Chapter 1: Higher Education, productivity, and labor market insertion: are MENA countries getting results?

Higher education (HE) brings about economic and social benefits, as it often improves national social welfare and contributes to economic growth. Various studies have shown that HE increases the skills necessary to participate in the global economy, encourages innovation, bolsters social mobility, and creates democratic and innovative leadership and citizenry (World Bank, 2009). Universities are relevant institutions in promoting economic growth and civil society participation, not only for their capacity to create and disseminate knowledge, but also as organizations that attract talented people, inject new ideas, enrich cultural life, and encompass the whole social fabric of which they are a part. Unfortunately, in the context of the MENA region, the social and private returns to HE may not be very high, as evidenced by unemployment rates as high as 40 percent for university graduates in some countries.

There are many factors that influence economic growth, ranging from governance and overall macroeconomic and political stability, to productivity, innovation, and the quality of skills that education systems can develop. Skills development is a cumulative and dynamic process that occurs throughout an individual’s life cycle. Skills are acquired through many avenues: the formal education system, informal and continuing education, and on-the-job training. Additionally, skills can be cognitive, academic, generic, or discipline-specific, and there are also social and life skills related to being part of a social network or in a professional or work environment. Skills development is a complex phenomenon and formal education systems play an important role in providing citizens opportunities for acquiring skills. Recent research conducted by Hanushek (2007) demonstrated that education, and in particular, good quality education as measured by cognitive skills, has a positive impact on economic growth. One critical element in the contribution of HE to growth and prosperity is the higher employability and higher earnings associated with HE graduates. However, if graduates do not have the skills demanded by employers, their chances of being employed diminish.

HE graduates today looking for jobs are facing challenges related not only to their lack of skills. For instance, the 2009 financial crisis triggered increased unemployment rates worldwide, and this effect is likely to persist for a few more years. There are several reasons for this assumption. The recent crisis has been the deepest post-war recession and the most synchronized recession on record. Key sectors such as manufacturing and construction have been hard hit, and unemployment has risen worldwide. MENA countries have been affected by the crisis in various ways; most affected are the GCC, mainly due to the drop in oil prices and the real estate market collapse. For oil producers with limited integration with the international banking system, such as Algeria and Libya, the financial crisis has had less impact. Oil importing countries, such as Egypt, Jordan, Tunisia, and Lebanon, were hit by the secondary effects of the crisis via reduced trade, remittances, and foreign direct investment. In any case, for all MENA countries, recovery will depend on their capacity to develop new markets, and fiscal prudence will be needed. The recent political changes in the region give hope that governance in the region will be more democratic, transparent, and efficient in the long term. However, in the short term, the transition will add some fiscal burden in most countries.

While the impact of the financial crisis on official unemployment rates has been negligible, participation rates in the labor force, which prior to the crisis were already low compared to other regions, have declined (WB,2010). However, increased unemployment rates in the U.S. and in the EU are also affecting migrant workers there, potentially impacting workers from MENA.
1.1 Higher Education and economic and social returns

The private monetary and non-monetary benefits to HE, together with the positive externalities or social returns to education, have a combined effect that ultimately contributes to economic growth. One critical element is the evidence of higher earnings obtained through HE, based on calculations of wage premiums for university graduates.

The Internal Rate of Return (IRR), a standard measure of the profitability of investing in HE, measures cost and benefits, taking into account direct costs of HE (fees and living expenses), opportunity costs (time it takes to complete degree, and income foregone during this period at the rate of a secondary school graduate salary), the premium wage for a university degree, a higher probability of being employed throughout an individual’s work lifecycle, and a pension premium. Private IRR for OECD countries calculated by Boarini and Strauss (2007) (for tertiary education in general, with no distinction between types of programs or the period for which the degree was earned) showed that in 2001, IRRs ranged from 4 to 14 percent for the twenty-one countries in the analysis. The average IRR was 8.5 percent, lower than previous OECD estimates. According to Santiago et al (OECD, 2008), low average returns were found in countries where there were below average net labor market wage premia, despite low direct and opportunity costs.

An analysis of private returns to HE in MENA countries for a similar period shows that they are close to the OECD average, but well below countries in LAC, as shown in figure 1.1. Although a more recent analysis of rates of return is not available, taking into account the difficulties that university graduates in the MENA region are now facing regarding employment opportunities, IRRs are likely to be even lower.

Figure 1.1 Private rates of return to HE (various years)

![Figure 1.1 Private rates of return to HE (various years)](source: Carnoy 2006)

1.2 Higher Education and employment in MENA

Although unemployment has increased worldwide as a consequence of the 2008-2009 financial and economic crisis, when tertiary education graduates from MENA are compared with those in OECD countries, persistently high unemployment rates for the past decade are observed; in countries like Tunisia, the rate has dramatically increased in the last ten years (see figure 1.2).
1.3 Unemployment for young people in MENA

Many MENA countries, especially Arab Mediterranean countries, face important and overlapping challenges. Youth unemployment rates in MENA (21 percent in the Middle East and 25 percent in North Africa) are higher than in any other region in the world. Young women and new educated entrants in the labor market are disproportionately unemployed. Moreover, young entrants to the labor market are more educated than ever before, but are unable to capitalize on the time and resources invested in their education because of a lack of good quality jobs in the respective labor markets.
To cope with scarce formal jobs, young, educated workers are opting to work in the informal sector and/or withdraw from the labor force. It is worth noting that acquiring informal jobs is a way for young, educated university graduates to enter the labor market, gain experience, and eventually move into formal employment. In practice, however, there is little mobility between the formal and the informal sectors. Having to rely on informal sector jobs constitutes an important loss of human capital for young entrants. Returns to education (even among those with university education) tend to be very low in the informal sector. Informal jobs are generally low-wage, which suggests low levels of productivity compared to the formal sector. In reality, net hourly wages among informal workers in the private sector are quite low (figure 1.5).

**Figure 1.5 Returns to education per years attained (Egypt 2006)**

![Graph showing returns to education per years attained (Egypt 2006)]


1.4 Main constraints preventing new graduates from getting jobs

*(a) Investments in the private sector remain low and capital intensive.* Despite great improvements in recent years, private investment remains low in MENA (see figure 1.4). Due to high energy subsidies and negative real interest rates, most private investments in MENA focus on capital intensive activities. According to ICA surveys, corruption, unfair competition, and macro-economic uncertainty are important barriers to greater private investment. A recent World Bank regional report (World Bank, 2009) identified the issues of arbitrariness and unequal implementation of the “rules of the game” as the core problems constraining private sector development.

While progress in reforming the rules varies among countries, the region as a whole suffers from discretionary implementation of policies, and from lack of government credibility to change a deeply rooted status quo of privileges and unequal treatment of investors. Not a single country in MENA exhibits the kind of dynamism and economic transformation witnessed in Malaysia, China, the Republic of Korea, Poland, Turkey, and other fast-growing economies. Export diversification is also insufficient. The best MENA performers export around 1,500 goods, most of which are low in technological content, compared to close to 4,000 goods in countries like Poland, Malaysia, and Turkey. The technological content of these exports is about three times lower in non-oil MENA countries than in countries in East Asia or Eastern Europe. Also, firms are less productive than in comparative countries.
(b) Skills are mismatched. Results from enterprise surveys indicate that firms identify worker skills and education among their top five constraints to business in the region, especially in Arab Mediterranean countries (AMCs) (see figure 1.6). Employers not only express their dissatisfaction with deficiencies in relevant experience and technical skills but also with soft skills such as personality traits, social graces, interpersonal skills, language, and personal habits. A large share of new HE graduates major in humanities and social sciences. This pattern of enrollment is suited for absorbing university graduates in civil service jobs in the public sector, but appears ill-suited to meet the demands of the recent private sector expansion in the manufacturing and service sectors. Furthermore, despite important efforts in recent years to improve the quality of education systems, they remain largely fragmented and the effect of programs on labor market outcomes of graduates remains unassessed for the most part.

Figure 1.6 Share of firms indicating labor skill level as a major constraint to business creation

(c) The public sector still distorts incentives. In many MENA countries, the civil service remains large for the level of development. Despite the fact that the employment growth of the public sector has slowed dramatically in recent years, public sector employment still accounts for a large share of all formal sector employment in many countries in North Africa. Since public sector jobs are still associated with relatively generous medical and retirement benefits, relatively short work hours, and transportation benefits, many educated individuals (mainly women) still queue for public sector jobs. This phenomenon undermines entrepreneurship among young educated workers and contributes to long unemployment spells.

(d) Labor regulation remains rigid and labor taxes high. Firing regulations in MENA remain quite strict and firing costs remain high. While the termination of workers due to redundancy is legally authorized in all MENA countries, most countries have complex regulations that require notification, justification, and approval for dismissals. In some countries, employers are even required to comply with stipulated obligations to reassign and/or retrain workers after termination. Furthermore, firing costs involving notice requirements, severance payments, and penalties due when terminating a redundant worker are rather high in most countries in the region.

Protective firing regulations are partially explained by the lack of unemployment insurance schemes in most MENA countries. One indicator generally used to compare firing costs is the “Redundancy Cost Indicator” (RCI). The indicator measures the cost of advance notice requirements, severance payments, and penalties due when terminating a redundant worker, expressed in weeks of salary.
The RCI in MENA countries accounts for fifty weeks of salary on average, versus twenty-eight in Europe and Central Asia (ECA), and twenty-seven among OECD countries.

**Figure 1.7 Redundancy Cost Indicator (in weeks of salary)**

![Redundancy Cost Indicator](chart)

*Source: Angel-Urdinola and Kuddo 2010.*

(e) **Innovation and investments in R&D are needed to break the low productivity cycle.** In all knowledge-based economies, competition and strong firm turnover are at the core of the innovation process. Moving up the production ladder towards more knowledge-intensive activities in MENA requires improvements in the investment climate that favor innovation-based competition and business entry and exit. To achieve this there is a need to: (i) promote linkages between HE and the private sector; (ii) review governance and financing of HE to promote linkages with private sector firms and increase public-private financing for research; and (ii) design mechanisms (such as technology incubators) to promote the “third mission” of HE organizations and increase participation of students in R&D. Lastly, MENA countries need to capitalize on diasporas abroad by introducing wider measures to encourage the engagement of high-skilled diasporas in research and innovation projects in academic institutions and firms. It is also important to develop strategies to improve the quality and relevance of tertiary education institutions and introduce entrepreneurship skills and business training in education curricula across specializations that can foster innovative thinking and creativity.

### 1.5 Higher Education and productivity

HE plays a critical role in providing the basis for the range of skills needed for a productive workforce. HE graduates should be able to enter the workforce with cognitive, behavioral, and social skills that allow them to bring advanced knowledge to solve complex problems, promote new ideas, and engage in diverse cultural environments. How well are MENA countries prepared to move up the value-added chain?

Using broad indicators to benchmark MENA countries against countries such as Sweden, Chile, and Malaysia to see how well prepared they are to participate in a knowledge-based economy, it is clear that large gaps exist. Figure 1.8 presents four indicators that measure: the economic incentive regime; the capacity to develop innovation systems; the performance of the education systems; and the information infrastructure. In all MENA countries for which information was available, all four indicators are below those of comparator countries.

Without a solid capacity to innovate and produce quality services and products, countries in the region will struggle to become more productive and develop more knowledge-based products and
services. This will have consequences for overall economic growth, and demand for high-skill jobs will not increase.

![Knowledge Economy Index in MENA](image)

**Figure 1.8 Knowledge Economy Index in MENA**

A recent analysis of demand for skills in East Asia (World Bank, 2011) measured wage premiums for workers, taking into account their education level, and showed that tertiary education premiums have been sector-specific, increasing in services, decreasing in agriculture, and flat in manufacturing. Likewise, it was observed that technologically intensive firms, and to some extent export-oriented firms, demand greater numbers of tertiary educated graduates. This observation supports the already well-documented interaction between technological development and tertiary education.

The association between foreign direct investment, technology, and HE is critical to develop growth and productivity. Most countries in MENA need to produce higher value-added goods and services, and to do so must develop their technological capacity. HE can contribute to increased productivity; as has been the case in East Asia, to absorb technology through foreign firms, a critical mass of local high skill level workers is necessary. However, for this to happen, HE systems need to teach the relevant skills. Furthermore, experience from fast growing economies has shown that developing local technological capacities requires a steady stock of scientists and engineers involved in assimilating and adapting foreign technology.

### 1.6 How fit are Higher Education systems to meet economic and social demands in MENA?

This section takes a broad look at the results HE systems are obtaining in MENA. Expansion, access, quality, outcomes, and labor market insertion are analyzed for countries in the region, and are compared with OECD and fast growing countries.

#### 1.6.1 How well are countries expanding access?

Although countries in the MENA region have done reasonably well expanding access to HE compared to OECD countries, there is still a gap (see figure 1.9). The proportion of the population aged at least
twenty-five years with a tertiary degree is as high as 20 percent in countries like Ireland but is below 10 percent, and in some cases below 5 percent, for MENA countries.

**Figure 1.9 Proportion of the population (25+ years) with a tertiary degree**

![Figure 1.9 Proportion of the population (25+ years) with a tertiary degree](image)

*Source: Kosaraju and Zaafarane 2011.*

Enrollment trends in the past ten years have increased steadily. However, the majority of students are enrolled in social sciences and humanities. Compared to fast growing economies and highly developed countries such as the U.S. and Norway, there are important gaps in the sectors where enrollments are needed to make more substantive contributions to economic development. Likewise, the vast majority of MENA enrollments are in undergraduate programs. The experience of Japan, Korea, and Taiwan suggests that if a country is to assimilate technology, one-third or more of its university graduates need to have studied science and engineering at the graduate level (World Bank, 2011). Overall, MENA countries are far from this goal, with only 8 percent of students enrolled in engineering.
Participation of women in HE has increased in all countries (see figure 1.13), and especially in the GCC countries, where 62 percent of enrolled students are female. This is a significant achievement, not only for the key role that women’s education has in terms of contribution to economic growth, but also for women’s contribution to social development as a whole. However, while women have increased access to HE, this has not resulted in higher employability. In an analysis done in Tunisia (Jaramillo et al, 2009), where women mostly enroll in four year programs, it was observed that they tend to take longer than men to find a job. Moreover, if they attend engineering programs of five or more years, their chances of finding a job are no different than those of women who graduate from two year engineering programs.
So increasing access, although an important achievement, is not enough; the type and quality of services are equally important. Key challenges still ahead for MENA countries include modifying the type of programs offered and developing new programs to respond to emerging economic and social needs. Graduate programs are also important, as countries in MENA start building their own research capacities. Each country will need to review its enrollment targets, with a careful analysis of sectors, types, and levels of programs to be offered to respond best to its economic and social needs.

One important element to consider is the demand for technical skills. The East Asia report (World Bank, 2011) documents that in Indonesia, the Philippines, and Vietnam, firms emphasized the need for practical knowledge. Technical and Vocational (TVET) graduates in Mongolia, Indonesia, and Thailand are obtaining significant premium wages. In Tunisia, as in Indonesia, the insertion rate of TVET graduates is higher than that of university graduates. These are important observations as countries consider how to balance enrollments between technical, professional, and academic programs to meet labor market demands.

1.7 What outcomes are Higher Education systems producing?

To answer this complex question, several indicators are examined. Learning outcomes in secondary schools provide the basis for cognitive skills to be developed through HE. Program of International Student Assessment (PISA) results for the few countries in the region that have participated show that cognitive skills of high order are quite low. This is critical, as a large proportion of secondary school graduates who enter HE institutions do so with already low levels of cognitive skills.
The completion rate in four year programs provides another indicator. For the countries in MENA for which information was available, completion rates increased between 2000 and 2005 in Jordan and Lebanon, and were higher than in countries like Malaysia, Chile, and Mexico, but were much lower than in Finland, Sweden, Denmark, and the Netherlands (see figure 1.16).

In the absence of student learning outcomes in tertiary education, the number of scientific citations per 100,000 inhabitants is used as a proxy for intellectual contribution to the world body of knowledge. In this regard, the contribution of MENA, as in other developing countries like Malaysia, Chile, and Colombia, is very limited compared to OECD countries (see figure 1.17).
Perhaps the most striking indicator is the disproportionately high proportion of tertiary graduates unemployed in MENA (recall figure 1.2). This is a growing concern; in Egypt, e.g., 27 percent of unemployed people in 2006 were university graduates, compared to 9 percent in 2001. Although university graduates still have better choices than secondary school graduates (62 percent of whom were unemployed in 2006), their unemployment rate has increased dramatically in the last seven years.

1.8 Conclusions

Countries in MENA need to make efforts to move towards more value-added, knowledge-intensive activities. This requires improvements in the investment climate to favor more private sector and technology-driven foreign investment. The cycle of high HE enrollment in humanities and social sciences, disciplines more suited for civil service jobs, needs to be broken. As the private sector expands and the manufacturing and service sectors grow, tertiary education institutions need to be ready to produce graduates with the skills required to meet these expansion goals. Tertiary education programs need to be adjusted to develop cognitive, behavioral, social, and technical skills aligned with the rapid changes of globalization. These are important demands of young people in Arab countries and governments need to address them in systematic ways. The following chapters provide some policy options to move in this direction.