ than AUB), however, the difference in tuition fees is more than 40 percent. Moreover, even though AUB has witnessed on average a steady 5 percent increase in its tuition in the last few years, the yield of registration has remained constant at 37 percent (Registered students/Ac-

Table 4.23
Tuition Fees in AUB and USJ in 2009 (in USD)

Degree	AUB	USJ	Difference
Sciences	In Average Total Tuition	In Average Total Tuition	In %
Undergraduate	32,040	18,900	41
Graduate	13,152	6,300	52
Business			
Undergraduate	36,654	18,900	48
Graduate	25,500	12,600	51
FEA			
Undergraduate	51,384	45,900	11
Graduate	20,559	n/a	

Source: Data obtained from Universities' websites

cepted students) and its admission requirements have remained roughly the same.

Regarding student distributions per region and university, it is noticed that the Lebanese University still assumes the largest portion of the student body in all regions of Lebanon around 40 percent. However, the emergence of new universities all over Lebanon has led to major changes in the student market of these universities.

Most of these newly established universities offer degrees, which cater to the demands of the market, especially in Business Administration, Computer Sciences and Information Technology, in addition to diverse Engineering degrees. Lebanese University offers the same degrees but the quota of enrolled students is sufficiently low compared to the number of applicants.

4.6.2 Geographic Inequality

Lebanon is a small country and the distance from Beirut to the furthest point in the territory does not exceed 130 km. In most cases, sociological division is more important than physical distance. Until 1975, all higher education establishments were located in Beirut and there were few claims for opening branches or universities elsewhere and instead the construction of a large campus for the Lebanese University in Hadath (in the south east suburbs of the capital) was launched with extensive dormitories for students coming from remote areas. The split of the Lebanese University happened within the boundaries of Beirut between "Eastern Beirut" that was dominated by Christian militias and "West Beirut" that was dominated by Muslim militias. It was clearly the result of the political and communitarian division and not an answer for any spatial problem. Actually the AUB did also open the "off campus program" for the Eastern region of Beirut. The opening of branches for the LU in the North came also because of the emergence of a political frontier that cut the coastal road from Beirut to Tripoli. Branches in the South and in the Bekaa that were not cut from Beirut came much later as a consequence of the generalization of the model. The efforts to "reunify" the 1st (western) and 2nd (eastern) branches of the LU in the new campus have failed.

In the wave of the war, the "community" universities were geographically distributed in conformity with the communitarian divisions of the country and many of them, after the end of the war, opened branches in remote areas to serve islands of their mother communities within areas dominated by other communities. The "commercial" universities spread over the territory with the aim of gaining niche markets.

As a result, the present geographical distribution of students for each category of universities reflects the cumulated effects of these dynamics. The Central area comprises the city of Beirut, its suburbs and the region of Mount Lebanon that is to a large extent part of the same agglomeration, it has been split into a Western and an Eastern part to account for the historical process described.

The geographical distribution of the students of the Lebanese University over the 4 large parts of the country is almost exactly identical to that of the resident population (54 percent to 50 percent for the Centre, 20 percent for the North, 10 percent to 13 percent in the Bekaa and 16 percent to 17 percent in the South); but within the Central Area the western part is overrepresented. The "Classical universities" and the BAU are all concentrated in the city of Beirut itself. "Community" universities are mainly present in the Eastern part of the Central Area and to some extent in the North. In Greater Eastern Beirut, their weight compensates for the under representation of the LU and that is where most of the Christian religious communities are established; in the North the socio political division is still visible and is reflected in the creation of several Sunni universities and in the University of Balamand by the Greek Orthodox. "Commercial" universities have a large coverage but are mainly concentrated in the Western part of the Central area and in the Bekaa.

It is worth noting that the LU is dominant in the peripheral parts of the country: 67 percent in the North and 94 percent in the South (the situation in the Bekaa is altered by the presence of one relatively large "commercial" university) against 34 percent in the Central area. In the Great Eastern part of Beirut, "community" universities share is equivalent to that of the LU (37 percent each).

If we compare the distribution of university students by place of residence and by place of enrollment, it appears that the Bekaa is almost auto sufficient (97 percent) closely followed by the North (93 percent) while the South is largely integrated with the Central Area (only 54 percent of the students whose families live in the South study in the area).

Looking at the levels of enrollment by place of residence, the least favored areas are the North (32

percent of the 20-24 years age cohort or 3 percent of the whole population) followed by the Bekaa (36 percent and 3.5 percent respectively) while the South is much closer to the Central area (45 percent to 54 percent of the 20-24 years cohort and 4.5 percent to 5.5 percent of the total population). Not considering the strong links between the South and Beirut and looking at the places of enrollment would have led to the opposite conclusion. It appears therefore that the division that has split the country and that affected mainly the North has impacted negatively its rate of higher education enrollment as it did for several other indicators.

Geographic inequality is also portrayed in the majors of the students, considering the different share of the LU across regions and the fact that most of the students in the LU are majoring in humanities (60.25 percent) as opposed to 20.7 percent in the private universities. It is hence manifested in the presence or absence of departments in the LU branches depending on geographic location. The campuses of Bekaa and South Lebanon do not include Departments of Education, Engineering, Agriculture, Natural Sciences, Dentistry, Pharmacy, Technology and Tourism. Thus local geographical competition emerges in these areas: newly established universities such as Lebanese International University and Institute of Management and Computer Science (Hawaii) have established branches and faculties in these regions, offering degrees not provide by the regional LU Branch this includes, Business Administration, Engineering, and several Science degrees. The number of students registered in these branches is significant in Bekaa, for example, in 2007, there were 7,869 students enrolled in the LU Bekaa branches as opposed to 1,060 enrolled in Institute of Management and Computer Science (Hawaii) and 1,164 enrolled in the Lebanese International University.

4.6.3 Gender Inequality

One can hardly find any trace of gender inequality in higher education in Lebanon when looking at the global figures. The share of female students is larger than that of males (55 percent as opposed to 45 percent). However, some differences emerge such as the fact that the share of female students is very different across the various types of universities. It is the highest in the LU (67 percent) and then in the "classical" universities (where it is exactly equivalent to the average share) in the least and in the most expensive universities. The proportion with boys is inverted in all the other categories. This simply means that, on one hand, for the wealthy, there is no gender bias and boys and girls go to the same universities; and, on the other hand, for the households who have to manage under serious financial constraints, boys tend to be sent to "community" and "commercial" universities that are perceived (wrongly in most cases) as better, while girls tend to be sent to the free LU. It is worth noting that the share of girls is higher among graduates than among students in all the types of universities.

Moreover, there is also inequality in the number of students continuing their education in the public university as opposed to the private universities. The number of first year LU students majoring in humanities especially Law, Political Sciences, Social Sciences and Literature is inflated (57.3 percent in AY of 2003-2004),

One striking feature of the Lebanese labor market is the persistently low level of female participation in spite of the equivalent participation at all levels of education and of the absence of any social negative consideration regarding women's work. In 1970 it was 16 percent (in the age bracket of 15-64) and is still 21 percent 35 years later. The entry age of women into work has been delayed since 1970 (because of a longer period of studies) and the exit age has also been delayed and this can be largely attributed to the delay in the age of marriage.

Interestingly the female participation is directly linked to the level of education, with 45 percent of university graduates working, in comparison to a range of 13 percent to 20 percent for less educated women. Higher education is directly correlated to the female participation.

There are 250,000 resident female workers in Lebanon, out of whom, 195,000 are monthly employees.[18] On the other hand, official statistics[19] show that 87,700 working permits were issued or renewed for maids who are overwhelmingly female monthly employees. Foreign housemaids represent, hence, one third of the female working force (and almost 45 percent of the monthly female employees), bringing down the rate of participation from 21 percent to about 16 percent, which is the same level as in 1970. The presence of housemaids is most probably a determining factor

Table 4.24
Comparison of the Spatial Deployment of the Different Categories of Universities

Number of students (1000)	LU	Classical	BAU	Community	Commercial	Religious	Technical	Total
Greater West Beirut	24.9	12.3	17.7	5.1	10.5	4.3	0	74.6
Greater East Beirut	15.2	7.5	0	15.4	3.2	0.2	0.06	41.7
Central area	40.1	19.1	17.7	20.5	13.8	4.5	0.06	116.5
North	14.5	0.6	0	4.3	1.3	0.6	0.2	21.1
Bekaa	7.5	0.6	0	0	7.7	0.5	0	16.2
South	12	0.6	0	0	0	0	0.08	12.7
	74.2	21.7	17.7	24.8	22.8	5.6	0.4	167.2
Share in (%)								
Greater West Beirut	33	16	24	7	14	6	0	100
Greater East Beirut	37	18	0	37	8	0	0	100
Central area	34	17	15	18	12	4	0	100
North	67	3	0	20	6	3	1	100
Bekaa	46	3	0	0	47	3	0	100
South	94	5	0	0	0	0	1	100
	44	13	11	15	14	3	0	100
Greater West Beirut	34	57	100	20	46	77	0	45
Greater East Beirut	21	35	0	62	14	4	15	25
Central area	54	91	100	83	60	81	15	70
North	20	3	0	17	6	11	65	13
Bekaa	10	3	0	0	34	8	0	10
South	16	3	0	0	0	0	20	8
	100	100	100	100	100	100	100	100

Table 4.25
Places of Residence and Places of Enrollment of University Students

	Students by place of		Residents	Ratio by place of		Residents	Ratio by place of	
	enrolment (1000)	residence (1000)	(1000) 20-24 yrs	enrolment (%)	residence (%)	(million) Total	enrolment (%)	residence (%)
Central area	116.5	103.4	192.8	60	54	1.9	6.2	5.5
North	21.7	23.3	73.1	30	32	7.7	2.8	3.0
Bekaa	16.2	16.6	46.7	35	36	0.5	3.4	3.5
South	12.7	23.8	59.9	21	40	0.6	2.0	3.8
Total	167.2	167.2	372.7	45	45	3.7	4.5	4.5

Figure 4.11
Evolution of the Rate of Labor Participation by Age and Sex (1970-1997-2004)

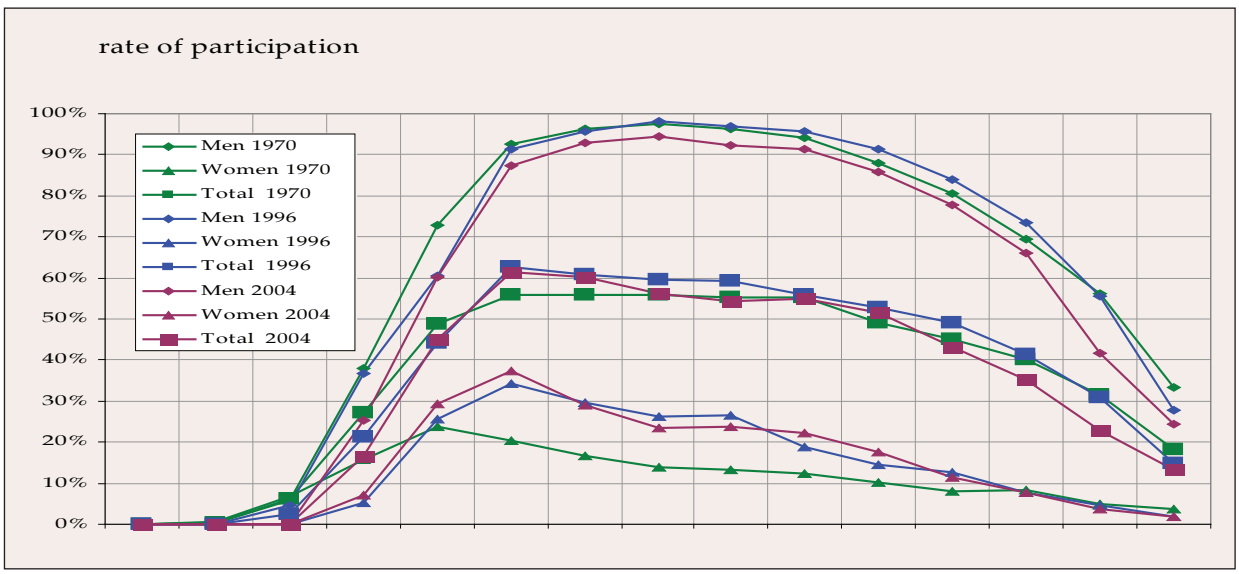


Table 4.26
Gender Structure of Students in the Different Categories of Universities (%)

	LU	Classical	BAU	Community	Commercial	Religious	Technical	Total
Female students	67	55	37	43	41	43	60	55
Female graduates	70	55	40	48	41	48	63	55

for the work participation of married women with school age children.

School timetables include many holidays and, since the war period the school day has been shortened until 2pm. Such a timetable is incompatible with usual working hours, except in public service were work stops at 2pm. This makes work in the public sector and/or in the education sector particularly attractive for married women with children, even more so as school teachers enjoy access to scholarships for their children. The absence of reliable schemes to provide care to the elderly puts heavy responsibilities on women.

One can reasonably infer that, under the prevailing institutional conditions (schools timetable, systems of care for the elderly, etc.), the additional cost incurred by a married woman with school age children if she goes to work exceeds the minimum wage be it to pay a maid or to pay for a nursery, not to mention the opportunity cost of educating the children.

As a conclusion female participation, apart from the two extreme tails of the income distri-

Table 4.27
Labor Participation Rate for Men and Women According to the Level of Educational Attainment

	Labor participation rate in 2007		
Attained educational level	% female	% male	% female & male
Illiterate	4.3	43.2	16.5
Elementary	13.2	78.7	49.5
Intermediate	13.1	76.9	45.5
Secondary	20.4	59.0	38.9
University	45.4	62.5	54.0
Pre-school and read and write	6.8	52.2	31.0
Undefined education level	12.4	45.7	28.6
Total	21.1	66.9	43.4

bution, with the very poor who do not have any choice and the very rich for whom work is a matter of personal fulfillment, is restricted to specific age brackets (before birth of the children) or to specific professional niches (teachers), or else is conditioned by high wage levels (that are not easily affordable and that require high professional skills and education).

4.7 Challenges, Alternatives and Solutions for Financing Higher Education

Challenges of financing higher education have been discussed through the analysis of its adequacy, efficiency and inequality. Below is a discussion of the particular challenges that may be facing Lebanon in the future.

4.7.1 Particularities of the "Lebanese case"

In a strict sense, financing relates to the availability of the means that are deemed necessary to achieve a given objective. These needs can be expected to increase for several reasons: demographic expansion, rise in enrollment, and the demand for higher levels of skills. The available means can also be expected to decline with budgetary restrictions on public spending. As regards the Lebanese case, in terms of the availability of means, the quantity of financing is more than adequate by any standard. The revenues accessible to migrants make investment in education in general and in higher education in particular look quite appealing, while the remittances they send back provide the means for the financing of this investment, whether directly by households or through public expenditure that is in turn financed through the inflows of capital. Furthermore the performance of the system in terms of efficiency and equality could undoubtedly be improved but it has proven to be remarkably flexible and responsive to changes and constraints, splitting its supply into a complex array of institutions, disciplines, locations, and prices that were able to accompany a very rapid expansion over the past 10 or 15 years. In this sense, talking about "mismatch" in the outputs of higher education and the "needs" of the labor market falls short of capturing the following:

- that the labor market for the Lebanese is not only (and even not essentially) domestic; and,
- that higher education does not only serve direct "market" objectives but also serves many complementary objectives, such as providing social status, raising the levels of education among the population in general, ensuring socialization and access to social and professional networks, etc.

Based on international comparisons, one could even easily say that the quantity of financing available to the system and its degree of internal flexibility are excessive, that is spending 12 percent of the GDP on education is not necessarily justifiable with regard to the alternative needs and does not really reflect in the average quality of the outcomes; and, allowing for such a scattering of higher education does not encourage effective production of knowledge and hence quality in its transmission nor does it favor national integration in a fragile society exposed to regional violence. However, in order to go beyond simple comparisons that often lead to false evidence or to paradoxes, there is a serious need to shift interest from the perspective of means to the perspective of objectives and to question the rationale of the system of human capital production and accumulation as a whole, higher education being one of its prominent but interlinked aspects.

The basic rationality is that, due to a very high degree of mobility of factors, a small economy can witness a stable and self sustained equilibrium whereby high levels of investment in education occur in correlation with high levels of skilled emigration and translate into low levels of return on education for the domestic labor market but also in low levels of return on physical investment. The main point here is that the forces that perpetuate this model once it is established are extremely strong. And the entry of a specific country into this model can be due to various reasons: economic, political, institutional, etc. In the case of Lebanon, it was the conjunction of the oil boom of the seventies with the burst of the civil war. The policies adopted in the post war period focused on accommodating with this model, although after some hesitation, and some learning of the its processes. It is within this perspective that the expansion of higher education fits both on the demand side (levels of expenditure, rates of enrollment, etc.) and on the supply side (creation of new universities, redeployment of the education system among regions, specialties and categories of universities, etc.).

This analysis leads to the following conclusions:

1. The Lebanese education system in general, and higher education in particular, cannot be considered as an independent and exogenous element vis-à-vis the economic system as a whole; as would have been the case with a dominating monolithic public sector, run according to rigid administrative orientations that are little affected by the labor market signals or with large delays.
2. The education system can rightfully be viewed as a market driven system where the public sector intervention is minimal and complementary, and ensuring two major roles: giving "good" education to a restricted number of "gifted" students with little financial means (this function covers the engineering, health and business faculties with selective entry procedures); and giving "low level" and non-competitive education to the categories of the population who do not represent an interesting demand for the private higher education (women of lower middle class; several specializations that do not affect significantly affect the labor market but rather represent a form of extended general education; peripheral regions…).
3. The private system itself is quite sophisticated, offering a range of products that integrate both the economic and socio-political dimensions of education In its economic function, it provides, for various prices, a wide array of skills and levels of quality but also gives access to internal and external networks of relations and equivalences. In its socio-political function, the higher education system covers both symbolically and geographically most of the elements of the fragmented Lebanese society (regions, confessional communities, classes) as well as most of their external allegiances (Anglo-Saxon, French, Arabist, Gulf, Vatican, Orthodox, Islamist, globalized). Also, trends observed over years have been towards an increasing efficiency in this.

4.7.2 Salient Features

Demographic challenge

The population of MENA is growing at about 2 percent a year, higher than the world average of 1.2 percent(Population Reference Bureau, 2007). With the decline of child mortality and the slow onset of fertility decline, the MENA region is experiencing an increase in the proportion of children under 15 and those between the ages of 15 and 24, this phenomenon is called a "youth bulge".

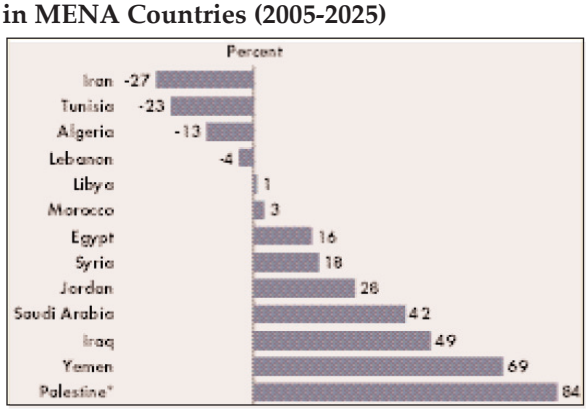
In 2005, the share of the youth population in MENA countries ranged from 25 percent in Iran to around 15 percent in Bahrain, Kuwait, and Qatar. This percentage goes up to 40 percent in countries that have a very high fertility rate such as Iraq, Palestine and Yemen. As a result, 15-to-24-year-olds will still constitute around 20 percent of the population in these countries in 2025.

Lebanon on the other hand, has overcome this youth bulge phenomenon due to declining fertility and birth rates. On average a Lebanese woman gives birth to 2.5 children. In the graph below, Lebanon's youth population is expected to decline by 4 percent in the coming 20 years, where as Egypt will witness a 16 percent increase, Jordan 28 percent, Syria 18 and the highest increase will be Palestine 84 percent.

The Lebanese population pyramid takes the form of an inverted structure, where the bulk of the population will be middle-aged. The demand on education as a result of a youth bulge is not applicable in Lebanon as in other MENA countries. Lebanon will still need to provide sufficient access to education for its youth population, but the major challenge is securing sustainable living conditions and job opportunities for its other growing age groups.

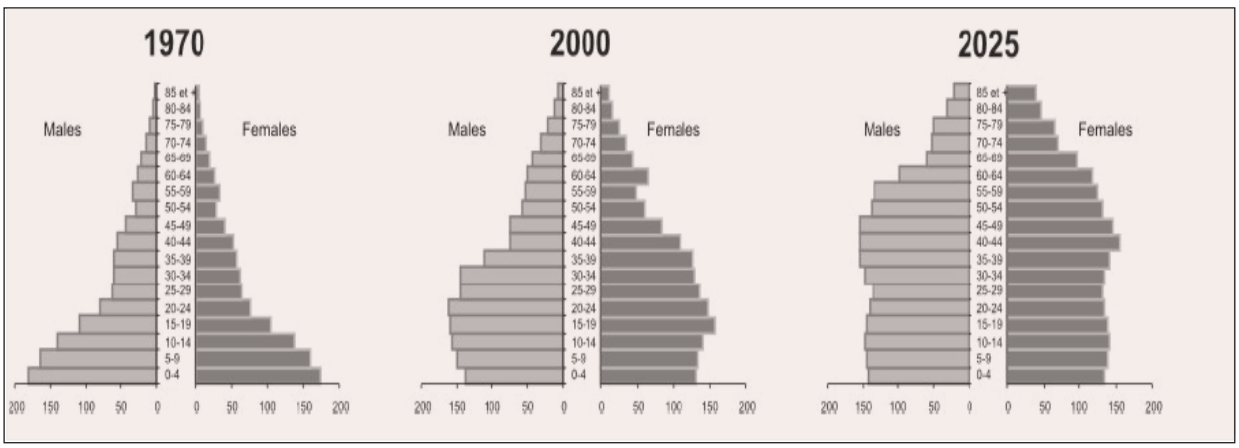
Figure 4.12

Percent Change in the Size of Youth Population in MENA Countries (2005-2025)



*Note: * Palestine includes the Arab population of the West Bank and Gaza.*
Source: United Nations, World Population Prospects: the 2003 Revision (New York: UN, 2005)

Figure 4.13
Evolution of the Age Pyramid in Thousands (1970-2000-2025)



The job market

The Lebanese job market is highly competitive and unmerited when it comes to the employment of the Lebanese youth. With 41 higher education institutions and over 26,000 graduates a year, the Lebanese population is suffering from an undervalued over-educated human capital due to several reasons. The pursuit of educational attainment is a form of self- actualization as indicated in Maslow's pyramid of needs. Individuals pursue education to improve their social status in society and the way they are perceived in social circles.

The local competition for the scarce job opportunities is very high resulting in the recruitment of over qualified candidates in jobs that require less education. Our analysis of the Lebanese Banking Sector over the past ten years has shown that for the same age group of 20-25 the percentage of degree holders has more than doubled reaching 66 percent in 2005. However, the overall increase of wages in the country has been very minimal; the country's minimum wage was 200 USD up until a few months ago.

Moreover, the increase of wages based on education attainment in Lebanon is not very high. On average a person with a university degree earns 140 percent more than a person with no degree and only 52 percent more than an individual with only a secondary degree. These small wage increases in the domestic market, push the graduates to seek opportunities elsewhere to insure a fair return on their education.

Currently the age group with the highest unemployment rates is university graduates due to the stagnation of the Lebanese economy and the scarce job opportunities found in the private and public sector. Even government positions are hard to come by, since recruitment in the government has reached a form of a standstill. These conditions are forcing the Lebanese youth population to migrate looking for better opportunities outside, more accurately in the nearby Gulf countries. This makes the youth population pursue education as a ticket to secure jobs abroad. Studies about the private returns to education in Lebanon have shown it to be very low, confirming the notion that human capital is poorly valued in Lebanon's domestic labor market. Clearly, given its high cost and low domestic return, educational investment mostly makes sense to improve access to better-remunerated jobs abroad. Despite the poor domestic return on education, which is stipulated in the low wages offered in the country, and the high cost of living, the Lebanese youth still continue to pursue their education to insure emigration later on.

The fact that unemployment declines strongly with age could suggest that unemployment is temporary for new entrants due to the opportunities for emigration. Under current migration patterns, approximately half of a given generation will have eventually left the country before the end of the age of activity.

With the excessive presence of over-educated human resources in the country that are placed in low–paying jobs, the world of the unskilled worker is slowly falling apart. In the private sector, the Lebanese unskilled workers are paid very

low wages and in most cases the private employers prefer to employ foreign workers who are paid much less than the local Lebanese. In 2007 alone, 121,375 work permits were renewed and issued by the government (Ministry of Labor statistics, 2007), these foreign workers constitute a major threat to the livelihood of the unskilled Lebanese worker who is then forced to pursue his education and secure the education of his children simply as a means of survival. Another option of survival for the unskilled worker is to ensure a low-key post in a governmental agency. The wages paid for government employees with undeveloped skills are relatively higher than those paid by the private sector. A prominent Lebanese Governmental Agency pays as much as 2,000 LBP[20] monthly for unskilled workers in very low posts. Even though these employees have been in the agency for more than 20 years, the salary they are obtaining simply doesn't compare to the one offered in the private sector, which is estimated to be 308 USD/month

Since recruitment in government agencies is fairly difficult to obtain and the recruitment process has been at a standstill for a while, the unskilled worker is again left with the option of either working with an insufficient salary or pursuing education to insure access to a job abroad.

Challenges of the Lebanese University

The Lebanese University suffers from a wide array of challenges. First the laws that govern the Lebanese University are archaic and do not reflect the demands of the present and lack many important criteria such as the procedures of hiring new staff and the conditions of retirement. Moreover, the Lebanese University lost a lot of its academic and administrative independence when some of the responsibilities of the university council were shifted to the council of ministers especially those pertaining to the hiring of employees, which fits well with the political interference of key figures in the matters of the university.

Due to the civil war, the Lebanese University split its faculties and opened in all the regions of the country, this chaotic separation of departments remained until the present and even lead to the development of autonomous units that are totally independent and lack a strategic vision in terms of unity, centrality and identity. These units have tremendous disparities between one another in terms of the quality of teaching, faculty members, facilities and administration. This creates inequality in the delivery of education to the public, and jeopardizes the public sector's competitiveness in the face of the private sector.

Even though the government spending on higher education has increased slightly from year to year, there has been a drop in the number of students registered in the Lebanese University over the years. In 2003, 50.4 percent of students were enrolled in the LU, in 2007 this percentage dropped slightly to 45 percent, this can be explained with the flow of university students towards the private sector, especially with the emergence of a large number of new higher education institutions. This drop in students' registration despite the stable (increasing) public spending indicates a form of mismanagement of government resources and strategic inefficiencies of the public sector.

In addition, the Lebanese University lacks a student council, which ensures that the students are involved in the university life since they are key stakeholders. The findings of the study conducted by R. Nasser and K. Abouchedid (2008) indicated that the students of the Lebanese University are displeased with the fact that they have no voice in the matters of the university, and have a number of complaints regarding quality of teaching, facilities of the university and the services provided. Moreover, the administration of the Lebanese university suffers still from a paper-based system, which is time-consuming and ineffective; the presence of PC's is somehow minimal in the daily administrative tasks of the university.

The large number of newly established universities

In the past decades, a large number of higher education institutions were established, amounting to 40 in 2008. Most of these institutions were established in the late 1990's early 2000s. Since the Education sector in Lebanon lacks a strategic vision and governmental monitoring, the spurt of these universities was uncontrolled, chaotic and lacked any form of direction other than profitability and business.

4.7.3 The Sequence of Choices

On the basis of this diagnosis, what are the challenges?

- External challenges that relate to the system as a whole, questioning first its desirability (objectives) and second its resilience, efficiency and sustainability (means).

- Border challenges that relate to the interaction between the system as a whole and the higher education subsystem in particular, questioning first the extent to which and the channels through which the subsystem serves the global one (physiology); and second, the extent to which voluntary or involuntary changes in the subsystem can affect the global one (surgery or pathology).
- Internal challenges that relate to the internal functioning of the higher education system. They depend first on the definition of the actors of the system with their respective positions and relations (structuring); and second, on the actual performance of each of them within its domain with all the broad spectrum of the "sciences of education" (operations).

This is not a simple enumeration but rather a logical sequence where the choices and the responses adopted at one level command the questions that have to be addressed at the next. And within each level, "reforms" have to be set in two stages: defining objectives and then choosing the path (or the strategy of alternative paths) to achieve it, while acknowledging the rules of functioning as a prerequisite to proposing proactive or preventive actions.

The matters that appear at the first stage of each of those three levels can hardly be considered as matters for which recommendations can be proposed: they are either commanded by higher level considerations, they derive from initial conditions, or they result from normative trade-offs or any mix of these three situations. Matters that fall within the second stage of the three levels are more prone to rational, technical and economic choices, but only as a function of recognized and accepted outcomes for the first stage matters.

4.7.4 Path for Solutions Under the Prevailing Socio-economic System

It can be argued that Lebanon should take advantage of privileged access to a sizeable solvent demand on its fixed assets and resources and that it should do its best to transform these "non-tradable" assets and factors into tradables and to promote them to get the best overall returns. This option is rendered more attractive by the fact that it can develop without the need for a constraining institutional structure. Its main requisites are an efficient redistributive system that should be able to redistribute a share of the proceeds of this sale of domestic assets to the whole population so that the feeling of "deprivation" does not provoke reactions that would jeopardize the smooth continuation of the process. This is the choice made by the successive Lebanese governments and one can easily recognize the difficulties of the regulation it implies in the ups and downs of the Lebanese political scene.

However, it could also be argued that the Lebanese economy should be able to mobilize the large human and financial resources that are available to it domestically and should hence enjoy much higher growth rates and productivity and go into exporting goods ad services (including education services) rather than deepening its specialization in the 'export of skilled labor for remittances'. This would require a different mix in the use of the resources (higher investment and lower consumption) but also, most probably, a different institutional setting to cope with the internal tensions that would be exacerbated at least for a period of time, and that would be needed to make progress on the transition to significantly higher levels of production.

Those two basic orientations deserve being compared at the level of their desirability and feasibility. The choice between these two orientations is central in today's Lebanon and warrants investigation on the levels of desirability and feasibility. But what whatever orientation is adopted, due attention should be given to the means that are necessary to ensure its efficiency and sustainability.

A recent study by Dessus and Nahas (2008)[21] systematically explores the conditions under which changes in behaviors or initial conditions can make skilled migration induce an accumulation in human capital. The "results suggest that while certain structural parameters can favor simultaneously higher human capital accumulation and higher skilled migration - such as high ratio of remittances over domestic incomes, high dependency ratios in migrant households, low dependency ratios in source countries, increasing returns to scale in the education sector, technological transfers and export market access with diasporas, and efficient financial markets - this should nevertheless not prompt the conclusion that increased migration might encourage the

constitution of higher stocks of human capital in source countries". Nevertheless the closer factors to producing an accumulation of human capital appear to be the increase of returns in education (internal efficiency) and swifter allocation of resources to meet the advantage of investing in education (larger expenditure).

Moving towards the "trade in goods and services" option is clearly a more desirable option for a country like Lebanon mainly from a collective and long term view (since remittances significantly sustain the consumption levels for the time being) but only under the condition of a stronger political will and a smarter management of opportunities and shocks. But even within the prevailing "trade in factors" option, several serious difficulties have to be confronted:

- In view of the persistently high migration of skilled people, the accumulation of human capital domestically remains vital to ensure the competitiveness of several sectors that are exposed to the exterior, to maintain an acceptable level of public services and management and to feed the education system (and its higher education segment more specifically) with competent professors. It hence necessitates an ever-increasing mobilization of resources towards education and more acutely significant improvements in the efficiency of education.
- In quantitative terms, the well-off households will be able to cope and, considering the "duality" of the system, exempting (private) education from VAT is highly regressive and should be removed. However, external and charitable assistance put aside, the main challenges will fall on the Lebanese University that will face the difficult trade-off between an ever-increasing number of students and an acceptable level of quality, considering the tight constraints that the poor situation of public finance will put on its budgets.
- In qualitative terms, the segmentation of the supply induces higher costs and lower efficiency. The available resources for higher education (qualified professors and material equipment alike) are limited and Lebanon is not able to reconcile the redundancy of branches and specializations across universities in general and within the Lebanese University in particular. Specializing the different branches of the same faculties, at least beyond the first cycle of higher education, would allow for a mobilization of the resources available in the whole country but would also require a higher mobility of students with the subsequent costs of transportation and investments in dormitories. As a complementary action, disentangling redistribution from the provision of public services would be welcomed and would translate into better remunerations and larger research means for the qualified professors but would also imply political and financial costs to reallocate the others who had been hired for social and political considerations. Several actions could be undertaken with the aim of reinforcing complementarities between the different private universities and the LU, such as common programs, pooled resources, coordinated curricula, more transparent management, etc.
- Lebanon still benefits from significant advantages to regain its regional position in exporting higher education services but this has certain prerequisites including attracting a prestigious teaching body, building academic reputation and developing collaboration with international higher education establishments.

Structural Actions that Impact the Job Market

At the Governmental level, the Lebanese government should adopt new developmental strategies and initiatives that encourage the investment in physical capital as opposed to human capital to insure the creation of new job opportunities that would provide the Lebanese youth with a fair return on their investment and would mitigate their migration abroad. Moreover, since the market for Lebanese unskilled labor is overflowed with cheap foreign unskilled labor, thus discouraging investment in physical capital and keeping productivity low, a different immigration policy should be designed.

Regarding education, the government should adopt a more hands on and strategic approach regarding the vision and objectives of education in Lebanon. It should monitor and supervise the quality of learning and education of these newly established universities and higher education institutes to insure that the students are getting the quality that they are paying for. Moreover, it should encourage research and publications as a form of public goods that are issued by these universities. Lebanon has a strong research capacity, which is pillared on its educated human capital,

this would make it easy for it to perform extensive research and issue publications that would benefit the Arab world.

Actions at the level of the Lebanese University

The Lebanese University has several areas that require improvement. The Lebanese University should guarantee an optimal distribution of departments and specializations between the four campuses (taking into account the specific regions and their needs concerning the job market), with an orientation more focused on disciplines that have an applied or technological approach since they are currently more coveted by the market. It should revise the status of teachers, subscribe them in continuous training, and encourage research and scientific publications according to internationally recognized norms. There should be a form of unity between all the branches of the Lebanese University to insure equity in the quality of education. Physical unity of students on the graduate level is deeply encouraged, it would be beneficial and cost effective to unite the physical campuses of the Lebanese University on the graduate level to allow a form of interaction between the students.

Actions at the level of the other universities

The lack of coordination between providers also generates important waste. From a developmental perspective, it is important that clear policy objectives and targets guide budgetary allocations, and, in turn, the budget itself generates the adequate information to insure proper funding of key policy objectives. This review of public expenditures did not manage to identify either clear policy objectives or how budgetary allocations relate to them. This issue is not specific to social sectors (and applies to the quality of the public administration or governance), and should be dealt with through civil service, public administration and budget process reforms (see section 4). Yet, it implies at the sector level an overlapping of public providers in the provision of heath, education and social services, hence redundant or excessive capacities. The insufficient coordination[22] with the private sector, in the face of lacking information on the nature and extent of services provided and the absence of sector and nation-wide objectives, which could help both public and private operators to plan future needs and investment opportunities, is also a great source of potential duplication and a waste of national resources.

Other actions

From a purely public expenditure perspective, various cross-cutting reforms need to be considered. An important principle to keep in mind is that public expenditures should focus on key public goods domains (primary health care and education, and social protection for instance), and complement the provision of social services supplied by the private sector, particularly given the historically large size of the latter in Lebanon. In addition, better regulation of the private sector is needed, such as setting up an accreditation and quality assurance mechanism for universities, and enhanced coordination between the private and public sectors must be sought. Beyond general recommendations regarding public expenditure management or civil service reform, the following actions could be considered in the social sectors:[23]

- Public social sector spending must be focused on the poor and low-income groups and on reducing regional disparities;
- Through changes in the public sector salary system, incentives and a level playing field in the labor market must be created by gradually shifting away from the currently "benefit based" system and towards increasing the share of wages and decreasing the share of benefits in total worker compensation.

Notes

1. As mentioned in the "Terms of Reference for the Country Case Studies", August 2008, prepared by the ERF.
2. United Nations, World paper prospectus: the 2004 Revision
3. Egypt, Syria, Jordan, Tunisia, Morocco along with Lebanon.
4. See for a good overview Mounir Bachour : "Higher Education in Lebanon in its Historical Process" (in Arabic) in "Higher Education in Lebanon", Adnan El Amin (ed.) LEAS, Beirut
5. This episode clearly demonstrated the complexity and the ambiguities of the "dual system" of education in Lebanon. It also brought

to light the sensitivity of higher education issues to the interests of professional lobbies and the determining role of access to status and barriers to entry in shaping the higher education regulations.

6. The argument about the "dual" or "adjacent" structure of the Lebanese educational system draws on the report prepared by CRI (Consultations and Research Institute) for the CDR, under the supervision of the author: "Development Program 2005-2020- Education Sector", 2006
7. CDR Development Program, "Education Sector", 2006
8. Central Administration for Statistics, Lebanese Republic, Statistical Yearbook 2007.
9. Private free schools are schools that are run by a private institution or organization and get subsidies from the government to provide free education to mostly pre-school & elementary students.
10. The Strategy for National Education, Lebanese Association for Educational Studies, 2006
11. Primary spending includes all government outlay except interest payments on the public debt.
12. Choghig Kasparian: « L'entrée des Jeunes Libanais dans la vie active et l'émigration », Presses de L'Université Saint-Joseph, 2003
13. In comparing the revenues of AUB to UL, we excluded the revenues obtained from the "AUB Medical Centre" which amount to 209,549,000 USD. Since the American University of Beirut is a Not for Profit institution, all incurred expenses are equal to accumulated revenue.
14. "Earnings Functions, Rates of Return and Treatment Effects: The Mincer Equation and Beyond" James J. Heckman, Lance J. Lochner and Petra E. Todd, NBER Working Paper No. 11544, August 2005.
15. Communication by Choghig Kasparian at a conference about "The Economy of Public Service", organized by the Lebanese Economic Association in may 2006.
16. Berthélemy, J., Dessus S., Nahas C. 2007. Exploring Lebanon's Growth Prospects. World Bank, Policy Research Working Paper, No. 4332
17. It is worth noting that the estimated number of university students in the "Living Conditions of Households" survey in 2004 is 183,791 while the administrative statistics of the CEED for the same year gives 141,479, out of whom 12,860 are non-Lebanese. The discrepancy is probably due in part to the incorporation of many VEC students with higher universities. The figures in the table have been adjusted proportionally to fit with the CERD data.
18. CAS 2004 Living Conditions
19. CAS 2007 Yearbook
20. These numbers were given in confidence to the author, and can't be disclosed to the public.
21. Sébastien Dessus et Charbel Nahas: "Migration and Education Decisions in a Dynamic General Equilibrium Framework", World Bank Policy Research Working Paper Series, number 4775, November 2008
22. It is worth noticing however that the Ministry of Health made important progress in that regard in the recent years by putting in place an accreditation system for public and private hospitals, hereby setting quality and price standards.
23. There are additional areas of government interventions that can have effects on the social sectors but are not examined in this chapter though they should be part of any human development strategy. Such issues range from an overall assessment of the performance of the government's budget process (including specific recommendations for the budget, for example performance based budgeting) to sectoral issues such as pensions, labor, employment, unemployment policies, civil service performance and reform, water, electricity, housing, roads, infrastructure, rural development, civil society/NGOs, SMEs development, informal and income generation policies including microfinance, and producer subsidies.

References

Abourjaili, Khalil. 2001. Education Au Liban.

Bachour, Mounir.1997 "Higher Education in Lebanon in its Historical Process I" (in Arabic), in Higher Education in Lebanon , Adnan El Amin (ed.). LEAS: Beirut.

Brynin, Malcom and Longhi, Simonetta. 2009. "Overqualified: Major or Minor Mismatch?"

Economies of Education Review 28 (2009) 114-121.

Dessus, Sebastien and Nahas, Charbel. 2008. Migration and Education Decisions in a Dynamic General Equilibrium Framework.

Docquier, Fredric; Faye, Ousmane and Pestieau, Pierre. 2007. Is Migration a Good Substitute for Education subsidies? World Bank, Policy Research Working paper wps4614

Economic and Social Commission for Western Asia (ESCWA).2007. Bulletin on Population and Vital Statistics in the ESCWA Region.

Central Administration for Statistics. 2007. Statistical Yearbook 2007. Republic of Lebanon.

Centre for Research and Educational Development. 2007. Statistical Fact book for the Academic Year of 2007-2008.

Consultation and Research Institute. 2006. Development Program 2006-2009, Education Sector.

Kasparian, Choghig.2003. L'entrée des Jeunes Libanais dans la vie active et l'émigration. Presse de L'université Saint-Joseph.

Kasparian ,Robert. 2007. Economic Accounts of Lebanon. Presidency of the Council of Ministers, Economic Accounts Mission, Lebanese Republic.

Laithy ,Heba, Abu Ismail , Khalid and Hamdan, Kamal. 2008. Country Study, Poverty, Growth and Income Distribution in Lebanon. International Poverty Centre.

Middle East and North Africa Social and Economic Development Group (MNSED).2005. Lebanon: Public Expenditure Reform Priorities for Fiscal Adjustment, Growth and Poverty Alleviation.

Nasser, Ramzi and Abouchedid, Kamal. 2005. "Graduates' Perception of University Training in Light of Occupational Attainment and University Type." Education Training, Vol 17, No2, pp121-133.

Nasser, Ramzi and Abouchedid, Kamal. 2008. "Occupational Attainment Through Lebanon's Higher Education: Using Individual, Societal, Structural and Gender Factors as Predictors." Career Development International 8/7, pp:326-338

Office of Institutional Research and Assessment (OIRA). 2007. Fact book 2007-2008. American University of Beirut.

Population Reference Bureau .2007. Youth in MENA: Demographic Opportunity or Challenge?

World Bank. 2008. MENA Development Report, The Road Not Traveled, Education Reform in the Middle East and Africa. World Bank: Washington D.C.

World Bank. 2008. World Bank Indicators 2007.

CHAPTER 5

Financing Higher Education in Morocco

Mohammed Bougroum and Aomar Ibourk

5.1 Introduction

Morocco advocates a development strategy that is based on the principle of sustainable human development. The government's objective is to reconcile the economic development imperative with the social justice necessity. The realization of sustainable human development within a globalized environment, based on knowledge, depends on available human resources. The quality of a country's human resources has a direct impact on the productivity of its labor force. Having quality human resources leads to improvements of firms' competitive potential.

The issue of human resources is closely linked to the educational and training system (ETS). The latter's scope, the quality of services offered and the way it functions determine the quantitative and qualitative aspects of human resource development.

In Morocco, as in most developing countries, the ETS faces a double challenge. The first consists of ensuring the extension, at the initial stage, of compulsory education that meets quality standards. The second is concerned with the harmonious development of the higher education system.

Within the ETS, higher education plays a role of paramount importance whether in the human resources production or at the level of its distribution mode. The impact of higher education on human resources can be illustrated by its role, for example in teacher training. The quality of teacher training constitutes one of the principal determining factors of the quality of teaching and learning, and hence the quality of human resources. By using higher/lower quality standards in teacher training, higher education contributes, in a significant way, to raising/lowering the quality of teaching, hence of human resources. In the same way, given its final position in the training process, higher education constitutes the principal organ/structure in the production of elites and contributes therefore to the distribution, within the population of the human capital resources, which equates wealth/power. Its access modalities predetermine the distribution modalities of the human resources within the population. The more the access modes are equitable/inequitable the more higher education can turn out to be a powerful mechanism of social mobility/reproduction of social inequalities.

The harmonious development of higher education depends on the conditions linked to the access modalities and quality minimal norms (compliance). In the Moroccan context, just as in the case of developing countries, these two conditions are predetermined, to a great extent, by the financing modalities.

The objective of this chapter is to explore high-

er education financing policy in Morocco while addressing the central issue of equity. The chapter is composed of four sections. The first provides a survey of the current situation, starting from a critical assessment of the present financing policy, using a three dimensional perspective: Adequacy, Efficiency and Equity. The second section shows the principal challenges related to higher education financing policy. The third section presents public policy proposals that are likely to bring changes in financing policy to meet identified challenges. The final section provides some concluding remarks.

5.2 Adequacy, Efficiency and Equity in Higher Education Financing

Current higher education financing policy in Morocco can be considered in the context of the structure of the educational system as a whole and that of the higher education in particular. It would be useful then to commence with an exposition of the structure of the Education and Training System (ETS) in general, and the Higher Education in particular.

5.2.1 The Moroccan Educational System[1]

The Moroccan Education and Training System (ETS) is made up of the following components:

Pre school period (4 – 5 years old)

There are two types of pre schools (i) Those in the private sector called modern pre school which are found in the urban areas and are run by the private commercial sector with a profit objective; and (ii) those in the community-based sector called traditional pre schools situated essentially in rural areas and suburbs, and are run by the local communities with a non-profit objective.

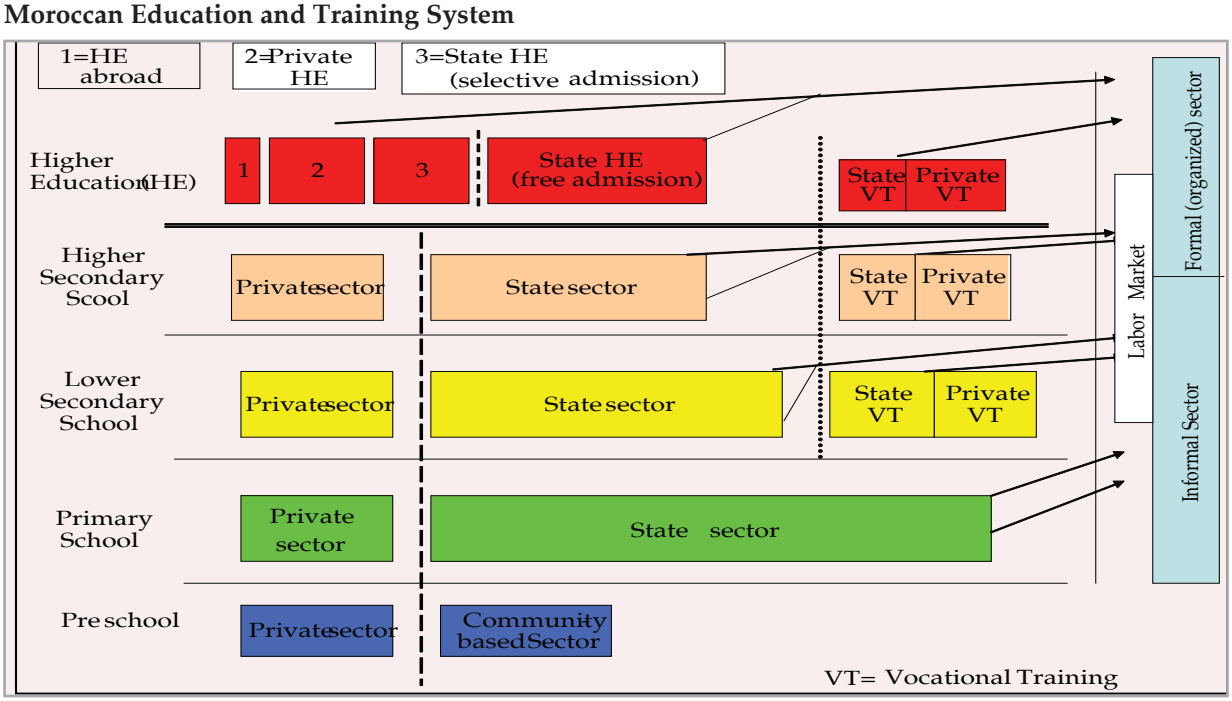
The modern pre schools cater for the middle and higher classes, while the traditional ones are meant for those from lower income families mainly in rural or suburban areas. The kindergarten participation rate is still quite low: 59.7% in 2007 on the national level; 45.6% on the rural level (CSE, 2008).

Primary school (six years' duration)

The provision of primary schooling is dominated by the public sector. However, private sector provision is expanding. Public education is entirely free. Private schools are found mainly in the urban areas and enroll only 8.4% of the total number of students (CSE, 2008). This sector is exclusively commercial (i.e. with a profit objective).

The primary school first year access rate is about a 100%. However, the rate of those who continue their studies remains low. The completion/

Figure 5.1
Moroccan Education and Training System



survival rate in primary school is only 73% including repeaters, and only 34% excluding repeaters. The gender equity ratio was 87% in 2006-2007.

Collegial secondary education ('cycle secondaire collégial' or junior secondary education: three years' duration)

Provision here is dominated by the public sector but private provision is expanding rapidly. Public education is entirely free of charge. The private sector is concentrated in the urban areas and enrolls mainly the students coming from private primary schools. This sector represents 4% of the total number of students.

The net participation rate schooling in junior secondary education is 43% (2006-2007). The gender equity ratio was 91% in urban areas and only of 55% in rural areas. The drop-out rate is relatively high. Out of a 100 students registered in "college " (first three years of secondary school), only 64 complete their studies without repeating. This cycle is capped by a diploma called the College Teaching Certificate.

The primary and junior secondary education college cycles constitute the compulsory schooling cycle. However, this cycle is relatively inefficient because of the high drop-out rate. Only 46% of those registered in the first year of the primary school manage to reach the last year of compulsory schooling while the Education and Training National Charter planned for a rate of 80%. The public schools are far more concerned by the drop-out phenomena than the private schools.

Qualifying secondary education (three years' duration)

Provision here is also dominated by the public sector with growing private sector involvement. Eighty percent of the high schools are situated in the urban milieu and they get about 90% of the students. Public education is free. Private high schools are mainly found in the urban areas, and they enroll mainly students coming from the private junior secondary education system.

The qualifying secondary education cycle is crowned by the Baccalaureate diploma in one of the three branches: fundamental education, general education, or technical, and professional education.

Primary education together with secondary-college and qualifying secondary constitute what is called "schooling education". It is characterized by a very low survival rate. Out of a body of a 100 students registered in the first year of primary school, 23 get to the last year of qualifying secondary education, and 13 obtain the Baccalaureate after repeating. The proportions of students who do not repeat are respectively 5% and 3%.

Higher education

The sector also presents a dual structure: public and private. The public higher education predominates with over 93% of the total number of students. It is free of charge and is composed of general branches, with free access and selective branches, with specific quotas such as in Medicine and Engineering Schools. The teaching language is French for all the technical branches including those with selective access. As for the non-technical branches, the teaching language is Standard Arabic. The technical branches (namely those with quotas) register on the basis of transcripts, taking into consideration French language mastery. The baccalaureate holders from the private education are in a good position in this selective process as they come with a real linguistic advantage.

The private higher education is still limited with only 6.4% of the total number of students. It focuses on the services sector branches. The teaching is done in foreign languages (mainly in French and to a lesser degree in English).

Between 1999-2000 and 2006-2007, the number of students has increased at an annual average rate of 3.2%, rising from 296000 to 370000. Despite this continuous rise in the number of students, the net participation rate in higher education for the age group 19–23 remains very low, at 12%, compared to, for example, 45% in Jordan and 80% in South Korea (CSE, 2008, Analytical Report, page 39).

Vocational training

The sector also presents a dual structure of public and private sub-sectors.; the first dominating with 71% of the students. The public offer is entirely free while the private one is totally commercial. Private provision is limited to the urban areas and focuses on the services sector branches. Public provision, on the other hand, has a greater geographic coverage and presents a greater diversity in the training branches. The medium of instruction in vocational training (public and private) is French. The supply of vocational training remains

greatly inferior to the potential demand.

Vocational training is made up of 4 cycles corresponding to 4 diplomas:

- The specialization cycle: this is a two-year cycle. It allows the training of specialized workers. It enrolls students who have completed the last year of the compulsory schooling (last year of junior secondary education).
- The qualification cycle: this is a three-year cycle, which allows the training of qualified workers. It enrolls students having successfully completed the compulsory schooling; i.e. holders of the College Education Certificate.
- The technical cycle: this is a four-year cycle, which allows the training of Technicians. It enrolls students having at least the last year of the qualifying secondary education.
- The specialized technician cycle: This two-year cycle allows the training of specialized technicians. It enrolls only baccalaureate holders.

Vocational training is carried out along three paths: (i) residential training, entirely within a training institution; (ii) Apprenticeship training, where 80% of the training is acquired in firms; and (iii) Dual training where the training time is divided between the training institution and the firm. Residential training is the one that predominates.

Literacy and non-formal education

This component is structured around two big programs: The adult literacy program for those 15 years old and over, and non-formal education programs for 9-14 year old children who are outside the schooling system. These two programs are the responsibility of the Ministry of National Education. The illiteracy rate for those15 years old and over is greater than 40% with important differences as to the residential area and gender. Each year over 200,000 children leave school before finishing the compulsory schooling cycle. The achievement of these two programs, even though it has slightly improved, has not reached the required level so as to meet the Education For All (EFA) objective to halve the illiteracy rate by 2015. In terms of adult literacy for example, the present programs provide for about 700000 beneficiaries while the achievement of the EFA objectives requires an annual enrolment of a million beneficiaries.

The analysis so far has shown that the Moroccan ETS is characterized by:

- The absence of linguistic coherence resulting from discontinuity in terms of the medium of instruction between, on the one hand, schooling education (primary + secondary) and, on the other hand, the technical branches of the higher and professional education.
- In the compulsory cycle, the medium of instruction is Standard Arabic. However, the private schools have a more active policy to expose their students to foreign language in order to meet needs expressed by families to raise their children's chance to enroll into technical branches of higher education.
- A duality according to residence (urban vs. rural) and by sector (public vs. private). The private schools benefit from several advantages that are favorable to enhance quality of education such as a high ratio teachers/students; exposure to foreign languages; and involvement of parents. On the contrary, the public schools particularly in rural area accumulate the opposite disadvantages, with low ratio teachers/students; low exposure to foreign languages; and lack/absence of parents' involvement, which all contribute to reinforce the quality concerns.

5.2.2 Higher Education Financing Policy

Education financing in Morocco often gives rise to heated discussions, which reflect two dogmatic positions at opposite poles. For some stakeholders, education is a right, and so the government should ensure that all citizens have access to it freely. For others, education is first and foremost a private investment whose cost should be borne in the first place by the recipients. At the political level, these dogmatic positions have led to two types of financing schemes: public and private. The first scheme invokes the education democratization; the second economic efficiency. This way of framing the public discussion is particularly obvious when the issue of higher education financing comes up.

In fact, the discussion of education financing in general and of higher education in particular would be carried out in a more objective way if the complex and multidimensional character of education were taken into account. For example, the financing of primary education should not be approached in the same way as that of higher education. Furthermore, the debate on financing higher education should go beyond the current narrow-minded frame, built on the antagonism between

Box 5.1 Moroccan Linguistic Landscape

The training language (medium of instruction) is one of the fundamental pillars of all Educational and Training Systems (ETS). The choice of the training language is a political decision, which determines the structure and functioning of the ETS. Its relevance and coherence constitute to a great extent the conditions for the quality of learning.

In the Moroccan case, the linguistic choices operated by the political decision makers have led to an uncertain linguistic situation, which can be seen in the students' insufficient mastery of written languages, and particularly the French language, which remains for a big part of the ETS, the medium of instruction as well as that of the business world. In order to understand this situation, it is useful to recall the characteristics of the Moroccan linguistic landscape. The latter is characterized by a discrepancy between the spoken and written languages:

As regards written languages, Morocco uses two main languages:

- Standard Arabic is the official language. It is used as a medium of instruction in primary and secondary education, and in a part of the higher education. Standard Arabic is the backing language of Islam (the dominant and official religion of the country).
- French is the dominant language in the business world. It is used as a medium of instruction in selective branches of the public higher education, in all private higher education branches, and in all the initial professional education branches. It is also still in use in the technical ministries (e.g. Finance Ministry).

As regards the spoken languages, we can mention the following languages:

- Dialect Arabic (Arabic mixed with French or Spanish)
- The Amazigh language with its three variations

So, apart from religious practice the majority of Moroccans do not use Standard Arabic in everyday life. The French language is even less spoken, except by the urban elite.

The ETS leads more and more to an uncertain linguistic situation (i.e. the top students cannot master any written language). This situation results from the combination of two factors: the discrepancy between written and spoken languages; and-the lack of linguistic coherence (change of the medium of instruction) between the ETS components.

the democratization and the economic efficiency objectives, which leads to opposition between public and private financing models. Because of its direct link with the labor market, higher education has a direct impact on social inequalities and the competitiveness of the economy. These social and economic externalities of higher education require that the issue of funding be addressed in a way that seeks to reconcile the objectives of democratization and of economic efficiency.

The scrutiny of the higher education financing policy, which is the objective of this chapter, concerns only financing which covers the direct production costs of education services such as:

- Infrastructure and the equipment;
- Pedagogical Staff training;
- Recurrent personnel costs;
- Services offered to students (libraries, scholarships, university restaurants, dormitories)

The indirect costs such the opportunity costs are not taken into consideration.

Adequacy

The government devotes over a third of its budget to the social sectors, confirming the state's commitment to social sector development (Cf. Table 5.1).

The total education and training budget constitutes around 6% of GDP. The expenses for each student amount to over 25% of the GDP per inhabitant. The higher education budget represents less than 1% of GDP (Table 5.2).

The ETS budget allocation shows the predominance of the general schooling education (primary, secondary-college, qualifying secondary). Schooling education represents over 20% of the State's general budget and over 80% of the total budget allocated to the ETS. The department of research and higher education comes in second position with expenses of over 4% of the State's total budget, which corresponds to over 16% of the total budget allocated to the ETS. The importance, in terms of budget, of the other components, that is, vocational education and the initial non-formal education to address adult literacy and initial education of the drop-out children seems marginal. The non-formal initial education's share in the budget allocated to the ETS does not exceed 0.4%, which represents less than 0.1% of the State's general budget (Table 5.3).

Table 5.1
ETS allocated Budget (Billions of Dhs)

Budget\Year	Amount		Percent (of State Budget)	
	2002	2007	2002	2007
State Budget	95.3	135.4	100	100
Budget allocated to Social Sector	34.8	46.4	36.5	34.3
Including Budget allocated to ETS	26.3	34.8	27.6	25.7

Source: Conseil Supérieur de l'Enseignement, Rapport annuel 2008, page 13.

Table 5.2
ETS Budget and GDP

Indicator	2002	2007
ETS Budget as % of GDP	5.9	5.8
ETS Budget per student as % of GDP per capita	27.54	25.97
Higher Education Budget as % of GDP*	0.96	0.92

*Notes: * This figure doesn't include the budget allocated to the Scientific Research Department. This latter accounts for 0.80% of GDP (2005).*
Source: Conseil Supérieur de l'Enseignement, Rapport annuel 2008, page 14 et 15.

Table 5.3.
Structure of ETS Budget by Department

Indicators	Amount (Billions of Dhs)		Percent of the ETS Budget		Percent of the State Budget	
	2002	2007	2002	2007	2002	2007
ETS Budget (Billions of Dhs) including	26.3	34.8	100	100	27.6	25.7
Budget allocated to Schooling Department	21.6	28.6	82.1	83.4	22.7	21.1
Budget allocated to Higher Education Department	4.3	5.6	16.3	16.3	4.5	4.1
Budget allocated to VET Department	0.3	0.5	1.1	1.5	0.3	0.4
Budget allocated to Adult Literacy Department	0.1	0.1	0.4	0.3	0.1	0.1

Source: Conseil Supérieur de l'Enseignement, Rapport annuel 2008, page 13

Public financing of education is already at a relatively high level and is not likely to be increased given budget constraints and other social deficits in important domains, such as health and employment.

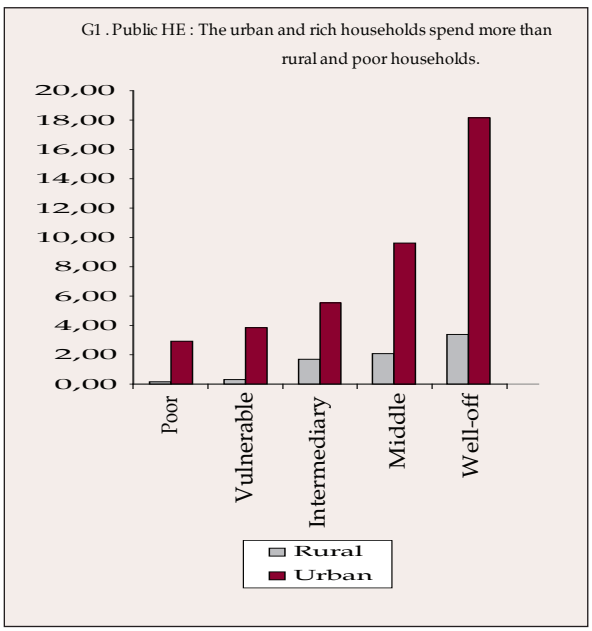
With respect to private household financing of education, the 'Consumption' National Survey (HCP, 2001) showed that the level of expenses per person that families devote to education depends on various parameters: (i) the socioeconomic level of the family; (ii) the education cycle; (iii) the education sector (private/public); and (iv) the residential area.

As an illustration, Figures 5.2 and 5.3 show the expenditure of families on higher education, distinguishing 5 social classes (poor, vulnerable, intermediary, middle, and well off).

From these figures, it can be concluded that:

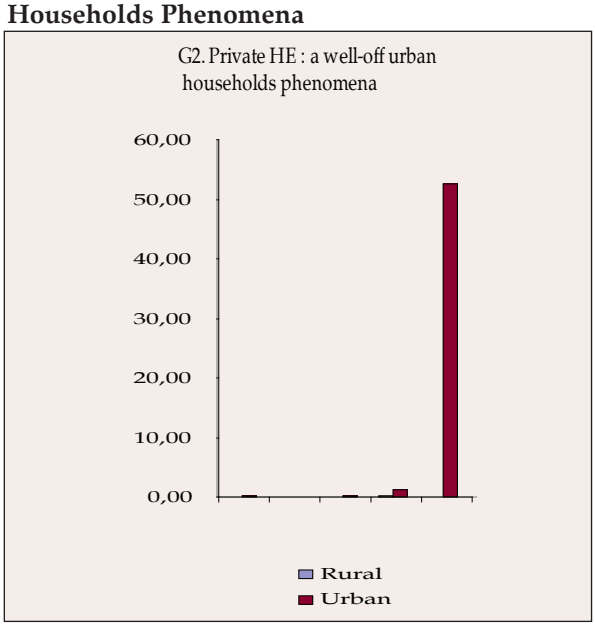
- Expenditure on private higher education comes from exclusively rich families in urban areas.
- Average expenditure per person on public higher education by households increases with socio-economic status in both types of residential areas. However, their level in the rural area remains very low as compared with the urban milieu. Poor and vulnerable families devote practically no expenses to higher education (private or public);
- As the rural area lacks higher education structures, we can infer that the rural families' financial contribution is devoted, to a great extent, to lodgings and transport logistics;
- Rich urban families spend twice as much on private higher education as on public higher education.

Figure 5.2
Public Higher Education: The Urban and Rich Households Spend More than Rural and Poor Households



Source: Elaborated from 'Enquête nationale sur la consommation', HCP, 2001

Figure 5.3
Private Higher Education: A Well-off Urban Households Phenomena



Source: Elaborated from 'Enquête nationale sur la consommation', HCP, 2001

Household expenditure on private education is highly variable. Schooling fees vary between 1500 Dhs (187 USD) and over 7000.00 Dhs (870 USD), per month, that is, three times the minimum salary.

Efficiency

Higher education financing efficiency is examined against the division of the sector into public and private components.

Internal efficiency

Public financing is characterized by an excess of recurrent costs compared to investment costs (Table 5.4).

Over 85% of the budget allocated to higher education is devoted to recurrent expenditure, three quarters of which go to personnel salaries. The recurrent budget deals also with social expenditures such student scholarships, dormitories etc. This component represents almost 9% of the higher education budget (Table 5.5).

With regard to private higher education, even though this sector's financial data are not published, the following qualitative aspects can be deduced:

- Total revenue is constituted of schooling fees paid by households.
- The recurrent expenses in terms of salaries in this sector are reduced because of the use of temporary personnel, most of whom do not receive staff benefits.
- For a long time, the sector has been exonerated from taxes within the framework of the investment charter. Furthermore, the level of expenditure for infrastructure and equipment is relatively inferior if compared with the public sector, in so far as the private sector is found only in the services' branches, which usually do not require heavy capital investment.
- The combination of these factors makes the private education sector one the most profitable economic activities.

When it comes to appreciating internal efficiency, it is important to distinguish the general branches (free enrolment) from the professional branches (quota system or selective access).[2] The two types of branches are opposed in terms of work conditions and therefore in terms of internal efficiency. The general branches are characterized

Table 5.4
Government Higher Education Budget

Expenditures	2006 Amount (million Dhs)	2006 %	2007 Amount (million Dhs)	2007 %
Recurrent	4.7	89.4	4.8	86.7
Investment	5.6	10.6	7.4	13.3
Total	5.3	100	5.5	100

Source: MENESFCRS, Direction de l'évaluation et de prospective, 2006, 2007

Table 5.5
Recurrent Component of the Higher Education Budget

Type of expenditures	2006 Amount (million Dhs)	2006 %	2007 Amount (million Dhs)	2007 %
Personnel Salaries	3744.1	78.1	3690.2	76.1
Scholarship	428.0	8.9	428.0	8.8
Budget decentralized to universities	595.6	12.4	696.8	14.4
Directorate for Executive Staff Training	--	--	4.5	0.1
Central Administration	26.5	0.6	21.5	0.4
Water and Electricity charges	--	--	5.0	0.1
Total	4794.4	100	4846.2	100

Source: MENESFCRS, Direction de l'évaluation et de prospective, 2006, 2007.

by an excessive number of students, a very low staff number and the acute linguistic problems experienced by a great number of students. They are also characterized by the fact that they attract mainly students of modest or middle social status. On the contrary, the technical branches, including the private sector branches are characterized by a smaller number of students, a high staff number, and only a slight, or even an absence of, a linguistic problem. These branches attract essentially students of middle and high social status.

University education constitutes the most important component of higher education with 73.77% of the total number of students while private higher education attracts only 6.08% of students.

The general branches (free access) are part of university education and cover three main areas: Law and Economic Sciences; Arts and Human Sciences and Faculties of Science. The three combined represent 86.08% of the total number of university students, that is 64.2% of the total number of students of higher education (See Table 5.7).

There is a great discrepancy between the general branches and the selective ones within university education whether in terms of cost per student or of staff rate supervision. The branch of Law and Economic Sciences has the lowest cost per student (8000 Dhs) and the lowest staff supervision (one professor for 85 students). On the contrary, the Medical studies have the highest cost per student (44000 Dhs) and the highest staff supervision (one professor for only 7 students).

In terms of internal efficiency, it should be pointed out that higher education has a dual configuration. On the one hand, the general branches accumulate unfavorable factors that contribute to make difficult any improvement of internal efficiency. On the other hand, the selective branches' accumulate, on the contrary, favorable factors to achieve a high internal efficiency. Among the internal efficiency determining variables acting in the opposite direction according to the general/selective nature of the branch, we can mention: staff number, students' motivation, recurring linguistic problem, and teachers' motivation.

External efficiency

External efficiency is defined by the output from the education system and its impact on the labor market.

Table 5.8a shows that the unemployment rate increases by the diploma level. The holders of higher education diplomas who graduated from general branches of the university are the most vulnerable to unemployment. The unemployment rate for this category is 20.8% compared to only 4.9% for those without diplomas. The higher education diploma holders are the most numer-

Table 5.6
Global Number of Students of Higher Education Per Sector (2007)

Sector	Student number (1000)	%
University Education[3]	272	73.77
Executive Staff Training Institutions	23	6.45
Private Higher Education sector	22	6.08
Post Graduate Vocational Training	50	13.7
Total Student Number	369	100

Source: Higher education council, annual report 2008, page 76.

Table 5.7
Students' Number, Unitary Costs, and Rate of Supervision (2007)

Training Domain	Students number (1000)	%	Unitary cost per Student (1000 Dhs)	Supervision rate
Religious Training	4354	1.6	19	37
Law and Economic Sciences	106702	39.15	8	85
Arts and Human Sciences	83115	30.49	13	39
Faculties of Sciences	47539	17.44	32	15
Sciences et Techniques	9527	3.5	38	9
Medicine and Pharmacy	7882	2.89	44	7
Dental Medicine	1023	0.38	42	12
Engineering	4249	1.56	10	11
Technology	4189	1.54	33	11
Management	3194	1.17	NA	24
Translation	97	0.04	NA	9
Science of Education	707	0.26	NA	14
Student's number of University education	272578	100	18	28

Source: Conseil supérieur de l'enseignement, Rapport annuel, 2008, page 74 et 75.

ous within the unemployed population (24.3%) as compared with the economically active population as a whole (11.4%).

The unemployed population with a higher education diploma is characterized by:

- A high percentage of women (46.9%);
- The predominance of first job seekers. Three unemployed diploma holders out of four are first job seekers;
- The predominance of long duration unemployment. Almost 8 diploma holders out of 10 are jobless at least for a whole year. The average unemployment duration exceeds three years. Over one diploma holder out of 5 remains jobless for 5 years. For all these individuals, unemployment means exclusion from the labor market, or at least from the formal sector.

These indicators suggest a low return to higher education, reflecting a structural dysfunction between training and employment in the Moroccan labor market.

On the other hand, we must point out that within the public higher education, external efficiency depends largely on the nature of the branch. The selective branches are characterized by a high external efficiency. On the contrary, the general branches with free access are characterized by a very low external efficiency (See Table 5.8b).

As regards private higher education, there is little evidence to give a clear picture on its external efficiency. However, several elements converge to conclude that this sector seems to be characterized by higher external efficiency compared to the public sector. First, the private higher education graduates are not likely to register as unemployed with public service employment, which proves that they are less affected by unemployment. Second, as it was mentioned in the previous section, the private higher education sector accumulates factors that are favorable to meet a minimum of quality standards. Third and more important, the private higher education graduates are in a position to take advantage of the social network, which in the Moroccan labor market, is the most powerful means to access employment. Indeed, contrary to the public higher education general branches' graduates, those of the private higher education take advantage of a social network that facilitates (perhaps even guarantees) their professional integration. This social network revolves around the family network in the first place, and

Table 5.8a
Unemployment Indicators by the Diploma Level (2007)

Indicators	Diploma level		
	No diploma	Medium	High
Unemployed population (1000)	356.0	471.0	265.0
Unemployment rate (%)	4.9	18.1	20.8
% of female in unemployed population	18.8	22.6	46.9
% of first job seekers	26.8	51.2	75.1
Average age (years)	30.0	26.4	28.4
For first job seekers	22.8	24.0	27.4
For unemployed with professional experience	32.7	28.9	31.7
% of long term unemployed (more than 1 year)	47.9	72.2	79.2
Average duration of unemployment (months)	27.2	38.0	39.4
Male	25.9	37.3	38.8
Female	32.7	40.4	40.1
For first job seekers	63.3	54.0	44.8
For unemployed with professional experience	14.0	21.2	22.9

Source: Enquête « Activité, Emploi et Chômage », HCP, 2007.

is reinforced then by the education establishment social network. The well-off families together with the education establishment try to ensure to the graduates a quick access to employment. This is not the case in the public higher education general branches' graduates. The social network that they can rely on is scarce since they are of a modest social class, and their establishments are generally not involved in the process of employment access.

Equity

The discussion on the higher education financing equity in Morocco may be misleading if we are restricted to the indicators, which focus on the structure of the public financing recipients.

In fact, it is relatively simple (but misleading) to remark that the public financing benefits the lower socio-economic categories and the needy regions. Free of charge higher education, including scholarships, has contributed to a great extent to allow modest social class students to access higher education. However, this statement must be qualified given the fact that in the Moroccan case the evaluation of equity should not be based only on the access criterion. The dual structure of higher education (general branches vs. selective branches) is highly based on a social selection process, which starts in primary school and is reinforced by the lack of linguistic coherence in terms of medium of instruction. The selective branches (whether public or private) take up the medium of instruction as an implicit selection criterion. Students from poor backgrounds

Box 5.2 Productive System and Labor Market

The productive system

The productive system shows a dual configuration with two sectors: the formal sector, which is smaller, is constituted of structured firms with book-keeping and other labor norms. This sector comprises the big firms (private and public) but is dominated by the middle and small firms of the private sector. This sector coexists with a big non-formal sector constituted by unstructured establishments (lacking book-keeping, and employing illegal workers). However, the frontier between the two sectors is not rigid namely in what concerns workers' recruitment. Many firms in the formal sector have recourse to illegal workers.

Labor market

The employment system has a dual configuration with two sectors: public employment and private employment. Public employment is regulated by the state; private employment is regulated either by the formal private sector or by the informal private sector. Private employment is supposed to be regulated by the Labor Code. However, informal sector employment is not subject to the Labor Code. Even in the formal private sector, the Labor Code regulations are not always implemented. This depends on the firm's structure.

Labor market governance is facilitated through a collective bargaining process but this concerns only formal employment. Moreover, it has a limited scope given the fragmentation of the workers' unions (over 32 unions with a very low membership rate). On their part, the bosses are grouped in one confederation but the representation is low (about 2000 firms all told).

As for the whole society, the social network plays a role of paramount importance in labor market functioning. Table 5.8c shows its importance as a means of employment search.

Table 5.8b
Unemployment Rate by Diploma

Level and nature of diploma	Unemployment rate
No diploma	4.7
Primary education	16.9
VT Specialization level	30.1
VT Qualification level	22.3
General training (Secondary schooling)	25.3
VT Technician level	14.8
VT Senior Technician level	25.6
Faculties (general branches)	27.6
Engineering schools	3.4

Source: Enquête « Activité, Emploi et Chômage », HCP, 2008.

Table 5.8c
Structure of Unemployed Population by Means of Search

Means of search	Percentage
Direct contact with employers	40.9
Family social network	39.9
Competitive examination	7.5
Employment services	2.3
Job advertisements	6.9
Others	2.5
Total	100.0

Source: Enquête « Activité, Emploi et Chômage », HCP, 2008

do their primary and secondary schooling in the public sector with the Arabic language as medium of instruction while the majority of the higher education selective branches take up French as a medium of instruction. In actual fact, it is the well-off or middle class students who manage to overcome the obstacle of the medium of instruction thanks to their families' financial capacities that enable them to enroll in private schools. If we take into account not only access but also the nature of the branches that are accessible, against the student's social origin, we can easily see that the higher education financing is inequitable in so far as it reproduces social inequalities from the start. Moreover, this remark can be reinforced by the fact that private higher education targets only the well-off categories that are also localized in the richest urban areas. Thus, if the public financing has allowed the opening of higher education to poor students, it has not removed all the obstacles to greater equity.

It is important to point out that the discussion on the higher education financing equity can be meaningful only if it is connected to the issue of equality of opportunity. In other words, to allow individuals from the lower socio-economic categories and the poor regions to benefit from public financing is not an end in itself. The final goal is that this financing allows such students to have access to the same opportunities as those who are well off or from rich areas. In fact, Moroccan higher education functions along a dual configuration built on a social basis.

Indeed students from lower socio-economic backgrounds have more and more access to higher education, benefiting from total gratuity. However, they have access only to the branches offering the least opportunities on the labor market. And their itinerary in higher education is predetermined by the quality of their primary and secondary schooling. As a matter of fact, being able only to access primary and secondary public education, such students are very often obliged to enter the public higher education general branches. On the contrary, those born into well-off families have a privileged access to the higher education branches offering the most professional opportunities. These students also have access to private higher education and are those we mainly find in the high quality branches of the public higher education. In general, thanks to their families' social status, they have been able to study in private primary and secondary schools, which predetermines their higher education itinerary. By integrating the principle of equality of opportunity in the discussion on the higher education financing, it becomes obvious that the present financing system, which shows only an apparent equity, is in fact basically inequitable, for the public financing is used to reproduce the inequality of opportunities and hence the reproduction of social inequalities.

A second argument concerns the analysis of the real links between the public and private education sectors. The private education sector has benefited and is still benefiting from the State's support for its development. The argument put forward to justify this support consists of present-

ing the private sector as a partner that helps to relieve the heavy burden of the public sector by ensuring the schooling of a part of the students. In fact, if this is true in the absolute sense, certain aspects of the modalities of the private sector functioning lead us to question its real scope. Three aspects at least should be mentioned:

First and foremost, given the barrier of school fees, the private sector targets only those coming from well-off families or those who think of higher education as an investment in human resources. Therefore, the public sector is deprived of those who can afford to pay, and those who are motivated. The public sector is becoming a second choice option getting mainly those who cannot afford to access the private sector and/or who do not have any other opportunity in terms of jobs or studies.

Secondly, private higher education development has been based on a purely commercial logic, offering no choice to the poor students.

Thirdly, the private sector functions by having recourse to interim (temporary) personnel that comes from the public sector. Thus, the private sector can be seen as a "Free Rider", using the public human resources without bearing the costs. Moreover, the private sector contributes to the process of detaching and de-motivating the said personnel as to their principal position in the public sector.

These three elements show that everything is in favor of the private sector. The latter indirectly deprives the public sector of motivated demand, allows no social mixing and uses public resources without paying the real cost. This has a negative impact on public sector education quality and contributes to broadening the gap between the two sectors, getting further away from the equity objective.

5.3 Higher Education Financing Challenges

The current system of financing higher education faces two types of challenges. The first challenge relates to the evolution of demand for education, and the second one relates to more contextualized challenges dealing with the design of the educational and training system.

5.3.1 Evolution of Demand for Education

In Morocco, the demand for higher education is currently witnessing a phase of growth. Two main reasons can be advanced to explain this trend: (i) the demographic factor; and (ii) the demand for education.

The demographic factor

Population growth remains strong. In 30 years the population has almost doubled from 15 million in 1971 to 29.7 million in 2004 (HCP, RGPH, 2004). However, in the past two decades, Morocco has experienced a slowdown of population growth rate, dropping from 2.6% between 1971 and 1982 to 1.4% between 1994 and 2004 (Table 5.9).

Despite this decreasing growth rate, the population is expected to reach about 35 million by 2020 (CERED, 2006). Population projections (Table 5.10) show a growth trend characterized by:

- A process of urbanization: the urban population became the majority since 1994. The bulk of the demographic growth will take place in the urban zones.
- A high proportion of young people: in 2004, more than two thirds of the population (67.6%) was aged less than 35 years old, and a little more than a half of the population (51.8%) was less than 25 years old.
- An increase of the population in the age of activity (15 to 59 years), which has moved from 49.9% in 1982 to 55.9% in 1994 to settle at 61% in 2004.

The demographic transition, which has been observed since 1994, can be explained by a combination of many factors. Among these factors, we can cite the following: the fall of the birth and death rates; the extension of contraceptive practices; the increase in the marriage age; the increase in the levels of schooling, especially that of girls and the increase of women's participation in the labor market.

The evolution of demand for education

The educational and training system develops horizontally and vertically at the same time. The horizontal development concerns mainly the cycle of compulsory schooling (primary and secondary collegial). The objective here is to make compulsory schooling, which lasts until the age of 15 for all Moroccan children, more effective. The vertical development concerns mainly the post-compulsory schooling cycles. It aims at responding to the continuous rise in the demand for post compulsory education.

Table 5.9
Evolution of Population (1960-2004) (in millions)

Census	Urban population	Rural population	National	Growth rate (%)
1960	3.3	8.2	1.1	
1971	5.4	9.9	15.3	2.8
1982	8.7	11.6	20.4	2.6
1994	13.4	12.6	26.1	2.1
2004	16.4	13.4	29.9	1.4

Source: Haut Commissariat au Plan (HCP), Rabat.

Table 5.10
Demographic Projections by Residence Area (2004-2030) (in thousands)

Year	Total Population	Urban Population	Rural Population
2004	29.8	16.4	13.4
2009	31.5	18.1	13.5
2020	35.1	21.6	13.5
2030	38.0	24.4	13.6

Source: Haut commissariat au Plan, CERED, 2006

In the Moroccan context, the increasing trend in the demand for post-compulsory education (especially the demand for higher education) can be explained by a combination of three elements: (i) the number of students is continuously increasing due to the horizontal development of compulsory schooling; (ii) the post-compulsory schooling state sector is totally free of charge; and (iii) the situation of the labor market is deteriorating, which is, increasing unemployment.

The free nature of post-compulsory education in the state sector and the deterioration of the situation in the labor market contribute to making the opportunity cost of higher education very low. So, higher education becomes almost an automatic choice for all senior high schools students. A small proportion of them choose to enter to the selective branches, and this choice is often thought of and associated with a professional project. As for the rest, who constitute the majority, access to higher education is the last choice and results in the access to non-selective (general) branches. These young people enroll in higher education to escape unemployment, hoping to improve their future opportunities in the labor market by earning the highest possible diploma. The free nature of post-compulsory education in the state sector and the deterioration of the situation in the labor market then lead to the so-called phenomenon of a 'Race for Diploma', where students are encouraged to stay in the educational system for as long as possible in order to earn the highest diploma that would enhance their chances in the labor market, especially in the state sector. By a mechanism of self-reinforcement, the 'Race for Diploma' phenomenon leads to a continuous increase of demand for higher education.

As a result, financing higher education faces a double challenge. On the one hand, it has to finance the inevitable quantitative extension of the system; and on the other hand, it has to finance the maintenance costs for reasonable standards of quality. In other words, it is a question of solving the twin challenge of ensuring a continuous extension at the quantitative level and maintaining and improving the required quality standards.

5.3.2 The Contextualized Challenges

The current system of financing higher education faces challenges relating to the design of the educational and training system. Three of these challenges are worth mentioning: Firstly, the duality and the contrast between the completely commercial nature of the private sector and the completely free nature of the state sector led to the existence of two opposing ways of financing: integral private financing versus integral state financing. This dual financing system is neither sustainable nor equitable.

Secondly, the terms of real exchange between the private and state sectors result in indirect transfers in favor of the private sector, which deepens the crisis of the state sector. Indeed, the intensive mobilization by the private sector of the teaching personnel (teachers, inspectors) from the public sector constitutes an example of these indirect transfers, which benefits the private sector but has a negative impact on the state sector. By heavily relying on temporary staff ensured by the permanent staff coming from the public sector, the private sector is in the situation of a 'Free Rider'. Moreover, the involvement of the permanent staff of the public sector as temporary staff in the private sector contributes to the deterioration of

the teaching quality in the State sector. The difference between the contracts offered to teachers by the two sectors leads them to be greatly involved in their temporary jobs in the private sector at the expense of their permanent job in the state sector.

Thirdly, the lack of linguistic coherence, which characterizes the Moroccan educational and training system (switch of language of teaching from Arabic in the secondary school to French in selective training in higher education), has resulted in the fact that the huge efforts exerted by the authorities to ensure free of charge higher education in the state sector do not lead to the reduction of inequality of opportunities. Quite to the contrary, public financing of higher education reinforces these inequalities in that the orientation of pupils towards the selective training is done at the primary education level depending on the financial capacities of households. Students from wealthy backgrounds constitute the majority in selective training. On the other hand, students from poor backgrounds profit certainly from the public financing but only to access the non-selective training, which suffers from low internal and external efficiency.

The current design of the educational and training system and the financing modalities (direct and indirect) make higher education a powerful lever for the reproduction and reinforcement of social inequalities.

The challenge then is to break up this dual system of financing on the one hand by pushing households to bear part of the cost of the public higher education, and on the other, by setting up more balanced exchanges between the private and public sectors.

5.4 Alternative Financing Strategies

This section analyses reforms of financing higher education, followed by suggestions about the future strategies.

5.4.1 Analysis/Assessment of Reforms

By the end of the 1980s, the Structural Adjustment Program (of the IMF and World Bank) contributed to making the issue of unemployment in the public higher education sphere visible. The decrease of employment opportunities in the state sector highlighted the huge quantitative and qualitative gap between the profiles produced by the educational and training system and the profiles required by the productive system. The dynamic of employment is supposed to be much more directed towards the private sector.

The reaction of the authorities to this issue was in two phases. In the first phase, the authorities tried to respond to the problem by taking specific actions focusing on higher education. In the second one, coming to the conclusion that the issue was much more structural and concerned the functioning of educational and training system as a whole, at the end of the 1990's the authorities launched a public debate on education, training and employment. In 1999, this debate led to the elaboration of the National Charter of Education and Training (CNEF) and its adoption in 2000, declaring the decade 2001-2010 to be devoted to its implementation.

Ever since it was adopted, the CNEF has become the reference framework for educational and training national policy dealing with all the cycles beginning from the pre-school stage to higher education, including vocational training and Adult Non-Formal Education. The CNEF defines the broad outline for the structural reform of the educational and training system. This reform encompasses all aspects of the functioning of the educational and training system (pedagogy, teachers, management, financing) and lays down the objectives to be reached.

At the operational level, the CNEF stresses the need for more financial involvement of the private sector and the necessity of decentralization which allows universities to enjoy the financial autonomy to enable them to diversify their sources of financing. Universities are now authorized to offer paying-back services (e.g. expertise, continuous training). From this point of view, universities took initiatives in particular through the unfolding of the initial training cycles (License and/or Master) into cycles of continuous training. Universities were also associated with the implementation of the national programs for training of qualified staff launched by others ministries (e.g. 10000 engineers; 10000 social workers).

The higher education reform inspired by CNEF was aimed also at calling into question the principle of the totally free nature of the higher education state sector, by gradually introducing the financial participation of households on the basis of the socio-economic status criterion. However, this part of the reform, being politically very sensitive,

has not yet been implemented. It was simply referred to in the reform documents.

The slow implementation of the provisions of the CNEF led the authorities to set up the emergency program for the State educational and training sector. This emergency program, conceived in 2008 and implemented in 2009, introduced a change to the methods of distribution of the state subsidies among universities. From now onward, this subsidy will not be granted solely on the basis of the number of the students enrolled but rather on the basis of the relevance of the training schemes suggested by each university. Even here, we do not have enough background information to evaluate the impact of this change.

5.4.2 Elements for an Alternative Policy of Financing of Higher Education

The developments above show that the issue of financing higher education cannot be solved only in quantitative/technical terms by seeking to mobilize more resources and/or by evolving the administrative procedures. In the Moroccan context, this issue lies initially in the design of the educational and training system and its functioning modalities. The quantitative and technical aspects of the reform of the higher education financing policy can be approached only once the political questions are addressed.

At the policy level

The authorities would have:

- To take the necessary political decisions in order to restore the linguistic coherence of the educational and training system. It is technically absurd and politically dangerous to maintain the current design because it undermines all the efforts to improve quality and, at the same time, it creates the objective conditions to weaken the social cohesion.
- To launch a public debate on the nature of education to determine when and to what extent it can be considered as a public/private asset. The current system eludes this debate by juxtaposing two parallel systems built on the opposite understanding of education. While the state sector considers education as a totally public asset, the private sector considers it as totally private asset. This dual system does not make it possible to achieve the collective objectives in terms of increasing the educational general level of the population and the minimum level of opportunities among citizens.

At the technical level

The authorities should work:

- To make the state sector benefit from private funding (schooling fees, contribution of the private companies);
- To take care of the quality of learning in particular by improving the quality of teacher training;
- To simplify the administrative procedures of using the financial resources mobilized by the state sector.

5.5 Concluding Remarks

In the current context of transition towards the knowledge-based societies evolving in a globalized economy, human capital investment constitutes a necessary asset for those who want to play an active part in an open and competitive world. This is true for a country, a household or for an individual.

The educational and training system constitutes the principal lever of this investment. The quality of this investment largely depends on the strengths and weakness points of the educational and training system taken as a whole (i.e. from the pre-school cycle to higher education, passing through vocational training).

However, the role of higher education is crucial because it acts on two levels. The first level concerns the impacts on the quality of the learning via the quality of teacher training, and the second prepares individuals for entry to the labor market and from this point it should be viewed as a space for opportunity distribution.

Thus financing is one of the major elements that pre-determines the range and the extent of the role of higher education.

In Morocco, the issue of higher education financing does not arise at the quantitative level. The State and the households already make a considerable financial effort. However, the dual design of this system built on the basis of social criteria makes this financial effort unproductive for the community as a whole. Current design and functioning modalities lead to the reproduction and the reinforcement of social inequalities.

The question in Morocco is not so much knowing whether or not the State and the households must increase their effort to finance higher educa-

tion but rather to re-examine whether or not the system is functioning. In fact, the current situation is such that a significant increase in financing resources for higher education will not ensure that collective objectives (in terms of equity and equality of opportunities) will be achieved.

In the Moroccan context, the higher education financing issue cannot be suitably addressed without calling into question the dual design which structures the functioning of the whole system. This necessarily leads to the debate on the nature of education as a public/private asset.

The solution lies in reversing this current dual design. Education cannot be regarded as a completely private asset governed by the laws of supply and demand. The requirements for social cohesion, which need government commitment to ensure equality of opportunities for all the citizens, are limited by this commercial conversion of education. By the same token, education cannot be considered as a completely public asset. The private benefits of education are obvious and the community, subject to budgetary constraints, cannot afford to make accessible education at will and for free for all the citizens regardless of their social conditions.

To set up a higher education financing system, which at the same time extends access and reinforces equity, it is important to redefine education as a component asset with two sequential levels having both the public and private dimensions. Each level is dominated by one dimension without fully neglecting the other.

- The first level (stage) relates to compulsory schooling: At this level, education should be considered a public asset. The objective is to make compulsory education effective through the generalization of high quality basic education.
- The second level (stage) relates to the post compulsory schooling cycles: In this stage education should be regarded as both private and public goods. Families can invest in their children's education and at the same time the State should intervene for at least two reasons: (i) to ensure equality of opportunity for young people from poor social backgrounds; (ii) to set up, comply with and make others comply with the notion of "merit" as a basis for this stage's functioning principle (be it at the level of access or that of retention).

It is important to note that this component (non-dual) design of education requires that the offer of education be as unified (homogeneous) as possible at the first level and as diversified as possible at the second level with respect to the principles of opportunity, choice and freedom.

In the Moroccan context, this radical change of approaching education cannot be effective without a political decision with regards to re-establishing the linguistic coherence of the educational and training system.

Notes

1. Except where noted to the contrary, all the statistics that are given in this section are drawn from the annual High Council for Education's 2008 report on "The state of the Educational and Training System" (Etat et Perspective du Système d'Education et de Formation, Rapport annuel du Conseil Supérieur de l'Enseignement, 2008).
2. The latter include the private sector in so far as the access is not free and is conditioned on the private financing capacities)
3. This includes some professional branches provided in institutions affiliated to universities (Medicine and Pharmacy, Engineering schools).

References

CES. 2008. Etat du système d'éducation et de formation et Perspectives, Rapport Annuel, Conseil Supérieur de l'Enseignement, 2008, Rabat.

HCP. 2007, 2008. Enquête « Activité, Emploi et Chômage, Haut Commissariat au Plan, 2007, 2008, Rabat.

HCP. 2001. Enquête nationale sur la consommation, Haut commissariat au Plan, 2001, Rabat

HCP. 2004. Recensement général de la population et de l'habitat, Haut commissariat au Plan, 2004, Rabat

HCP. 2006. Projections de la population, CERED, Haut commissariat au plan, 2006, Rabat

MENESFCRS. 2006, 2007. Rapports d'activité, Direction de l'évaluation et de prospective, 2006, 2007, Ministère de l'éducation nationale, de l'enseignement supérieur, de la formation des cadres et de la recherche scientifique, Rabat.

CHAPTER 6

Financing Higher Education in Syria

Nader Kabbani and Siba Salloum

6.1 Introduction

Over the past half a century, the education system in Syria has been dominated by the public sector. Private schools were only allowed at the primary school level, with the exception of a handful of private secondary schools affiliated with foreign embassies. This public-sector-led model contributed to remarkable progress in educational attainment, especially during the 1960s and 1970s when spending on public education and enrollment rates increased dramatically. However, spending on education as a share of GDP declined sharply during the 1980s and 1990s. This decline coupled with evidence of low labor productivity and low returns to education encouraged the Syrian government to initiate extensive reforms of the public education system beginning, in 2001, with allowing private secondary schools and universities to open.

Since 2001, the Ministry of Education has been revising school curricula at all levels, in collaboration with the experts from outside the government and, in the case of vocational education curricula, with strong input from the private sector in order to make the educational content more demand-driven and responsive to the needs of the labor market. The Ministry of Education has also increased the years required to receive teaching credentials by two, and has retrained over 25,000 teachers under the new system. Public universities have also been revising their curricula to make them more relevant for the labor market. The Ministry of Higher Education has increased the salaries of university professors in exchange for requiring them to devote their full time and effort to the university. The Syrian government has also introduced higher institutes in the country with external financial and technical support.

These reforms, together with significant increases in private and public spending on education, have shown immediate and dramatic results in terms of school enrollment rates and improvements in educational quality. However, rigid institutional structures and rules encourage Syrian students to focus on credential-seeking behavior and far less on developing knowledge and skills demanded by the labor market. Students who score high on the 9th grade national exam almost universally opt for the general secondary track which allows them to continue on to university after they pass the 12th grade national exam; whereas (with few exceptions) vocational secondary students can only continue onto 2-year post-secondary technical schools called intermediate Institutes which are perceived to be dead-ends.

In addition, the benefits of these reforms in terms of access and equity are far from clear. This chapter examines access and equity in financing

Higher Education in Syria. It focuses on adequacy in financing higher education as well as issues of efficiency and equity. The study concludes with a discussion of key challenges facing higher education in Syria. The study takes place in the context of social and economic reforms taking place to move the county from a state-controlled to a social market economy.

6.2 Adequacy in Financing Higher Education

6.2.1 Public Financing for Higher Education

Syria witnessed a substantial increase in public spending on education between 1960 and 1985, after which public spending on education began a sharp decline through the year 2000, reaching among the lowest shares of total government spending and shares of GDP in the world (Table 6.1).

Since 2001, increased financial support for education has been a center-piece of the Syrian government's education reform efforts. As a result, public spending on education as a share of total public spending doubled between 2000 and 2001 as did the share of GDP dedicated to education. The level of public spending on education continued to increase slightly though 2003 and showed some degree of stability afterwards, at around 16 percent of total public spending and 5 percent of GDP. These figures are slightly higher than the worldwide average. Thus, the shift in government priorities, as significant as they were within the country, merely brought Syria in line with the rest of the world.

Table 6.1
Share of Public Education Spending in Total Public Spending, GDP (%)

Year	Share of Public Spending on Education	
	In Total Public Spending[1]	In Total GDP
1970	-	-
1975	-	-
1980	-	-
1985	-	-
1990	9.15	2.11
1995	7.92	2.25
2000	6.78	2.07
2001	**13.75**	**4.55**
2002	15.03	5.27
2003	16.57	6.52
2004	15.14	5.39
2005	16.19	4.99
2006	18.41	5.37
2007	16.72	4.87

Source: Central Bureau of Statistics, Syria 2008, World Development Indicators, 2008

Increased spending on education primarily targeted the primary and secondary levels. Between 2001 and 2003, spending on higher education increased, but not in the same dramatic fashion. The share of public spending on higher education increased from 0.81 percent of GDP in 2000 to 1.1 percent of GDP in 2002, settling at just over 1 percent of GDP in 2005 and beyond (Table 6.2). In terms of total public spending, the share of spending on higher education increased from 2.7 percent in 2000 to 3.2 percent in 2002, settling at around 3.5 percent of public spending since 2005.

As a result of the Syrian government's focus on primary and secondary education, the share of public education budget dedicated to higher education declined from 39 percent in 2000 to around 20 percent in 2005 and beyond. The latter estimate is much closer to the OECD average of around 23 percent.

The fact that public spending on primary and secondary education increased more than university education does not necessarily imply that higher education is getting less attention. In 2001, the government allowed private secondary schools and universities to open and introduced parallel and open enrollment to public universities where students pay part of the tuition. By 2006, over one third of university students were enrolled in private or semi-private higher education, as compared to less than 10 percent of primary and secondary students. Thus, private spending on higher education has been increasing at a faster pace than other levels. Estimates of private spending are not available through official statistics. However, we develop our own estimates below, based on average cost of enrollment per student, after we review enrollment trends in education.

In sum, public spending on higher education relative to GDP and total public spending fell dur-

Table 6.2
Share of Public Higher Education Spending in Total Public Spending, GDP and Total Spending on Education (%)

Year	Share of Public Spending on Higher Education		
	In Total GDP	In Total Public Spending	In Total Public Spending on Education
1990	0.85	3.70	40.43
1995	0.85	3.01	37.96
2000	0.81	2.65	39.13
2001	**0.90**	**2.73**	**19.86**
2002	1.11	3.16	20.99
2003	1.45	3.70	22.31
2004	1.34	3.76	24.82
2005	1.07	3.46	21.38
2006	1.06	3.65	19.84
2007	1.04	3.57	21.34

Source: Central Bureau of Statistics, Syria 2008, World Development Indicators, 2008

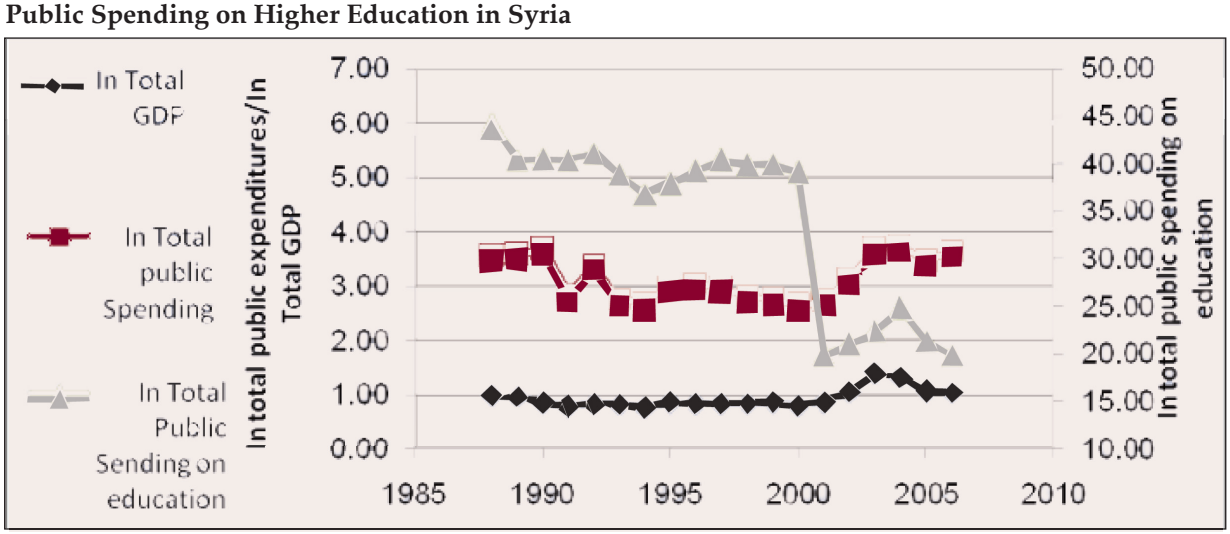
ing the late 1980s, a decline that lasted until 2002, when a significant increase was recorded (Figure 6.1). However, the increase was far less than increases in public spending on primary and secondary schooling. As a result public spending on higher education as a share of the total education budget showed a steep decrease between 2000 and 2001, but remained stable after that at near OECD averages.

6.2.2 Enrollment in Higher Education

The trends in public finance for education mirror the trends in enrollment rates. Between 1960 and 1985, Syria achieved remarkable progress in terms of primary and secondary schooling. Net primary school enrollment rates reached 95 percent overall (100 percent among male children and 90 percent among female children). Net secondary school enrollment surpassed 50 percent in 1985 (59 percent among young men and 43 percent among young women) up from less than 30 percent in 1970 (40 percent among young men and 18 percent among young women). While gender gaps persisted at both levels, they had been substantially reduced between 1960 and 1985.

By the second half of the 1980s, Syria's success in raising the levels of educational attainment had increased the fiscal burdens on the secondary and tertiary systems. In response to a lack of space, especially in the public university system, the government limited access to general secondary education and introduced policies to promote vocational secondary schools by increasing the minimum test scores required to join the general secondary track. These policies led to a sharp decline

Figure 6.1
Public Spending on Higher Education in Syria



Source: Central Bureau of Statistics, Syria 2008.

in general secondary enrollment rates between 1988 and 1998. A subsequent policy revision and a corresponding increase in financing dramatically shifted this trend, more than doubling the number of general secondary school students between 1998 and 2005.

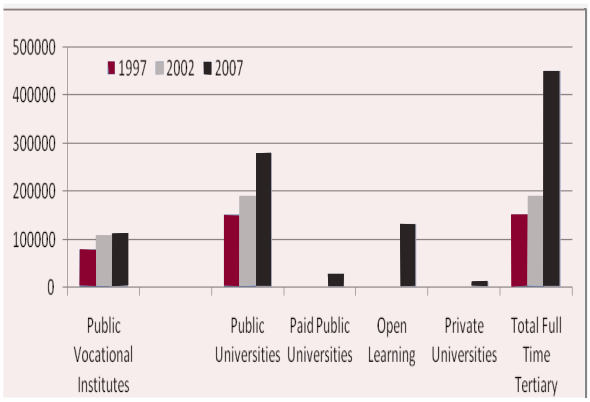
In Syria, the number of students enrolled in higher education institutions has been continuously growing throughout the past decade. A major upward shift is observed between 2002 and 2007; in large part due to the introduction of private and cost-sharing education schemes, which may have allowed the government to increase access to public and private institutions with little corresponding increase in spending on higher education (Figure 6.2).

Private universities were introduced to Syria in 2001. Since then, the contribution of private institutions to higher education has been steadily increasing to an estimated 11,000 students in 2006/07 and 17,000 students in 2008/09 (personal communication with the Ministry of Higher Education November 30, 2008). However, this number remains low when compared to the total enrollment in public universities in its two sectors, free and tuition, estimated to be 309,000 students in 2006/07. In other words, the share of private enrollment in higher education in Syria represented only 3.4 percent in 2006/07, which is low relative to the OECD average of 24 percent (Table 6.3).

A second source of increased enrollment is through paid access to public universities, either through paid access to regular university tracks or to an alternative "open" track in specific disciplines. The former remains underutilized relative to its potential, with less than 10 percent of regular university students paying tuition.

Together, these alternative schemes helped nearly triple enrollment in higher education over a ten-year period. However, the dominant provider of higher education in the country remains the traditional tuition-free public university system. It is interesting to note that enrollment under this system nearly doubled at a time when financing for higher education increased by only around 25 percent of GDP. This raises concerns regarding the quality and efficiency of publically-financed higher education in Syria, an issue which we will examine next.

Figure 6.2
Enrollment in Higher Education



Source: Central Bureau of Statistics, Syria

Table 6.3
Share of Private Enrolment in Higher Education, 2006 (%)

	Gross Enrollment Rate	Share of Private Enrollment in Higher Education, 2006
Lower Middle Income Average	-	-
MENA Average	22	-
OECD Average (for 26/30)	-	23.7
Syria	-	3.4

Source: OECD Online Database, Personal Communication with Ministry of Higher Education (November 30, 2008)

6.3 Efficiency in Financing Higher Education

6.3.1 Internal Efficiency

Public spending per capita for higher education in Syria in terms of US $ PPP is far less than the OECD average (Table 6.4 and Figure 6.3). This is not surprising given the differences in enrollment rates. However, public spending per student is 37 percent higher in Syria. Questions arise here about the quality of spending versus its quantity.

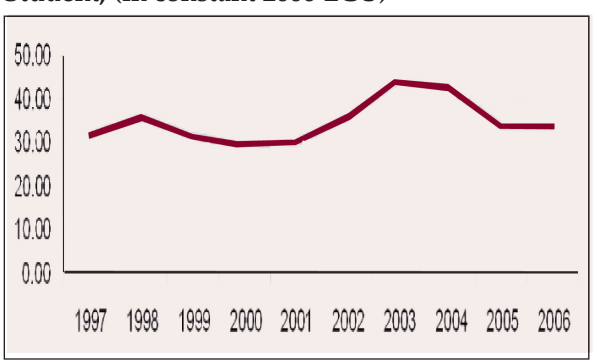
In line increases in both enrollment rates and public expenditures in absolute terms resulted in a slight increase in expenditures per student.

Table 6.4
Expenditures per Student in Higher Education in 2006 ($PPP and Percent)

	US$ PPP	(%) GDP per capita
Syria	2238.62	52.99
OECD countries average (27,28 / 30)	11512.19	38.57
Lower middle income countries average	-	-

Source: For Syria: Central Bureau of Statistics, Syria 2008, Edstats Database, For OECD: Global Education Digest

Figure 6.3
Public Expenditure on Higher Education per Student, (in constant 2000 LCU)



Source: Calculated from Central Bureau of Statistics, Syria 2001, 2004, 2008

Another indicator of efficiency is student per teacher ratio. Syria performs poorly in terms of efficiency using this indicator. In 2006, Syria had a ratio of 27 students per teacher, which is higher than OECD (15), MENA (21) and lower middle income countries (19). Moreover, the number of students per class increased to reach 35 in 2007 (Figure 6.4). This may be due to an increase in enrollment rates which is not accompanied by adequate staff and capital expansion. The increase in the number of students per teacher raises concerns about the quality of the education received.

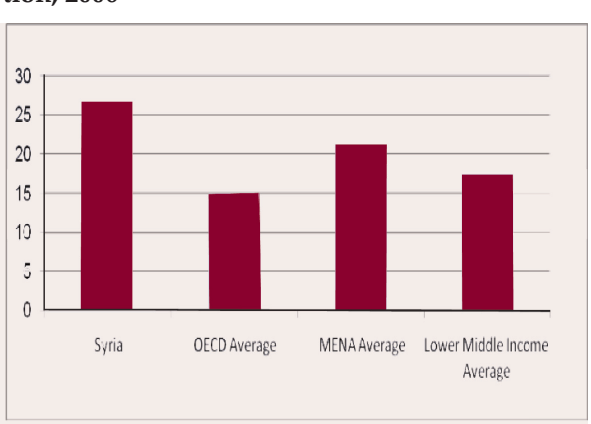
One important efficiency concern is the nature of university acceptance criteria which is mainly based on the scores of the secondary degree exam. Selection of field of specialization is highly dependent on the grades received during the secondary school national exam, often with little regard to personal aptitudes (students with the highest scores select medicine, those with the second highest scores select engineering, etc.). Students usually do not have enough information about the fields they study in university because most have not invested much time in examining different career options by the time they complete secondary school, given the dependence of the choice based on exam grades and on the influence of family and friends. This results is a lot of repetition and high dropout rates increasing the government financial burden.[2]

6.3.2. External efficiency

The external efficiency of higher education is assessed by linking educational attainment to key labor market indicators, including earnings and employment outcomes. Unemployment rates can shed light on the degree of difficulty with which labor market entrants find acceptable work. Unemployment rates calculated from Household Income and Expenditure Surveys from 1996/97, 2003/04 and 2006/07 can shed light on this issue, noting that care should be taken in inferring trends over time because the data have been collected at different times of the year and so some of the observed differences are due to seasonal differences rather than year-on-year trends. Also, the questions used to determined unemployment status have been refined over time and some of the differences are likely due to these changes in survey design. Nonetheless, comparisons within years can be instructive.

We restrict our analysis to youth aged 15–29

Figure 6.4
Students per Teacher Ratio in Higher Education, 2006



Source: Calculated from Edstats, For Syria: Central Bureau of Statistics 2007

in order to focus on employment outcomes within the first few years of leaving school. In fact, depending on the year, this age group covers between 80 and 90 percent of the unemployed population in Syria. In 1996/97, overall unemployment rates were evenly distributed across levels of educational attainment (Table 6.5). By 2003/04, unemployment rates were highest among secondary school completers. This finding makes sense when we recall that in 1998 the government reversed a policy decision that resulted in a doubling of general secondary school students between 1998 and 2005. This wave of secondary school students would have begun entering the labor market in 2001 reaching full force by 2003/04. A few years later we would expect this wave to be completing their post-secondary schooling. Indeed, we find unemployment rates in 2006/07 to be highest among intermediate school completers and elevated among university graduates.

Higher unemployment rates, that followed the dramatic increase in secondary school enrollment, could be due to a combination of excess labor supply or simply having a higher share of recent school completers among the pool of unemployed. In order to focus on the availability of job opportunities, we examine unemployment rates by year from expected graduation.[3] Within one year of leaving school, the unemployment rate is highest among intermediate institute completers (48 percent followed by secondary school completers (37 percent); next comes university graduates and preparatory school completers (27 percent) and finally primary school completers (16 percent).

By year three after expected school completion, the decline in unemployment rates was sharpest among intermediate institute completers and university graduates, suggesting that they may have been able to find work more quickly than those with secondary education or less. Unemployment rates decline steadily among all levels of educational attainment, however, remain relatively high among secondary school completers through year 10 after expected completion (Figure 6.5).

A comparison of trends among higher education completers between 2004 and 2007 suggests that they are fairly similar, with the exception of intermediate institute completers who appear to be having more difficulty integrating into the labor market (Figure 6.6). One reason for this is that graduates of intermediate institutes used to be guaranteed jobs with the public sector after graduation. Formal guarantees are no longer in place, although most continue to obtain jobs in the public sector eventually.

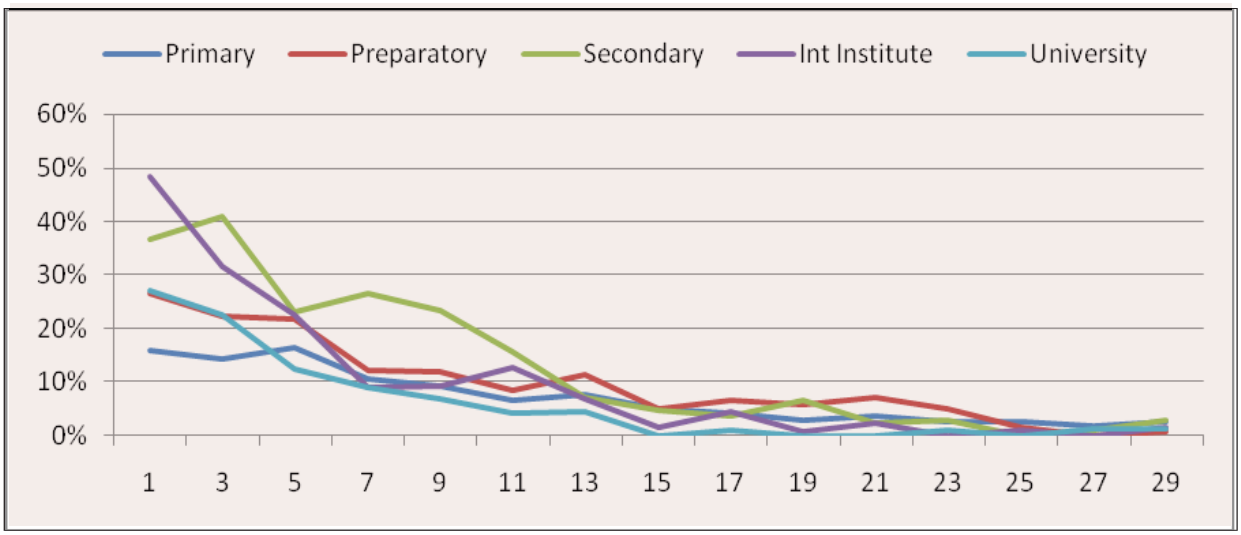
Besides examining unemployment rates, one way to test external efficiency of education is to observe the earnings attached to different levels of education. Figure 6.7 shows the monthly salary of wage-earners at every age by level of educational attainment. While earnings increase with age and with educational attainment, the overall age-earnings profile is very flat, suggesting that educational attainment does not add much to earnings potential. It is worth noting that the earnings of university graduates are higher than all other educational levels for all ages. Profiles start to deviate only after the age of 35. After the age 35, people redeem the benefits of their education, that is, returns to education in terms of earnings increase significantly with educational attainment.

Age-earnings profiles are useful in providing a quick indication of the economic returns to education. However, for precise estimates of the in-

Table 6.5
Unemployment Rate among 15 – 29 Year Old, by Educational Level (%)

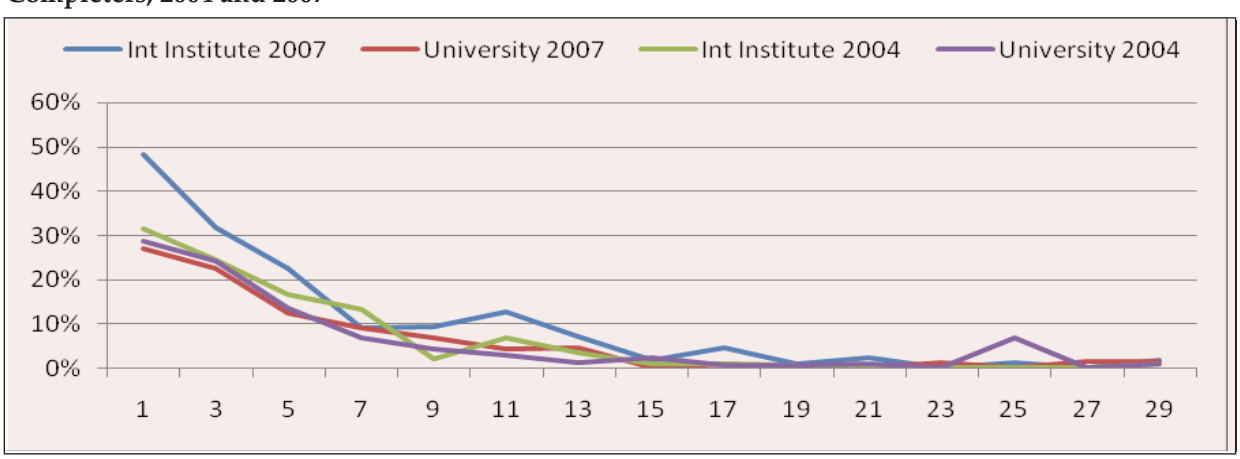
	2006/07			2003/04			1996/97		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Primary	13	32	10	14	27	11	21	34	19
Preparatory	20	59	14	21	49	17	25	45	22
Secondary	33	62	20	30	46	22	26	35	23
Int. Institute	41	51	29	21	21	21	22	20	24
University	27	30	24	19	17	20	26	25	27
Total	18	42	12	16	29	13	23	33	20

Figure 6.5
Unemployment Rates by Expected Year of Educational Level Completion, 2007



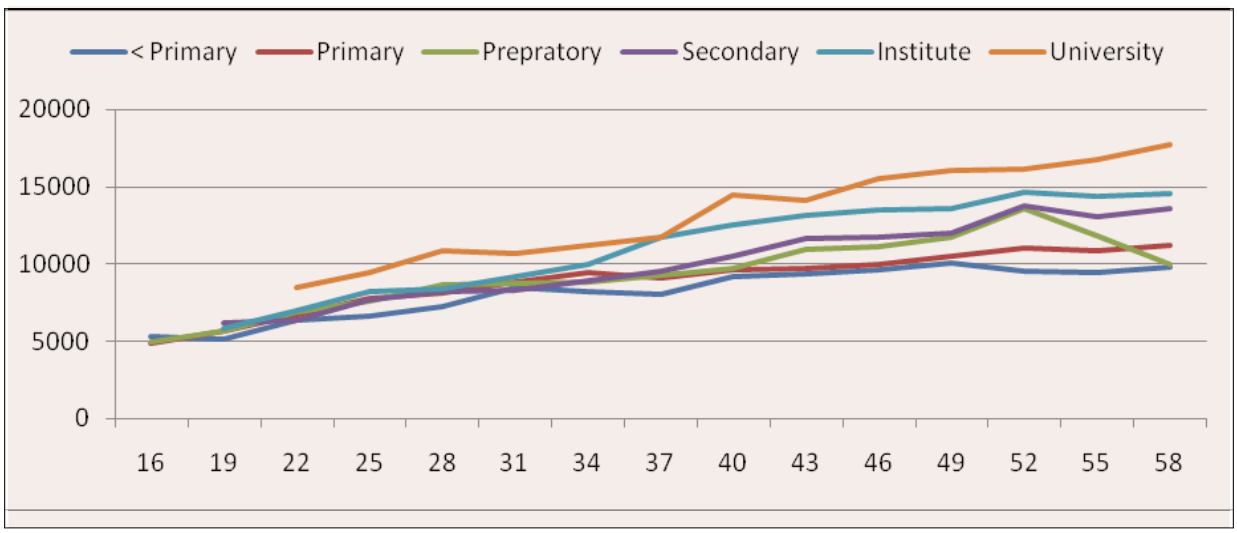
Source: HIES 2006/07

Figure 6.6
Unemployment Rates by Expected Year of Educational Level Completion among Post-Secondary Completers, 2004 and 2007



crease in earnings per year of schooling, we need to use econometric methods that control for other factors such as expected experience and geographical location (governorate). Table 6.6 presents the average returns to education for different levels of educational attainment. The first set of estimates is based on a simple Ordinary Least Squares (OLS) regression on of hourly wages. The second set controls for possible selection bias that can result because the decision to work may be affected by the amount of earnings one can expected, resulting in a non-random sample. We do not expect much bias for men, as nearly all men in Syria are in school or work. However, female labor force participation rates are very low, so this adjustment is necessary in the case of women.[4] Finally, government salary scales can provide a false indication of the true economic returns to education reflecting higher productivity. Thus, we separate out wage workers in the private and public sector. However, in order to allow comparability across sectors, our baseline (omitted) comparison group of primary education completers includes both public and private sector workers.

Figure 6.7
Age-Earnings Profile



Source: Kabbani, Challenges Youth Face in Their Transition from School to Work in Syria

Returns to education in Syria are very low, averaging less than 2 percent for preparatory schooling, around 2.5 percent for secondary school, and around 4.5 percent for higher education (after controlling for selection bias). Thus, returns to education increase with the level of educational attainment, but are far lower than the international averages of 10 – 15 percent or the regional averages of around 6 percent (World Bank, 2008).

Because average returns to education increase by level of educational attainment, it is illustrative to highlight the marginal rate of returns from one level to the next (column 2). Thus, while the rate of return to obtaining a university degree is 4.5 percent per year over 17 years of schooling, the additional (marginal) return to obtaining a university degree having already obtained a secondary school degree is 8.9 percent over five years.

Returns to education are higher for women than for men. This is primarily driven by higher returns in the public sector, where women benefit from salary scales that are not gender-biased. Indeed, returns to education for women are higher in the public sector, whereas for men they are higher in the private sector across all levels of educational attainment. For both groups, returns to education are highest for intermediate institute and university completers. However, they never reach above 7 percent[5] , reinforcing the observation that returns to education in Syria are low.

6.4. Equity in Financing Higher Education

Next we turn to the issue of equity in financing higher education. In this section, higher education moves from being an input in determining earnings and employment outcomes to the outcome under study.

As analyzed before, government has been increasing the share of total education in its yearly budget while decreasing the part of this share dedicated to tertiary education. This means that pre-university education has been granted a larger part of government financial support. However, this change brought Syria back into alignment with other countries. Syria is now close to OECD countries in terms of public expenditures on higher education (Table 6.7). Furthermore, the decline in public financial support to tertiary edu-

Table 6.7
Expenditure on Tertiary Education as a Share of Public Education Expenditures (%)

	2000	2002	2004	2005	2006	2007
Syria	39.1	21.0	24.8	21.4	19.8	21.3
OECD	22.9	23.1	23.4	23.8	-	-
Lower middle income countries	-	-	-	-	-	-

Source: For Syria: Central Bureau of Statistics, Syria 2008, For OECD: OECD Online Database

Table 6.6
Returns to Education (2003-04) (%)

	All		Males			Females		
	Ave RoR	Marg RoR	All	Public	Private	All	Public	Private
OLS								
Preparatory	1.7	1.7	1.5	0.0	3.0	4.2	5.7	1.6
Secondary	2.4	4.4	2.0	1.6	2.8	4.6	4.9	2.7
Int. Institute	3.8	11.9	3.3	3.2	3.4	5.9	6.1	2.7
University	4.0	7.8	3.6	3.5	4.1	5.7	5.7	4.8
Heckman ML								
Preparatory	1.9	1.9	1.5	0.1	3.1	4.4	5.7	1.1
Secondary	2.7	4.9	2.0	1.6	2.8	5.2	5.2	2.8
Int. Institute	4.4	14.8	3.3	3.2	3.4	7.0	6.8	3.3
University	4.5	8.9	3.6	3.5	4.1	6.6	6.3	5.2

Note: OLS regression on log hourly wages includes expected experience, experience squared and governorate dummies. The selection equation in the Heckman model includes marital status and number of children ages 0-5 and 6-14. Primary education or less for both public and private wage-workers is the common omitted variable, thus allowing us to compare public and private wage work to a common baseline. All numbers reported are for average returns except column two which reports marginal returns.

cation was meant to leave room for more private provision of universities.

Is there a gender bias?

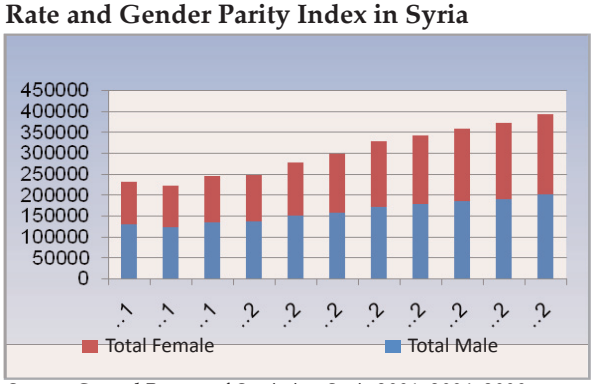
Female tertiary enrollment has been continuously improving throughout the last decade. Starting from 101,718 in 1997, the gross number of female higher education students has steadily increased to almost double in 2007 (Figure 6.8). Where the male tertiary students also showed an upward trend during the same period, it was not on a par with female university enrollment.

By 2006 the number of females enrolled in the Syrian public universities was almost equal to the male's one resulting in a gender parity index of 0.98 (Figure 6.9). In terms of university completion, in 2007, 12,620 females as compared to 11,709 males graduated from public universities (Table 6.8). From 2000 to 2007, the number of male graduates increased by 18 percent compared to a percentage growth of 87 percent on the female side. Indeed, the gender parity in higher education completion rates overall passed 1 for the first time in 2005/2006, when the number of female graduates of public intermediate institutes and universities together (32,491) was higher than the number of male completers (31,715). Based on these data, the Syrian higher education system does not seem to suffer from a gender bias in the aggregate. However, there could be differences across specific groups (rural vs. urban; low vs. high income, etc.) In addition, there are notable gender differences in fields of specialization, with much higher shares of male graduates in medicine and engineering.

Rural/urban differences

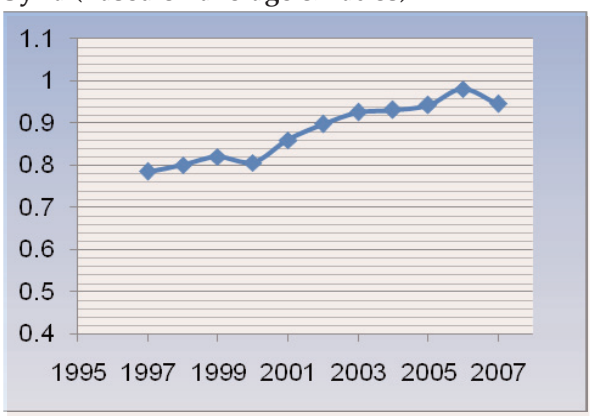
Near gender parity in tertiary enrollment rates may hide differences across groups of the population. We first consider urban/rural differences.

Figure 6.8
Male and Female Tertiary Gross Enrollment Rate and Gender Parity Index in Syria



Source: Central Bureau of Statistics, Syria 2001, 2004, 2008

Figure 6.9
Ratio Female to Male in Public Education in Syria (Based on average of ratios)



Source: Central Bureau of Statistics, Syria 2001, 2004, 2008

Table 6.8
University Graduates by Gender in Syria

	University	
Year	**Male**	**Female**
1999/2000	9889	6746
2000/2001	9567	7188
2001/2002	9707	7824
2002/2003	9907	8710
2003/2004	10314	8976
2004/2005	11764	11032
2005/2006	13663	13871
2006/2007	11709	12620

Source: Central Bureau of Statistics Syria, 2001 to 2008

Table 6.9
Net Enrollment Rates by Level of Educational Attainment (2006/07)

	Urban (%)			Rural (%)		
	all	**male**	**female**	**all**	**male**	**female**
Basic	94	94	95	95	96	93
Secondary	49	45	52	39	42	37
Int. Inst. & University	26	26	26	17	18	15

In this comparison, we do not compare people living in urban or rural areas by levels of educational attainment because it is possible that those with higher levels of educational attainment migrate after completing their schooling to follow appropriate job opportunities. Thus, we focus on net enrollment rates. We note that enrollment rates at the tertiary level may also understate enrollment rates in rural areas, if university students from rural areas who are studying and living in urban centers are counted as urban residents. However, we note that survey data from Syria has, in the past, counted unmarried students temporarily away from their homes among household members.

Net enrollment rates for basic education are similar across urban and rural areas (Table 6.9). However, there are significant differences in terms of secondary and tertiary enrollment rates; with enrollment rates in urban areas 24 percent high at the secondary level and 54 percent higher at the tertiary level.

Gender differences in enrollment rates, which were barely visible in aggregate data, are more pronounced in disaggregated data. Gender differences in enrollment rates in rural area increase from 3 percent at the basic level to 13 percent at the secondary level to 21 percent at the tertiary level. In urban areas, enrollment rates among young women are actually higher than among young men at the secondary level (which balances out in the aggregate gender differences in the opposite direction in rural areas). Enrollment rates at the tertiary level are the same for men and women in urban areas.

6.5 Challenges

The education system in Syria is likely to face many challenges now and in the future in order to achieve the best balance between horizontal expansion and improved quality. The performance private sector education should be analyzed in the coming years in order to assess its effectiveness and effects on equitable access to education.

6.5.1 The Demographic Challenge

Fertility rates have decreased from 4.2 children per women in 1993 to 3.6 children per women in 2004 (Table 6.10). Despite this downward trend, fertility rates in Syria are still high when compared to the OECD countries.

Total fertility is expected to decline in the coming decade to reach a moderate level. Though as a result of this high population growth Syria

Table 6.10
Fertility Rate in Syria

Year	Fertility Rate (%)
1993	4.2
1999	3.7
2001	3.8
2004	3.6

Source: Central Bureau of Statistics Syria, 2001, 2008

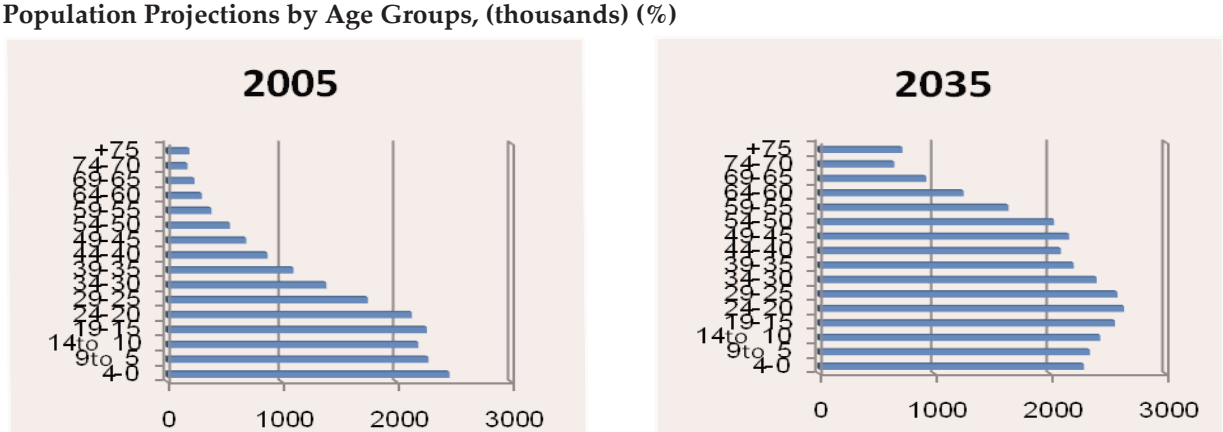
will be facing a "youth bulge", which peaked in 2005, imposing a serious challenge in the form of excess demand on higher education (Figure 6.10). The share of population under 25 was 59 percent in 2005, and the share of the 15-24 year olds also peaked at 23 percent in 2005 and is expected to fall to 18 percent in 2020 (Figure 6.11). Only during the past decade has Syria moved to address the educational needs of its youth. These efforts should continue, for while the share of youth in the population has begun to fall the overall numbers of youth (and needed places in school and universities) will continue to rise for the foreseeable future.

6.5.2 The Quality of Higher Education

The no-cost feature of the educational system in Syria has come at the expense of investment in better equipment and more developed teaching tools. The result is that higher education has been able to increase the number of students enrolled in the fields of social sciences and humanities more than technology and science. The latter are preferred among graduating secondary school students, demonstrated by the high scores on the twelfth grade national exam needed to enroll in them. The number registered in engineering and computer engineering (including computer science) in 2007 has been low (31,814) compared to the enrolled students in humanities and social sciences (191,546) (Figure 6.12). The share of scientists and engineers in Syria is only 11.7 percent among registered students and 15 percent among graduates. Awareness to the importance of computer studies has increased which is reflected in the increase in the number of students enrolled in computer engineering from 1807 in 2001 to 2945 student in 2007.

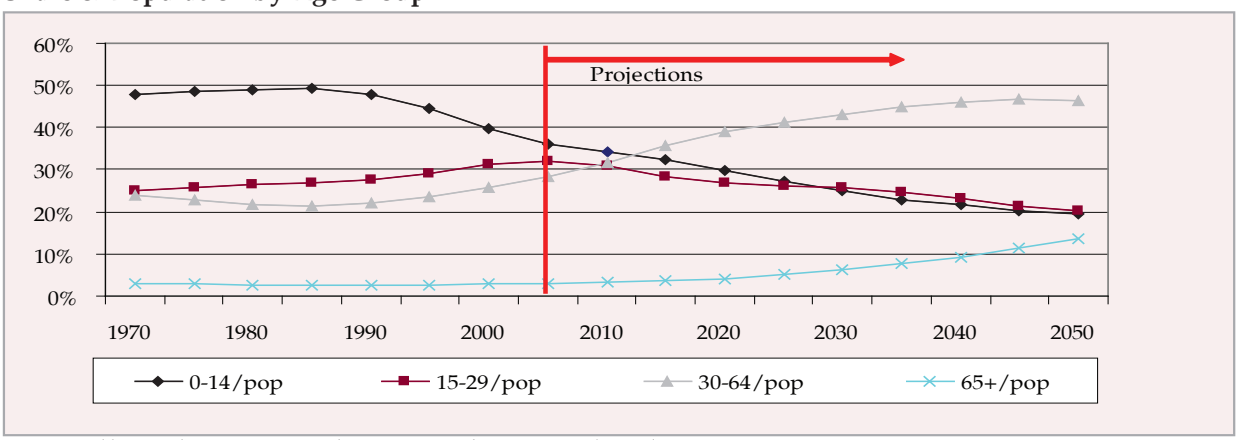
It is worth noting that many efforts have been initialized in Syria in an attempt to develop the existing education system and to harmonize it with today's global education standards and market place. These are actually trying to provide students with access to sources of information, where learning becomes student-centered and allows each learner to construct his own understanding of concepts instead of rote memorization of facts. Human resources were developed in the ICT sector by introducing faculty of IT engineering in 2000, computer intermediate institutes, and a Higher Institute for Applied Sciences and Technology established in 1983 in Damascus. The number of Master and PhD students in the faculties of electrical and mechanical engineering is still moderate, increasing only from 8195 to 8765 students between 2000 and 2005. The number of academic

Figure 6.10
Population Projections by Age Groups, (thousands) (%)



Source: World Development Indicators, 2008

Figure 6.11
Share of Population by Age Group



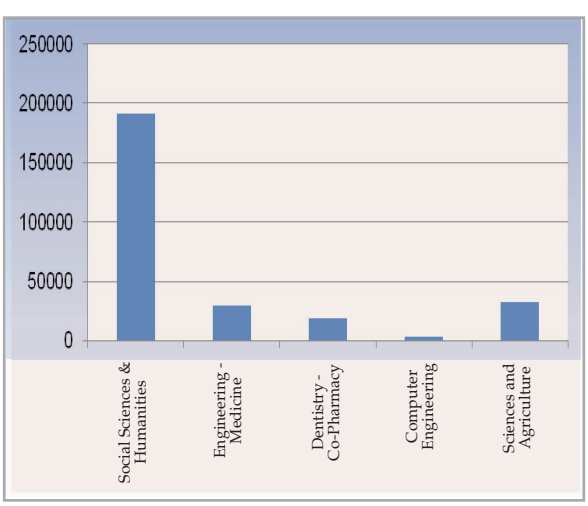
Source: Kabbani and Tzannatos, Social-Economic Exclusion & Youth Employment outcomes in Syria

staff for these programs estimated at 5311 in 2005 allows for a much greater number of participants (Source: Abdul-Wahed, Al-Awa "ICT Strategy in Higher Education in Syria). Hereunder, the different initiatives are analyzed; keeping in mind that these systems are still very recent and efficiency assessment will still be very weak.

Syrian Higher Education & Research Network (SHERN):

Established in 2002, this network attempts to establish the infrastructure to connect all universities, research centers and institutes in Syria with a network of data that provides students and staff with online libraries and research data centers as well as administrative information exchange. This network has a potential to be a stepping stone in forming the National Grid Infrastructure (NGI) in the Mediterranean countries and, in addition, take advantage of the existing infrastructure provided by previous network initiatives in the region.

Figure 6.12
Students Enrolled to the Syrian Universities by Field of Education 2006/2007



Source: Central Bureau of Statistics, 2008

The Syrian Virtual University (SVU):

Integrated virtual environments with virtual classrooms where students are granted interactive access to content and interactive communication with academic staff. Even in a virtual modern setting, students tend to pick up education majors much more than sciences (Table 6.11). This indicates that more effort should be put on the side of the students in order to increase their awareness to the importance and usefulness of information technology in a modern, technology oriented world.

The 10th national plan for Higher Education aims at enabling the needed infrastructure for courses and research while enhancing institutional and individual capacities.

ICT tolls are being increasingly provided to university students and staff, but equipment is only one side of the story. There is another element required for the efficient use of this installed equipment, which is the relevant training of teachers and students to make the best use of what is provided to them and to integrate these new tools into their everyday teaching and learning activities.

Table 6.11
Enrollment in Syrian Virtual University, 2006

Education	1700
High National Diploma	475
Preparatory	75
Business Information Technology	330
Engineering	165

** The High National Diploma includes internet studies, web development and programming, management, marketing and general business.*
Source: Abdul-Wahed, Al-Awa "ICT Strategy in Higher Education in Syria

6.5.3 The Private Provision of Higher Education

Since 2001, private universities have been allowed in Syria. Private or joint venture institutions were encouraged to start providing higher education in Syria to alleviate some the burden of public universities. Since then, eight universities have opened, two more have received permits but are not yet opened, eighteen in total have been granted preliminary permission and fifteen more have applied but are still pending. The overall student enrollment in private higher education reached 11,000 students in 2007. Most people have put a big hope on the newly introduced private universities to provide the Syrian society with more learning opportunities characterized by modern techniques and equipment. Whether the operational universities have or have not completed their task is still an area of question and research.

One important point to discuss is that all private Syrian universities are not really well-known or credible among international higher education organizations, which raises concerns about the international value of their granted degrees. Also, all current private universities operate as for-profit institutions. The market-oriented for-profit universities are funded by student tuitions and should always be adapted to market needs in order to supply the companies with labor that are endowed with the needed skills. Companies and firms are the major shareholders in such institutions and should provide the needed financial support. However, in terms of quality, the universities worldwide are either not-for-profit or public institutions, surviving on charitable donations from foundations, individuals and alumni. For example, the Ford Foundation provided the capital needed for the establishment of the University of Aleppo during the 1960s. Not-for-Profit universities give a lot of weight to research and development and care about humanistic and scientific involvement. Both types of universities are needed in Syria to provide a balance between quality skills and learning. However, the presence so far of only for-profit institutions raises concerns about the overall quality and orientation of private higher education in the country.

6.6 Reinforcement of Financing Strategies

Recognizing that an efficient education system is essential to promote sustainable development, the Syrian government stresses on the importance of reforming policies so that they can be implemented and brought to scale even with the existing realities. (http://ec.europa.eu/education/programmes/tempus/countries/higher/syria.pdf)

The government, as discussed earlier, has taken many reform steps represented by the allowance of private universities, the establishment of the first internet university in the Arab world and putting down the required ICT infrastructure. However, many other reforms are still needed. Government can improve the performance of universities by introducing the incentives mechanisms and grant a certain degree of autonomy. Also, industries and companies and other entities are to be involved in educational planning so as to allow the education system to always move in the right direction that corresponds to the dynamics of the employment market. This will also require diversification of majors and specializations to match with demand. Entrepreneurial thinking and self job creation is another area where attention is to be given. Personal job initiatives of students are very weak because of the long lasting reliance on government public sector jobs. The government is planning to improve the quality, quantity and relevance of research activities, as well as joint research and allow for mobility of students and staff. Finally, data and statistics on the various element of the tertiary education system are to be built and made transparent to researchers and policy makers to enhance internal development.

Notes

1. The World Development Indicators list only one data point for Syria (for 1991) as 14.2% of total public spending and 3.86% of GDP. In Table 6.1 we report official government esti-

mates.

2. See http://ec.europa.eu/education/programmes/tempus/countries/higher/syria.pdf
3. We do not have survey data about actual year of school completion, only level of educational attainment. Our estimate of year expected graduation is based on the age when a majority of young people at any given level of education leave school for work. For primary school completers, we begin at the legal working age and school leaving age of 15.
4. Given the lack of useful instruments we do not control for possible omitted variable bias (for example, ability bias).
5. The two stage estimation method of the Heckman model can lead to estimates for all wage earners that do not fall into the range of estimates for subsamples of the population.

CHAPTER 7

Financing Higher Education in Tunisia

Tahar Abdessalem[*]

7.1 Introduction

Economists have consistently emphasized the major role played by education in enhancing economic growth and development. Beyond its traditional role of providing skills for economic growth, education represents a powerful tool to potentially achieve social development, for example, by reducing inequalities and improving health and other living conditions. Perhaps for these reasons, the economic analysis of education has been extensive, ranging from featuring in endogenous growth models (e.g. Lucas, 1988; Romer, 1990) to microeconomic analyses of the outcomes of education through the measurement of the rates of return to investment in education.

Throughout, the issue of the role of government in the provision and financing education has been paramount and stimulated much debate. Some economists favor mixed financing systems (e.g., Glomm and Ravikumar, 1992); others advocate public subsidies (Fernandez and Rogerson, 1995, 1999; Zhang, 1996); and some favor vouchers (Chen, 2005; Benos, 2007; Cardak, 2005).

On grounds of societal well being, the traditional arguments in favor of public financing are:

- imperfect financial markets and the severe restriction of credit for human capital unless supported by substantial dedicated savings and assets,
- positive externalities generated by education that are beneficial to students as well as the whole society,
- asymmetric information, where the less educated parents are less informed of effects and benefits of education,
- income distribution inequalities', calling for government intervention to enhance the access of the poor to education.

In line with the human capital theory, Abdessalem, Gurgand and Lévy-Garboua (1998) gave an interpretation of the rationale for public financing as an implicit loan from the parents' generation, paying taxes, to the generation of children who will pay back this debt through their own taxes. By investing in individual education, the State assists in the generation of future incomes consisting of additional taxes paid by educated in-

** I am grateful to referees for helpful comments and suggestions. I also wish to thank the participants in the Regional Conference on Financing Higher Education in Arab Countries, which was held by ERF in Amman, June 2009, for interesting discussions and comments.*

dividuals. This action allows agents, who would otherwise have been constrained by poor financial conditions, to invest optimally in education. This "social contract" leads to the quasi-free education observed in many countries. Still within a normative framework, but considering higher education as a public good, Abdessalem (1997), presented a mixed decentralized system combining private contribution (through appropriate pricing) and public incentives consistent with government financial constraint.

Notwithstanding these views, public spending on education, especially on higher education, raises questions with respect to the quality of outcomes, equity of access, and the possibility that public financing is the solution to expanding enrollment. For example Pritchett (2001) underscores the point that public expenditure on education doesn't always lead to better quality and may even impact economic growth negatively. The World Bank Report (2008) argues that despite the tremendous efforts in the MENA region to expand access to education and accumulate human capital, education systems in the region "are not ready to face the new economic, demographic and financial challenges".

Against this background, this chapter focuses on Tunisia, which like other developing countries, has allocated increasing levels of resources to education, particularly higher education, mainly through public funding over the past few decades. In 2005-2008, public expenditure on education amounted to around 7.4 percent of GDP, with 2 percent allocated to higher education. However, in the last few years, the budgetary constraints have increased, and are likely to remain so in the near future. These budgetary constraints exist within a context of rapidly increasing student enrollment (currently at an average annual rate of 9 percent between 2000 and 2008), and the need to improve the quality of education to insure better employability of graduates. In light of this situation, public policy is obliged to define orientations and programs, improving quality and efficiency while reducing costs and resource wastage, to enhance access and equity.

The chapter is organized as follows. It begins with an assessment of public expenditure on higher education in Tunisia, with respect to its adequacy, efficiency and equity. Next, in section 2, we explore the challenges posed to financing by demographic evolution, the quality of education and private provision. Section 3 examines some financing reinforcement strategies, and analyzes feasible measures to raise private funding contributions. Section 4 provides some concluding remarks.

7.2 Adequacy, Efficiency and Equity in Financing Higher Education

This section assesses expenditure on higher education in Tunisia on the basis of the criteria of adequacy, efficiency and equity of this spending. Most of the analysis is based on public expenditure, but an attempt is made to capture private spending by drawing on available data from household surveys as well as private provision of higher education. The analysis is also carried out comparatively, placing Tunisia against a set of comparator countries as far as data permit.

7.2.1 Adequacy

Overall total government expenditure on education at all levels in Tunisia was around 7.4 percent of GDP in recent years (Table 7.1). This figure is more than the OECD average (2004) of 5.8 percent and the 5.3 percent average for lower middle income countries[1] (OECD, Education at a Glance, 2007, UNESCP-UIS 2007 and Edstats database). As a percentage of public expenditure, the trend of these recent years is an increasing one reaching 22 percent in 2006, and 23 percent in 2008, which is far above the corresponding percentage for the OECD (12.6 percent) and the lower middle income countries (15.3 percent) (OECD, Education at a Glance, 2007 and UNESCP-UIS 2007).

Public expenditure on higher education in Tunisia has stabilized recently at the level of 2 percent of GDP (Figure 7.1). This figure is higher than the corresponding averages for the OECD countries (OECD, Education at a Glance, 2007 and UNESCO-UIS 2007) as well as lower middle-income countries[2] (Global Education Digest 2007), with percentages of GDP on average on higher education 1.4 and 1.0 respectively. As for the share of public expenditure on higher education relative to public spending on all levels of education, it has also consistently increased from 21 percent in 2000 to almost 28 percent in 2008. Thus, according to the information obtained from Edstats database and reported in Figure 7.1, such expenditure was comparable to OECD countries in 2000, 2002, but

Table 7.1
Ratios of Public Higher Education Spending and Total Public Education Spending

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Public Higher Education Spending as % GDP	1.30	1.32	1.43	1.55	1.62	1.64	2.01	2.01	2.01	2.04	2.04
Public Higher Education Spending as % Total Public Expenditures	3.37	3.49	3.59	4.16	4.25	4.84	5.44	5.81	5.97	6.10	6.45
Total Public Spending on Education as % GDP	6.70	6.58	6.67	6.79	7.03	6.45	7.30	7.39	7.43	7.46	7.39
Total Public Spending on Education as % Total Public Expenditures	17.4	17.4	16.8	18.3	18.5	19.1	19.8	21.4	22.0	22.3	23.4

Source: National Statistics Institute, Ministry of Higher Education, Scientific Research and Technology, Ministry of Development and International Cooperation

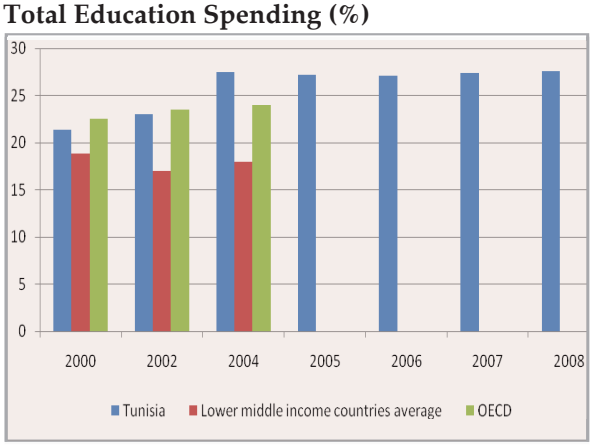
Tunisia outspent the lower middle income countries in 2000, 2002 and both sets of countries in 2004.

On a trend basis, public expenditure on higher education in Tunisia has been increasing steadily relative to GDP, relative to total public expenditure on education and relative to total public expenditure (Figure 7.2). However, this trend has slowed down somewhat in the last few years.

The public sector remains dominant in the provision of higher education. The number of registered students in private higher education institutions in Tunisia increased from 3,500 in 2004 to about 6,000 in 2008, with a percentage of all students enrolled in higher education institutions rising from 1.1 to 1.7 in the same period[3] Also, while the number of private faculties increased from 20 to 30 faculties between 2004 and 2008, the number of public faculties increased from 150 to 190 during the same period.[4] During the same period, student enrollment in public institutions grew from 300,000 to 350,000. As a result, the share of student enrollment in private higher education in Tunisia is far below that of the lower middle income and OECD countries (Table 7.2).

Little is known about the contribution of households to public higher education. Most surveys focus on pre-university education. However, surveys among students to capture information about their expenditures and sources of funding do provide some insights.[5] Private contribution to current higher education expenditures in the public sector can thus be estimated as 4.3 and 5.9

Figure 7.1
Share of Public Higher Education Spending to Total Education Spending (%)



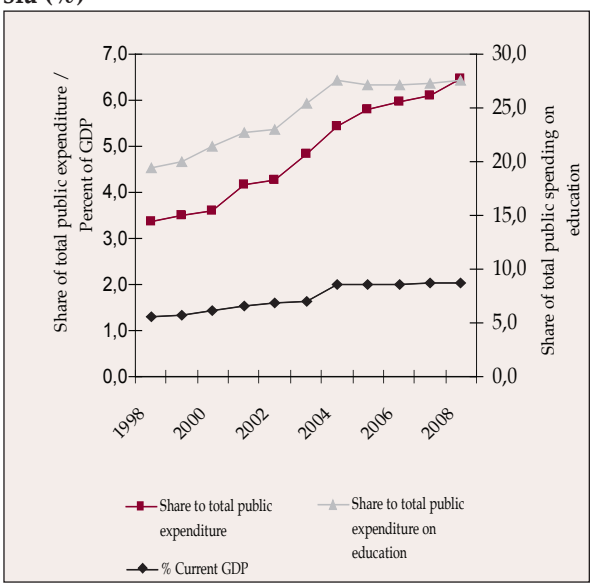
Source: World Bank, Edstats database, OECD Online database, Tunisian Statistics (National Statistics Institute, Ministry of Higher Education, Scientific Research and Technology, Ministry of Development and International Cooperation).

Table 7.2
Share of Private Enrollment in Higher Education, 2004 (%)

Tunisia	1.1
Lower Middle Income average	28
MENA average	26*
OECD Average	25

*Source: World Bank, Edstats database; Ministry of Higher Education, Scientific Research and Technology; *World Bank, 2008*

Figure 7.2.
Public Spending on Higher Education in Tunisia (%)



Source: National Statistics Institute, Ministry of Higher Education, Scientific Research and Technology, Ministry of Development and International Cooperation, Tunisia.

percent respectively in 1997 and 2004. If the same trend continues, it would be around 5.7 percent in 2008. This contribution remains very small. Taking into account private institutions of higher education, we can estimate that the overall private contribution to funding higher education is about 6 percent, 1.7 percent for private provision and 4.3 percent for private financing in the public sector. These proportions are much lower than OECD averages where the share of private sources was 24.3 percent in 2004, growing from 20 percent in 1995 and 22.4 percent in 2000 (OECD, Education at a Glance, 2007).

In terms of US$ PPP, in 2005, the expenditure per student in higher education in Tunisia was much greater than in lower middle income countries and around half of OECD countries' expenditure (Table 7.3).

In summary, we can say that the bulk of higher education funding is borne by government. Private provision of higher education remains modest, so is the contribution of households to the funding of public education.

7.2.2 Efficiency of Spending

Internal efficiency

Internal efficiency is intended to capture the cost effectiveness of the supply of education. As effective institutions require adequate combinations of fixed assets, facilities, skilled personnel and other infrastructure for a good learning environment, internal efficiency can be assessed using such indicators as the pattern of allocations between current and capital expenditure, expenditures on academic and non-academic staff, student-teacher ratios, etc.

During the last decade, the trend in the distribution of public spending on higher education has shown a slight increase in capital compared to current expenditure, with the former rising from about 20 percent in 1998-1999 to stabilize around 25 percent in recent years (Figure 7.3). As capital expenditure includes purchasing assets, the maintenance and updating of infrastructure, this evolution seems to be favorable in terms of the quality of learning infrastructure and thus to the efficiency of the system. As for current expenditure, wages represent around 70 percent of the total. The balance is distributed between operating expenditures of institutions, grants, subsidies and student loans.

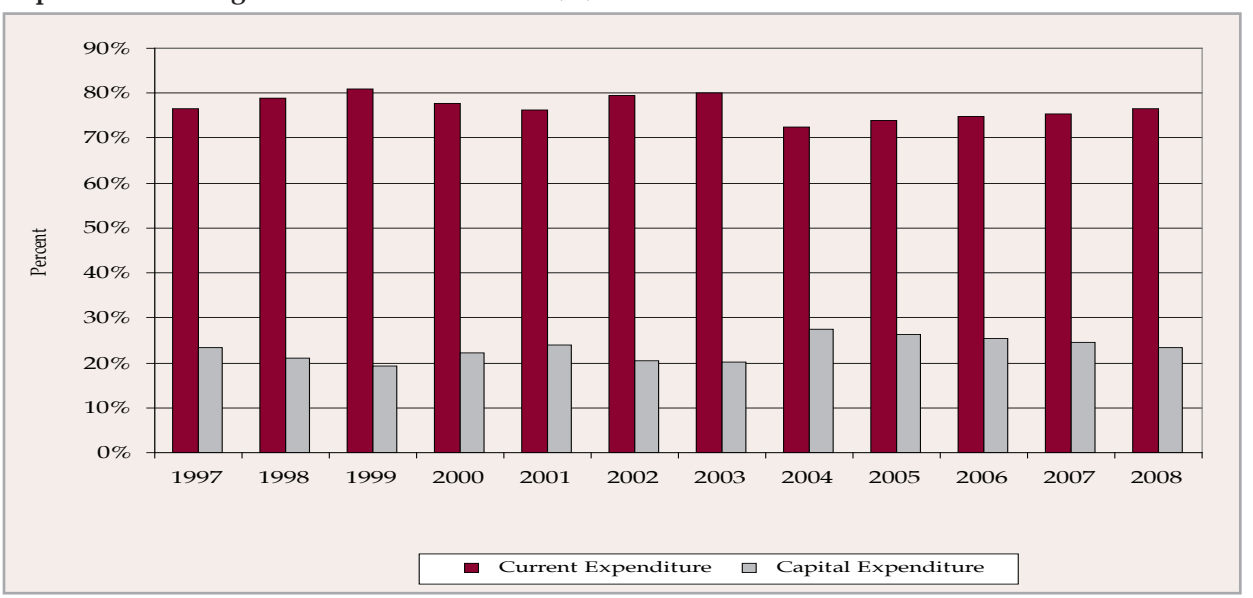
In 2002, staff of public higher education was made of 64 percent teaching staff and 36 percent non-teaching staff (administration, technical, and auxiliaries). For the same year, teaching staff ben-

Table 7.3
Expenditure per Student in Higher Education in 2005 ($ PPP and percent)

	US$ PPP	(%) GDP per capita
Tunisia	4,634	55.80
OECD countries average*	9,984	36.65
Lower middle income countries average**	2,712	55.66

*Note: * All OECD countries except Canada, Germany, and Luxemburg; ** From 55 lower middle income countries, average is calculated from 20 countries*
Source: Edstats database; World Development Indicators 2007; and Global Education Digest 2007.

Figure 7.3
Expenditure on Higher Education in Tunisia (%)



Source: National Statistics Institute, Ministry of Development and International Cooperation, Tunisia

efitted from 46 percent of current expenditure and 22 percent non teaching staff.[6] These indicators emphasize the importance of resource allocation to a major input of higher education production, i.e. the faculty members.

Indeed, we observe some parallelism between current higher education expenditure evolution and the trend of teaching staff during the last decade: an average increase rate of 12.5 percent for the former and about 9 percent for the latter. Taking into account unit wages average raise in this period, the rhythm of evolution would be quite close. However, some disparities within the teaching staff structure may affect the efficiency of resource allocation (Table A7.6, Appendix): it is worth noting that 45 percent of teaching staff is composed of "non-standard" faculty members: they are either young undergraduates writing a thesis and benefitting from a contract as teaching assistants; secondary education teachers put at higher education's disposal (particularly for language courses); or engineers employed for technical activities. The increase in these categories of academic has been the most rapid in the past few years because of the pressures of growing enrollment coupled with government budgetary constraints. Only about 9 percent of the teaching staff comprises professors, another factor that probably contributes to low internal efficiency.

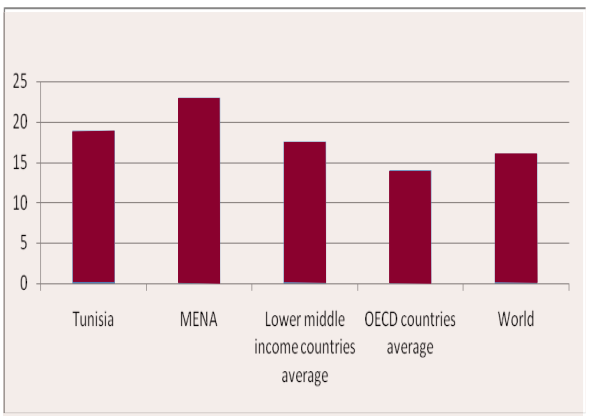
Another indicator of efficiency/inefficiency in higher education is the class student-teacher ratio. This indicator reflects the learning environment and the incentives to attend courses, be interested, acquire knowledge and upgrade students' skills. Despite the slight improvement of this ratio during the last decade (Table A7.8 in Appendix), to be less than 19 students per teacher in 2007 and 2008, we observe that, in 2005, Tunisia had a much higher students-teacher ratio of 1:19.4 compared to lower middle income countries, OECD average, and the world, but lower than MENA average (Figure 7.4).

It is then quite obvious that in order to come closer to international standards of teaching staff, public allocation of funds should take a twofold path: increasing expenditure for teaching staff and recruiting more faculty members, and improving the composition of this staff by lowering the proportion of non-professors and raising that of full professors.

External efficiency

We could not find recent estimates of the rates of return to higher education in Tunisia. Only two estimates are available. The first dates back to 1980 (Psacharopoulos, 1994, recalled in Psacharopoulos and Patrinos, 2002) concerning the private returns to education estimated at 13 percent for

Figure 7.4.
Students per Teacher Ratio in Higher Education, 2005



Source: Global Education Digest 2007, Ministry of Higher Education, Scientific Research and Technology, Tunisia

Table 7.4
Private Rates of Return to Education in Tunisia

	1980	2001	
		Male	Female
Primary incomplete		2.7	3.0
Primary complete		3.3	2.8
Secondary	13	5.5	5.5
University	27	10.1	10.5

Source: The Road Not Traveled, Education Reform in the Middle East and North Africa, World Bank, 2008

secondary and 27 percent for higher education. The other is the World Bank Report (2008), which gives private rates of return to university education in 2001 of 10.1 percent for males and 10.5 percent for females.

According to this evidence, it appears that private rates of return to higher education in Tunisia are consistently higher than both primary and secondary education (Table 7.4). There seems to be a direct correlation between the rate of return and increasing educational levels. In particular, the weak returns to the primary and secondary cycles are corroborated by data on average wages in public administration included in Table 7.5.

Another indicator of external inefficiency is the distribution of unemployment by level of education, which is shown for Tunisia in Table 7.6 for the years 2000-2007. It appears that present unemployment increases with educational level, the lowest being for illiterates and the highest for higher education graduates. It should be noted however that unemployment among holders of primary and lower levels has been decreasing since the mid- nineties, while that of secondary level holders peaked around 2000 and then began declining. As for higher education graduates, the unemployment rate has almost doubled since 2000.

The difficulties facing higher education graduates can also be pointed out by the average time it takes to find a job. And this is illustrated indirectly by the figures shown in Table 7.7 regarding the stock of unemployed graduates.

Several factors may explain the pattern and evolution of unemployment. First is the demographic factor, which in Tunisia has been slowing down at a time of making progress in increasing access to different levels of education. The interaction between these elements resulted in a continuous modification of the structure of labor supply, particularly in the form of relative increase in the supply of skilled labor and relative decline in the supply of unskilled labor. Indeed the flow of supply of higher education graduates was impressive in light of the rapid increase in enrollment. As reported in Table 7.13, the last few years saw an average growth rate of higher education graduates at 14 percent. At the same time, the average GDP growth rate was around 4.5-5 percent. Obviously there is an overall constraint on the employment of higher education graduates.

In addition, the nature and structure of manu-

Table 7.5
Some Indicators of Annual Wages by Education Level (2008), Tunisia

	TND	Rate
Minimum wage	2500	1
Public Administration remunerations		
Secondary ("Baccalauréat")	4200	1.7
University		
"Baccalauréat" + 2	6000	2.4
"Baccalauréat" + 4	7440	3.0
"Baccalauréat" + 5 & above	9600	3.8

Source: Ministry of Development and International Cooperation, Tunisia

Table 7.6
Unemployment Rate by Educational Level in Tunisia (%)

Educational level	1994	2000	2001	2002	2003	2004	2005	2006	2007
None	17.6	9.8	10.1	12.8	11.3	12.7	7.8	8.0	5.9
Primary	18.3	17.3	17.1	16.6	15.8	15.7	15.7	15.2	13.5
Secondary	13.1	18.0	16.4	15.9	15.3	14.7	14.9	14.3	15.4
Higher	3.8	10.9	10.4	11.6	11.7	10.2	14.8	17.5	19.0
Overall	15.6	15.7	15.1	15.3	14.5	14.2	14.2	14.3	14.1

Source: National Statistics Institute, General Census of Population and Housing and Population-Employment Surveys

Table 7.7
Higher Education Graduates Unemployment Rate by Year of Graduating - 2007 (%)

≤ 1999	2000	2001	2002	2003	2004	2005	2006	Average
2.9	13.0	19.7	22.5	29.8	37.5	43.7	61.7	19.3

Source: National Statistics Institute, Population-Employment 2007 Survey, October 2008

facturing industries do not call for highly qualified labor force and skills, even if the situation and features are changing. Another important factor concerns a substantial mismatch between higher education graduates and labor market demand. This fact, observed in a survey on students graduated in 2004 (World Bank and Employment Tunisian Ministry, 2008), points out the yet weak links between firms and universities as well as the quite rigid educational procedures and mechanisms which prevent higher education institutions from rapidly reacting to industry and business needs, or accurately anticipating the markets need for skills.

Whatever the reason, growing higher education graduate unemployment is clear evidence of resources wastage. Rather than enhancing economic growth and raising the technological level of the economy, feasible measures ought to be taken to reform the organization of universities and strengthen the links with the business world.

In summary, according to the efficiency indicators reviewed here, it can be said that:

- Real efforts have been made to pursue internal allocative efficiency: through increasing capital investment, changing the structure of operating expenditure and emphasizing the importance of teaching staff wages, the recruitment of teachers and the improvement of student per teacher ratios. However, a large proportion of faculty members still seem to be lacking appropriate academic skills.
- While rates of return estimated 2001 were relatively high, the unemployment of higher education graduates has since doubled, reflecting increasing external inefficiency of the higher education sector and a growing mismatch with the labor market.

7.2.3 Equity of Spending

Basically, equity in public spending for goods and services deals with distribution of benefits among groups of potential beneficiaries. These groups can be distinguished according to different parameters. For education spending we can consider the levels of education, the urban-rural divide, gender or income differentials.

In a perfect environment, since access to all levels of education is free of charge in Tunisia (or quasi free), there should be no room for equity concerns since success would only depend on effort and motivation of pupils and students. But reality is far from this ideal situation and differences in families' conditions, particularly those concerning education and incomes, substantially affect student results.

Is there a bias against the poor?

Around 2002 the share of public spending on education that was dedicated to higher education in Tunisia was similar to that of OECD countries or

for example, Brazil (Table 7.8), and greater than that of lower middle-income countries. This share grew and stabilized at about 27 percent in recent years. Public spending on both higher and pre-university levels increased as a proportion of GDP (Table 7.1). Moreover, because of the 'advanced" demographic transition, enrollment in primary schools is decreasing and that in university is rapidly increasing, this evolution couldn't be seen as conflicting with equity.[7]

Deepening the analysis needs more data on population distribution by income structure and levels of education, which is now missing. Yet, it is important to note that a number of public policy measures were adopted to address the issue of equity, such as the provision of grants, subsidized accommodations and meals, as well as student loans, on the basis of socio-economic status.[8]

With respect to grants, 50 percent of students received such grants twenty years ago. With the rapid growth of student numbers and the scarcity of public resources, this proportion declined even if the number of grants kept growing. As shown in Table 7.9, the number of student benefitting from a grant increased from 50,000 in 2000 to 102,000 in 2007; but as the overall enrollment grew rapidly, the proportion of assisted students remained around 30 percent. The public expenditure for that item increased also from 27.5 million dinars to 56 million dinars, but the proportion to Current Higher Education Public expenditure diminishes at the same time from 10.7 to 8.2 percent. Government tried to maintain this support but fiscal constraints limited the effort.

Another mechanism was introduced to the same effect: student loans with an amount equivalent to the grants. In the first period (1986), these loans were financed from the higher education ministry budget.[9] Then (from 1999) the government put the social security agencies in charge of these loans.[10] Table 7.9 illustrates two trends with respect to student loans. The first is the decline in direct loans from higher education administration (state budget), where the number of concerned students fell from 11,700 in 2000 to 6,000 in 2007, and the amount from 6.5 million dinars to 3.3 million dinars. The second is related to loans offered by Social Security Agencies, which increased rapidly during the first part of the decade and substituted government loans to reach 43,000 student and about 24 million dinars, but fell since to only

Table 7.8
Expenditure on Tertiary Education as a Share of Public Education Expenditures (%)

	2000	2002	2004	2006	2008
OECD	23.5	24.0	22.0		
Lower middle income countries	18.4	16.6	18.0		
Tunisia	21.4	23.0	27.5	27.1	27.6
Morocco	18.0	16.0	15.0		
Brazil	22.0	24.0	19.0		

Source: National Statistics Institute, Ministry of Higher Education, Scientific Research and Technology, Ministry of Development and International Cooperation, Tunisia; World Bank, Edstat database and OECD online database

Table 7.9
Grants, Student Loans, University Accommodation

	2000	2002	2004	2006	2007
Grants (1000)	50.0	65.7	88.8	88.0	102.0
% Students	27.8	29.1	29.6	26.2	30.0
Grants (millions TND)	27.5	36.1	48.8	48.4	56.0
% Current Higher Education Public expenditure	10.7	9.6	9.7	7.9	8.2
Student loans-HE Ministry (1000)	11.7	7.1	5.8	6.0	6.0
Student loans-HE Ministry (millions TND)	6.5	3.9	3.2	3.3	3.3
Student loans-Social Security Agencies (1000)	27.9	38.0	43.1	42.4	27.0
Student loans-Social Security Agencies (millions TND)	15.3	20.9	23.7	23.3	16.0
University Accommodation (1000)	44.5	52.9	56.0		56.3
% Students	24.7	23.4	18.6		16.6

Source: National Statistics Institute, Ministry of Higher Education, Scientific Research and Technology

27,000 student and 16 million dinars, reflecting the limits of this source of funding.

Public university housing supply increased by 25 percent between 2000 and 2007 but this effort far from matched the accelerating needs. Thus the proportion of beneficiaries fell continuously during this period from 24.7 percent to 16.6 percent.

As we said above, there is lack of data on population distribution by income structure and levels of education. However, some information collected by a survey among university students in 2004, could be useful in giving a view on higher education distribution and to detect if there is a bias against the poor.[11] To start with, Table 7.10 indicates that, the head of the family, educational attainment and average income level are positively correlated. From Table 7.11, we observe that students from higher income households are over represented comparatively to the average population. Thus, despite free access to education, the cultural and economic environment of families affects students' progress and achievements, and students from wealthier households are more likely to benefit from higher education.

Moreover, Table 7.11 shows that the somehow unfair allocation of public support as 8 percent of the students come from the poorest families but receive no support, whereas 3 percent of the students come from families with higher educated heads of household and benefit from grants or loans. This fact comes very probably from the procedures of application and selection processing. The problem is that the main condition to allocate grants is related to income level, and apart from employees (in public or private sectors) income declarations are not always accurate.

Thus, despite free access to higher education and public policy transfers to support the less endowed families, it seems that the low-income population remains disadvantaged in terms of benefiting from this public service.

Is there gender bias?

Regarding gender equality, during the past 20 years the number of female students enrolled in Tunisian universities has been continuously and rapidly increasing (Table A7.7, Appendix). In fact, the proportions of male and female students have been reversed: the proportion of female students increased from 37.2 percent in 1987/88 to 59.1 percent in 2007/08. Consequently, as shown in Table 7.12, the gross enrollment rates for females at the tertiary level passed the male rate in around 1999, and have kept continuously increasing leading to a gender parity index higher than 1.4 in recent years.

The trend for graduation has followed a similar path, leading to a higher proportion of female university graduates in 2007 close to 61 percent, as shown in Figure 7.5.

This situation is the result of a differentiated evolution of male and female enrollment in the secondary education cycle. As observed in Table 7.13, until the end of primary school, the net en-

Table 7.10

Students Family Income (as a proportion of legal minimum wage) and Education Attainment, 2004

Education level of head of family / Students condition	None	Primary	Secondary	Higher	Total
Granted	1.0	1.1	1.1	2.3	1.2
With loans	0.9	1.6	2.3	2.5	2.1
None	1.1	1.7	2.7	3.2	2.4
All	1.1	1.5	2.4	3.1	2.1

Source: Higher Education Financing Study, Tunisia, Ministry of Higher Education 2004.

Table 7.11

Public Support to Students and Family Education Attainment (%), 2004

Education level of head of family	None	Primary	Secondary	Higher	Total
All Population	23	37	32	8	100
Students					
All	12	29	39	20	100
Granted	3	10	5	2	19
With loans	1	2	5	1	9
None	8	18	30	17	73

Source: Higher Education Financing Study, Tunisia, Ministry of Higher Education 2004.

Figure 7.5
University Graduates by Gender in Tunisia, (%)

Source: Ministry of Higher Education, Scientific Research and Technology, National Institute of Statistics, Tunisia

Table 7.12.
Male and Female Tertiary Gross Enrollment Rate and Gender Parity Index in Tunisia*

	1997	1999	2000	2001	2002	2003	2004	2005	2006
Gross Enrollment Rate, Tertiary, Male and Female	15.1	17.0	19.0	21.3	22.8	26.1	28.5	30.1	31.0
Gross Enrollment Rate, Tertiary, Female	14.1	16.8	-	21.1	25.2	29.4	33.0	35.2	36.5
Gross Enrollment Rate, Tertiary, Male	16.0	17.2	-	21.6	20.5	23.0	24.2	25.1	25.8
Gender Parity Index	0.881	0.977		0.977	1.229	1.278	1.364	1.402	1.415

*Notes: * Data for 1998 is not available.*
Source: World Bank, Edstats.

rollment rates have almost always been quite similar. From 2000, female enrollment grew faster during secondary schooling. Actually, young females realize better results and success rates, whereas males show more failure and abandoning. This trend continues until the "Baccalauréat", leading to a larger number of females in higher education than males.

To sum up, with regard to gender, it is obvious that women have benefited from the expansion of higher education, as female participation depicted by enrollment and graduation has considerably increased over time surpassing that of males.

7.3 Challenges

Present and future challenges of financing higher education in Tunisia arise from the need to improve access to university, and the quality of outcomes. Adjustments to meet the targets of better efficiency and equity must go hand in hand with efforts to match the increasing demand for higher education. To ensure more funding, various strategies should be investigated, including greater private contribution.

7.3.1 The Demographic Challenge

During the last 20 years the Total Fertility Rate has declined consistently from 4.4 in the 1986 to 2.0 births per woman in 2005 and 2006 (Figure

Table 7.13
Evolution of Male and Female Primary and Secondary Enrollment in Tunisia (%)

	1997-1998			1999-2000			2004-2005		
	M	F	MF	M	F	MF	M	F	MF
Net Enrollment Rate-6 years	99.0	98.9	98.9	99.0	98.9	99.0	99.0	99.0	99.0
Net Enrollment Rate-6-11 years	97.0	96.4	96.7	97.3	96.9	97.1	96.9	97.0	96.9
Net Enrollment Rate-12-18 years	69.7	67.4	68.6	71.4	71.4	71.4	73.0	78.0	75.4

Source: Ministry of Education and Training

7.6). The natural growth rate of the population declined from 2.7 percent in the early 1980s to 1.3 percent in 2004 and is estimated now at around 1 percent. In population projections, the medium hypothesis is for the Total Fertility Rate to decline to 1.75 by 2024. This evolution would bring it closer to the average for OECD countries.

Population size and structure are as presented in Appendix, Tables A7.10 and A7.11 and Figure A7.1. Young groups corresponding to primary and secondary education continue to decline before slightly increasing again around 2020. But the 20-24 year group begins declining from 2009. The peak of students is expected to happen in 2011-2012, and government estimations are about 480,000 students for that period. However other estimates which take into account adjustments for secondary school students, expected graduates for secondary cycle ("Baccalauréat"), and impacts of reforms to progress inside the higher education system, suggest a lower peak, around 450,000 or fewer students. In any case, within 3-4 years, enrollment in higher education should increase by 100,000 or more, and this represents an urgent and sharp pressure on public finance.

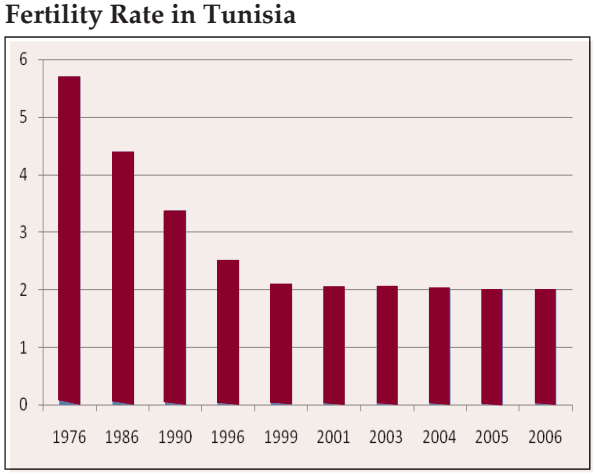
7.3.2 The Quality of Higher Education

Promoting the quality of higher education is a central objective of government policy. This is intended to be the main instrument to enable students to participate successfully in the knowledge economy, answer the labor market's increasing demand for highly skilled workers and enhance opportunities for economic growth.

Several studies evaluated the potential positive correlation between education quality and economic growth, such as Hanushek and Kimko (2000), Barro (2001) and Altinok (2006). These studies observed that quality contribution is higher than that of quantity. But even if education quality attributes are well defined, meaning sufficient and skillful faculty staff, various and adapted teaching equipment and efficient management rules, then measuring education quality is always easy.[12] Beyond the number of graduates, the acquired skills need to be assessed. Implicit assessment is given by external efficiency indicators, but some additional and interesting information can be obtained from the data, such as the number of years to complete the degree or graduate, or scores on international tests, and surveys on achieved educational skills. Along the same lines, international rankings dealing with quality of education and especially higher education may provide useful information on the relative position of different countries. One example of this ranking can be found in the Global Competitiveness Report of the World Economic Forum.[13]

For Tunisia, among the efficiency enhancers, higher education and training- and particularly the quality of math and science education- prove to be a positive factor. In fact, since the late 1990s, poli-

Figure 7.6
Fertility Rate in Tunisia



Source: National Institute of Statistics, Tunisia

cies have been introduced to increase enrollment in the science and technology faculties as well as the establishment of short paths for technicians. Thus the number of students in sciences and technology doubled between 2000 and 2008 and their proportion of the overall enrollment increased from 29 percent to 37 percent, (Table 7.15). As for graduates, their number has more than doubled and their proportion rose from 29 percent to 34 percent in the same period. This progress raises the country above lower middle income countries and closer to the OECD country average. Graduates of short cycles[14] increased from 25 percent to 40 percent of total graduates.

The framework to improve the quality of higher education was set up in 2008 with a new Higher Education Act. The major commitments are:

- The design of a new higher education system based upon the Bachelor-Master-PhD scheme, being consistent with international standards, and generalizing the short cycles' option (except for special studies such as medical and engineering subjects). This structural reform was gradually introduced since 2006-2007, providing an opportunity for revising the higher education curricula to match international norms and become more relevant to labor market needs. An important mechanism decided for this latter goal is the co-construction of applied diplomas (applied bachelor degree and professional master): university and professionals cooperate in the design, implementation, monitoring and evaluation of these studies.
- A greater decentralization towards universities and departments, enhancing responsibilities in financial management, academic actions and quality development by introducing specific programming units. This reform direction towards the "devolution of spending authority", seeking a more efficient use of public resources, is developed within a contracting approach where education and research programs are incorporated in four-year contracts, renewable after external assessment, between the ministry and universities, setting targets to achieve and means to be available, through government funding and own resources. To improve academic quality and institutional performance, two new resource transfer mechanisms were established:
  - block grants directly awarded to universities on a competitive basis, to improve the quality of programs and teaching;
  - management capacity grants to strengthen institutional management and ability to operate independently.
- The introduction and generalization of higher education organizations' assessment grounded upon clear criteria: internal efficiency, external efficiency, pedagogy innovation and pedagogic skills of teachers, scientific output, relationship and partnership with economic environment as well as foreign universities.

For this purpose, a National Authority of Assessment, Quality Assurance and Accreditation, was created.

7.3.3 Private Provision of Higher Education

The involvement of the private sector in higher education (teaching projects and accommodation projects) has been an important component of public policy since the late 1990s. Many incentives were devised for this purpose, among them:

- An allowance for investment, to a maximum of 20 percent of the project cost;
- Setting land at the disposal of investors to carry out their projects;
- State funding of national permanent teaching staff salaries for 10 years, with a ceiling of 25 percent;
- State responsibility for the employer contribution to the social security system relative to national permanent teaching staffs salaries, for 10 years; and,
- Reductions of taxes on higher education and accommodation firms' profits during the first 10 years

Partnerships between public and private universities are also encouraged, especially for cooperation for teaching programs and faculty staff exchange. It is clear, however that these measures and incentives have not been able to achieve the targets of ensuring that private enrollment reached 20 000 students in 2006, and then increased further after that. Several reasons have been put forward to explain this failure:

Table 7.14
Ranking of Higher Education- Global Competitiveness Report

Country	Efficiency enhancers	Higher education and training	Quality of the education-al system	Quality of math and sci-ence education	Quality of management schools	Internet access in schools
Tunisia	53	27	17	7	17	34
Egypt	88	91	126	128	116	99
Jordan	63	42	27	37	45	51
Morocco	85	90	100	67	63	70
Syria	104	101	91	60	95	123

Source: The Global Competitiveness Report 2008-2009

Table 7.15
Evolution of Enrollment and Graduates by Field of Education

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
Overall enrollment (thousands)	207	226	272	300	324	336	340	351
Sciences and Engineering	60.2	67.1	81.5	88.6	104	108.2	114.4	130
%	29.1	29.7	30.0	29.5	32.1	32.2	33.6	37.0
	2000/01	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**
Total Graduates (thousands)	24.5	28.6	34.2	40.3	49.8	56.6	58.6	63.1
Sciences and Engineering	7.1	7.5	10.9	13.2	17	19.7	20.4	21.6
%	29.0	26.2	31.9	32.8	34.1	34.8	34.8	34.2

Source: Ministry of Higher Education, Scientific Research and Technology

- It seems, first, that a conflict exists between the way the Government uses its monitoring and control action, and the need for autonomy and flexibility on the part of the private operators.
- The investment allowances regulation proved to be difficult to implement.
- The objective of stimulating a private and public universities partnership proved to be rather unfeasible, because of the congestion in the public system.
- The weak demand for private higher education suggests a lack of academic credibility, which needs to be built up and guaranteed. In the face of comparatively high prices and relatively poorer quality, rich families would prefer to send their children abroad.

To sum up, the private provision of higher education will remain marginal as long as the public system ensures free access to graduates of secondary school. However, in the public system, private accommodation could be developed to reduce the government's fiscal burden.

7.4 Future Financing Strategies

In the face of the increasing future demand for higher education, and the need to raise quality at different levels (infrastructure, teaching, working conditions, organization and management, strengthening relations with economic firms and institutions), public financing will face severe pressures. Additional funding sources must be investigated in addition to possible economies produced by more efficient management mechanisms. In addition, diversification of funding can be achieved essentially through three channels: education cost sharing, partnerships with economic firms and institutions, and private provision.

Government policies as stated in the Economic and Social Development Plans are in line with these principles, when they recall the following principles:

- increasing the own resources of universities which are composed of tuition fees and revenues from possible contractual activities;
- restructuring public support to students by, progressively substituting loans for grants;
- adjusting, when possible, the pricing of public accommodation and catering; and,
- developing the private provision of higher education and services (student residents and restaurants)

7.4.1. Education Cost Sharing: Tuition Fees

This issue has been largely discussed and analyzed in the academic literature as well as by international organizations.[15] In the Tunisian case several studies have focused on this topic and formulated recommendations.[16]

If the adjustment of tuition fees is commonly proposed by analysts to shift part of the direct cost of education to students and their families, special attention must be given to ensuring that talented students are not excluded because of lack of resources; and equity in the access to higher education must be promoted. Raising students' contributions should take into account the socio-economic situation of students and their families. The burden of the adjustment should be affordable. The most socio-economically vulnerable students should benefit from sufficient government support.

Various studies and investigations[17] have estimated the possible student contribution at 20-30 percent of the direct cost of education. For Tunisia, one proposition[18] was to establish progressively (during 5 years) tuition fees at 10 percent of this cost. Simulations of the impact of this kind of adjustment, connected to income statistics, asserted an average burden increasing from 0.3 percent to 3 percent of students' budget, during the implementation period. Naturally, the burden is lower for high income students and higher for low income ones. The latter, logically public support beneficiaries should be protected by an equivalent increase in the grant amount.

7.4.2 Education Cost Sharing: Grants and Loans

A cash financial support system mainly consists of the loosening of the liquidity constraint of poor families. It is intended to contribute financing opportunity costs and also direct costs when substantial tuition fees and other university services prices are established. Permitting higher education access to students with proven academic skills but lacking resources this mechanism improves social efficiency.

The poorest among these students would be afraid of failing to reimburse loans contracted, which is why they should be prioritized for grants. Also, as skills are developed progressively with education, enhancing potential success and professional prospects, loans should be allocated for intermediary and final studies levels.

As seen in section 1.3, in recent years, grants have been provided to around 30 percent of students, and loans to about 13-15 percent, falling to 10 percent in 2007; future evolution should invert these ratios. The efficient allocation of grants needs a rigorous device to select deserving students, avoiding cheating and preventing free riders, as well as ensuring accordance of academic progress to eligibility criteria. Obviously, this is not the case now, when the basic condition to receive a grant is that parents' income must be lower than the legal wage, about 2500 TND in 2005. During this period, revenues of the 11 percent poorest households were below this level.[19]

With loans, shifting the trend would require reforming the present mechanism. With the social security agencies suffering tight financial constraints, they would be reluctant to allocate limited resources to finance students. Maintaining a sustainable system requires a specific mechanism, an autonomous fund to finance and manage student loans. Resources of the Fund should be collected from the social protection agencies, eventually the State, and also banks and financial institutions. A crucial mission of the fund is recovery of loans and the revolving of such funds back into the loan scheme. The establishment and management of the fund could be grounded on the already acquired experience of the social security agencies in this field.

7.4.3 Sharing Living Costs: Accommodation and Catering

Public support for student accommodation and food expenditures can also be argued on the grounds of social efficiency and equity. It contributes to the financing of direct education costs, especially for students whose family lives far from the university, and to the opportunity cost particularly for the poor, who otherwise could not

bear the loss of possible income with continued education. However, public finance constraints call for adjusting these subsidies and raising these services rates.

Currently, subsidized meals provided in university restaurants are very cheap (0,200 TND) and open to all students. This situation leads to some observed waste. A reforming measure needs to be twofold: firstly to increase the price of the basic subsidized meal and limit cheating; and secondly to diversify food supply at the real cost.

As for tuition fees, simulations of the impact of prices' progressive adjustment asserted a sustainable average burden. The impact burden is lower for high-income students and higher for low income ones, thus for the latter, it should be compensated by an equivalent increase in the grant amount.

7.4.4 Entrepreneurial Activities: Partnership University-Environment

Creating and developing solid links between universities and the economic environment are commonly acknowledged as crucial for education institutions, firms, administrations and society in general, especially in the knowledge economy age. University paying services may also be a substantial financing source.

These activities could consist of training and teaching programs, consultancies, Research and Development contracts, and patents operation. Naturally, this orientation should not compromise the basic mission of a university, namely, teaching and scientific research.

The efficient development of entrepreneurial activities needs some specific conditions, mainly the availability of organizational structures operating as interfaces between universities and industries, with different possible frames, having management autonomy, qualified personnel, and appropriate legal and financial procedures. In Tunisia, even if this objective has been regularly proclaimed, few results have been observed. University paying services hardly reached 1.5 percent of public higher education expenditures in 2002. The principal barrier seemed to be the lack of institutional capacity, that is, autonomous skillful structures. The recent reforms presented in section 2.2, particularly the established autonomy of universities and a contracting approach for funding, connected with evaluation and quality monitoring, are likely to push ahead universities' relations with the economic environment.

7.4.5 Private Provision of Higher Education and University Services

As discussed above, the development of private higher education has been quite limited, squeezed by pricing constraints, quasi-free access to public system, and the competition of studying abroad. Nevertheless, there is room for credible private supply of high quality and differentiated from public outcomes. Two main conditions are required to facilitate this evolution, both for education institutions as well as university services such as private accommodation:

- the availability of a flexible and transparent mechanisms of accreditation and monitoring of institutions, in particular assessing quality standards;
- The adoption of transparent and fast incentive mechanisms: it would be more efficient to shift investment and faculty staff contingent allowances into a subsidy per student. However, this mechanism would be subject to asymmetric information problems and demands of highly qualified administration and auditing.

7.5 Conclusion

Tunisia has taken important steps on the road of higher education development. Larger amounts of public resources have been allocated to financing education to accommodate ever expanding cohorts of students. Efforts have been exerted to keep up investment expenditures and to rationally allocate current spending. The public support for students through the grants and loans system and other subsidized services is grounded in social efficiency and equity of higher education.

However, there remains a wide gap between Tunisia and the advanced countries' standards. Further progress, for example, is needed to enhance education quality, size and composition of faculty members', as well as equipment, technology and management.

This quality challenge and the need to modernize and adapt are harshly reflected in increasing graduate unemployment. The second major challenge for Tunisian higher education is the demographic challenge, represented by the high and

increasing rates of enrollment.

Facing these challenges, public funding indicators seem to have reached their limits. Current institutional reforms may enhance rationality and efficiency in resource allocation and promote cost-effective behaviors. Nonetheless, there is an urgent need for funding source diversification and supplementary contributions from the private sector, in form of cost sharing mechanisms, partnerships with firms and economic institutions, and private provision of education. Simple and feasible measures and procedures are available to raise students' contributions, and attract non-governmental revenues by paying services. Even if it seems a difficult political choice, a stronger development of private provision is desirable and possible with appropriate incentives and regulation.

Notes

1. Data on OECD and Lower Middle Income countries averages are for 2004.
2. Taking 2005 instead of 2006.
3. Data from Ministry of Higher Education
4. idem
5. Higher Education Financing Studies, Tunisia, Ministry of Higher Education 1997 and 2004.
6. World Bank, Tunisia, Sector Policy Paper on Higher Education Financing, 2004
7. Actually, as said below, we couldn't certify this due to lack of data on distribution of students among socio-economic groups; but with full access for primary and secondary levels and large public support for quasi free higher education, some reasonable conclusions regarding equity can be asserted.
8. To get a grant, the household gross income should not exceed a ceiling fixed every year by the Ministry, around the minimum wage level.
9. Financial conditions: interest rate 2.5 percent, repayment during 10 years, after the first job, with 2 years grace.
10. Interest rate: 5%, repayment during a period equal to the studies duration, with 2 years grace.
11. Poor population is of course a relative notion: according to the survey on consumption and budget of households, 2005, only 3.8 percent of the population lives with an income under the poverty threshold.
12. This is stressed, in particular, in World Bank (2008).
13. "Higher education and training" is a 17 percent - weighted pillar of the subindex "Efficiency enhancers"; it is equally composed of: quantity of education (33 percent), quality of education (33 percent) and On-the-job training (33 percent). Quantity of education is calculated from hard data on secondary enrollment, tertiary enrollment, and education expenditure. Quality of education index and the On-the-job training index are composed upon data gathered by The World Economic Forum's Executive Opinion Survey. Quality of education index is grounded on four components: quality of the educational system, quality of math and science education, quality of management schools, Internet access in schools.
14. These are higher education degrees, 2-3 years after Baccalaureate.
15. For examples see the following references: - Woodhall, Maureen, (ed) (2002); OECD (2003); Commission Européenne (2000); Johnstone, D. Bruce with Alka Arora and William Experton, (1998); Sanyal, Bikas C., (1998).
16. - Ministry of Higher Education, Tunisia, Education Sector Strategic Study, 1995. - Higher Education Financing Studies, Tunisia, Ministry of Higher Education 1997 and 2004
17. See for example references indicated above.
18. Higher Education Financing Studies, Tunisia, Ministry of Higher Education , 2004
19. Survey on consumption and budget of households, National Statistics Institute, Tunis, 2005.

References

Abdessalem, T. 1997. "Biens Publics avec Exclusion: Allocations Efficaces, Production Décentralisée", Monographies d'Econométrie, CNRS-Editions, Paris.

Abdessalem, T., Gurgand, M. and Lévy-Garboua, L. 1998. "Le Financement Public de l'Enseignement Supérieur: les Implications de la Théorie du Capital Humain", in Mélanges Jean Vincens, Presses de l'Université des Sciences Sociales de Toulouse.

Altinok, N. 2006. "Capital humain et croissance: l'apport des enquêtes internationales sur les acquis des élèves", Economie publique, In-

stitut d'économie publique, IDEP, no 18-19, 2006/1-2.
Barro, R.J. 2001. "Education and Economic Growth", in Helliwell, J.F. (ed), The
Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being, Chapter 3, 14-41, OECD.
Benos, N. 2007. "Education Policy, Growth and Welfare", Center of Planning and Economic Research, Athens, Mimeo.
Cardack, B.A. 2005. "Education Vouchers, Growth and Income Inequality", Macroeconomic Dynamics, 9: 98-121.
Chen, H.J., 2005. "Educational Systems, Growth and Income Distribution: A Quantitative Study", Journal of Development Economics, 76: 325-353
Commission Européenne. 2000. "Vingt années de réformes dans l'enseignement supérieur en Europe: de 1980 à nos jours", Eurydice, Bruxelles.
Fernandez, R. and Rogerson, R. 1995. "Education Finance Reform and Investment in Human Capital: lessons from California", NBER 5369.
Fernandez, R. and Rogerson, R. 1999. "Equity and Resources: An Analysis of Education Finance Systems", NBER 7111.
Glomm, G. and Ravikumar, B. 1992. "Public versus Private Investment in Human Capital: Endogenous growth and Income Inequality", Journal of Political Economy, 100: 818-834.
Hanushek, E.A. and D.D. Kimko. 2000. "Schooling, Labor-Force Quality, and the Growth of Nations", American Economic Review, 90(5): 1184-1208.
Johnstone, D. B., with Alka Arora and William Experton. 1998. "The Finance and Management of Higher Education: a Status Report on World Wide Reforms", A Department Working Paper. The World Bank, Washington, D.C.
Lucas, R. 1988. "On the Mechanics of Economic Development", Journal of Monetary Economics, 22: 3-42.
Ministry of Higher Education, Scientific Research and Technology. 2008. Statistics of Higher Education, Tunis.
Ministry of Higher Education, Tunisia. 1995. Education Sector Strategic Study.
Ministry of Higher Education, Tunisia. 1997 and 2004. Higher Education Financing Studies.
National Statistics Institute. 2004. General Census of Population, Tunis.
_____.2004. Housing and Population-Employment Survey, Tunis.
_____.2008. Households Consumption and Budget Survey 2005, Tunis.
OECD. 2003. "Education at a Glance", Paris.
Pritchett, L. 2001. "Where Has All the Education Gone?", World Bank Economic Review, 15: 367-391.
Psacharopoulos, G. 1994. "Returns to Investment in Education: A Global Update." WorldDevelopment 22(9): 1325-43.
Psacharopoulos, G. and H.A., Patrinos. 2002. "Returns to Investment in Education, A Further Update". World Bank, Policy Research Working Paper 2881.
Romer, P.M. 1990. "Endogenous Technological Change", The Journal of Political Economy, 98(5): 71-102
Sanyal, Bikas C. 1998. "Diversification of Sources and the Role of Privatisation in Financing of Higher Education in the Arab States Region", International Institute for Education Planning /UNESCO, Paris.
UNESCO. 2007. Global Education Digest, Comparing Education Statistics Across the World.
Woodhall, Maureen, (ed.). 2002. "Paying for Learning: The Debate on Student Fees, Grants and Loans in International Perspective".Special International Issue of the Welsh Journal of Education, Vol 11 n° 1.
The World Bank. 2008. The Road Not Traveled, Education Reform in the Middle East and North Africa. Washington, DC.
_____, Tunisia Sector Policy Paper on Higher Education Financing, 2004
_____, EdStats – Global Country Data – Data Query System.
The World Bank and Ministry of Employment, Tunisia. 2008. Dynamique de l´Emploi et adéquation de la Formation parmi les Diplômés Universitaires, volume 1: Rapport sur l'insertion des diplômés de l'année 2004.
Zhang, J. 1996. "Optimal Public Investment in Education and Endogenous Growth", The Scandinavian Journal of Economics, 98: 387-404.

Appendix

Table A7.1
Public Spending on Higher Education - Millions TND

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Nominal	293	325	381	445	486	535	707	757	830	915	990
Real (GDP Price Index)	201	216	246	279	297	317	413	430	454	489	519

Source: National Statistics Institute , Ministry of Higher Education, Scientific Research and Technology, Tunisia

Table A7.2
Public Spending on Education

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Public Higher Education Spending as % GDP	1.30	1.32	1.43	1.55	1.62	1.64	2.01	2.01	2.01	2.04	2.04
Public Higher Education Spending as % Total Public Expenditures	3.37	3.49	3.59	4.16	4.25	4.84	5.44	5.81	5.97	6.10	6.45
Total Public Spending on Education as % GDP	6.70	6.58	6.67	6.79	7.03	6.45	7.30	7.39	7.43	7.46	7.39
Total Public Spending on Education as % Total Public Expenditures	17.4	17.4	16.8	18.3	18.5	19.1	19.8	21.4	22.0	22.3	23.4

Source: National Statistics Institute , Ministry of Higher Education, Scientific Research and Technology, Ministry of Development and International Cooperation, Tunisia

Table A7.3
Public Spending on Education Levels, (%)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Share of public spending on education to total public expenditure	17.4	17.4	16.8	18.3	18.5	19.1	19.8	21.4	22.0	22.3	23.4
Share of public spending on HE to all levels of education	19.4	20.0	21.4	22.8	23.0	25.4	27.5	27.2	27.1	27.4	27.6
Share of public spending on pre-university education to all levels of education	80.6	80.0	78.6	77.2	77.0	74.6	72.5	72.8	72.9	72.6	72.4

Source: National Statistics Institute , Ministry of Higher Education, Scientific Research and Technology, Ministry of Development and International Cooperation, Tunisia

Table A7.4
Share of Public Higher Education Spending to Total Education Spending (%)

	2000	2002	2004	2005	2006	2007	2008
Tunisia	21.4	23.0	27.5	27.2	27.1	27.4	27.6
Lower middle income countries average	18.8	17	18				
OECD	22.5	23.5	24				

Table A7.5
Structure of Expenditure on Higher Education in Tunisia

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Capital (millions TND)	60	61	83	104	98	105	191	195	207	222	227
Current (millions TND)	233	264	298	341	388	430	516	562	623	693	763
Total (millions TND)	293	325	381	445	486	535	707	757	830	915	990
Capital (%)	21	19	23	24	21	20	27	26	25	25	24
Current (%)	79	81	77	76	79	80	73	74	75	75	76
Total	100	100	100	100	100	100	100	100	100	100	100

Source: Ministry of Higher Education, Scientific Research and Technology, Tunisia

Table A7.6
Teaching Staff Evolution

	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Average increase rate
Professors	681	741	841	855	905	1,012	1,113	1,270	1,338	1,363	1,685	9.5
Assistant- Professors	3,404	3,538	3,872	4,137	4,449	4,597	5,094	5,546	5,997	6,592	7103	7.6
Hospital University Professors	1031	1133	1112	1320	1424	1500	1487	1645	1754	1832	1517	3.9
Others	1,208	1,540	1,864	2,119	2,512	2,844	3,655	4,013	3,890	4,191	4,079	12.9
Contractuals	939	1,309	1,681	1,862	2,650	2,984	3,336	4,197	3,940	4,139	4,224	16.2
Total	7,263	8,261	9,370	10,293	11,940	12,937	14,685	16,671	16,919	18,117	18,608	9.9
Professors	9.4	9.0	9.0	8.3	7.6	7.8	7.6	7.6	7.9	7.5	9.1	
Assistant Professors	46.9	42.8	41.3	40.2	37.3	35.5	34.7	33.3	35.4	36.4	38.2	
Hospital University Professors	14.2	13.7	11.9	12.8	11.9	11.6	10.1	9.9	10.4	10.1	8.2	
Others	16.6	18.6	19.9	20.6	21.0	22.0	24.9	24.1	23.0	23.1	21.9	
Contractuals	12.9	15.8	17.9	18.1	22.2	23.1	22.7	25.2	23.3	22.8	22.7	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Table A7.7
University Students by Gender

	1987/88	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
1000										
Male	16.3	89.4	99.7	104.3	117.8	126.9	133.3	134.7	133.6	137.1
Female	27.5	90.7	107.7	121.8	144.7	164.9	178.3	187.1	192.6	198.5
Total	43.8	180.1	207.4	226.1	262.5	291.8	311.6	321.8	326.2	335.6
%										
Male	37.2	49.6	48.1	46.1	44.9	43.5	42.8	41.9	41.0	40.9
Female	62.8	50.4	51.9	53.9	55.1	56.5	57.2	58.1	59.0	59.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Higher Education, Scientific Research and Technology, Tunisia

Table A7.8
University Graduates by Gender

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
1000								
Male	11.3	12.6	13.4	15.9	20.4	21.6	23.2	22.9
Female	10.1	12.0	15.1	18.3	19.9	28.2	33.4	35.7
Total	21.4	24.5	28.6	34.2	40.3	49.8	56.6	58.6
%								
Male	52.8	51.2	47.1	46.6	50.5	43.3	41.0	39.1
Female	47.2	48.8	52.9	53.4	49.5	56.7	59.0	60.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Higher Education, Scientific Research and Technology, Tunisia

Table A7.9
Public Higher Education Students Per Teacher Ratio Evolution

	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
Overall enrollment (1000)	180	207	226	272	300	324	336	340	351
Teachers	9370	10293	11412	12937	14,700	16,671	16,919	18,117	18,608
Students per Teacher ratio	19.2	20.1	19.8	21.0	20.4	19.4	19.9	18.8	18.9

Table A7.10
Population Projections, by Age Groups, (Thousands)

Age	2004	2009	2014	2019	2024	2029	2034
0 - 4	814	847	883	881	821	747	714
5 - 9	854	805	839	881	881	822	752
9 - 14	993	847	806	847	881	884	815
15-19	1063	994	850	800	833	884	879
20 - 24	1003	1056	982	835	797	834	879
25-59	4271	4884	5452	5845	6013	6076	6180
60 and +	934	1025	1214	1508	1835	2204	2523
Total	9932	10458	11026	11598	12063	12450	12742

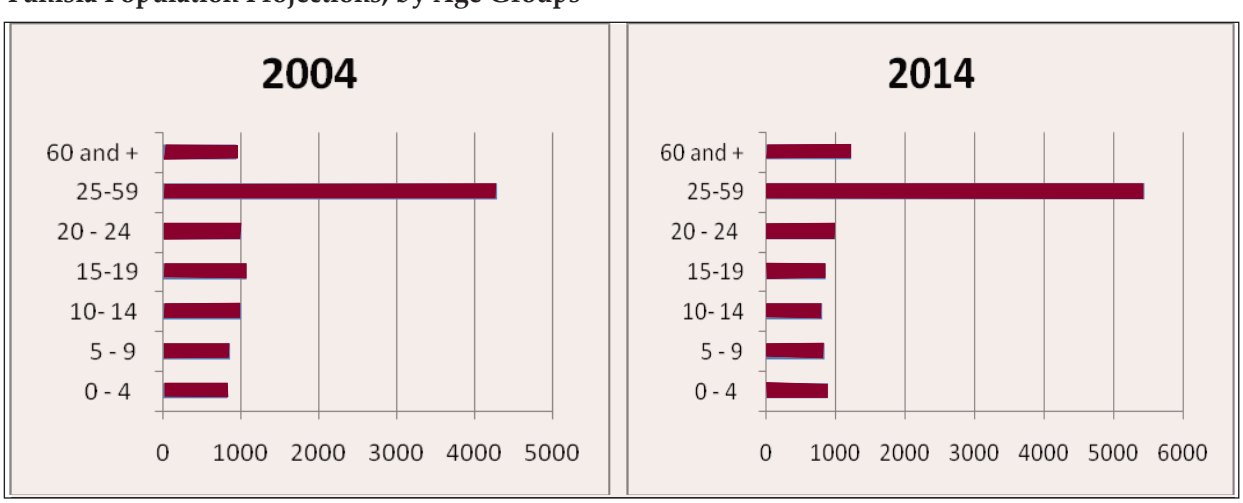
Source: National Institute of Statistics, Tunisia

Table A7.11
Population Projections, by Age Groups, (%)

Age	2004	2009	2014	2019	2024	2029	2034
0 - 4	8.2	8.1	8.0	7.6	6.8	6.0	5.6
5 - 9	8.6	7.7	7.6	7.6	7.3	6.6	5.9
9 - 14	10.0	8.1	7.3	7.3	7.3	7.1	6.4
15-19	10.7	9.5	7.7	6.9	6.9	7.1	6.9
20 - 24	10.1	10.1	8.9	7.2	6.6	6.7	6.9
25-59	43.0	46.7	49.4	50.4	49.8	48.8	48.5
60 and +	9.4	9.8	11.0	13.0	15.2	17.7	19.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Statistics Institute, Tunisia

Figure A7.1
Tunisia Population Projections, by Age Groups



Source: National Statistics Institute, Tunisia