

Working paper on Matching Education Outputs With Labor Market Needs

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Matching Education Outputs with Labor Market Needs¹

Abstract: Equipping the workforce with job-relevant skills is a key priority and challenge in many economies across the world. The Middle East and North Africa (MENA) region has a large share of untapped human resources and yet at the same time, more than one-third of employers in MENA identify skill shortages as a major constraint to business operation and firm growth. Though MENA countries sought to rapidly expand access to education, particularly to higher education, the quality of education in MENA is low by international standards, with too many students not learning in school. In addition, the public sector continues to be the main client of MENA educational and training systems and thus the main shaper of students' choices and expectations. There is a clear need for systems, institutions, and policies to be put in place in MENA that aim to promote the development of an appropriately skilled workforce. A range of – in many cases, tried and tested policy options is available for choice by policymakers depending on the individual country context.

Keywords: *Education, workforce, MENA, skill shortages, public sector, employment*

DISCLAIMER:

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¹ This paper draws heavily on the recent report by the World Bank (published in 2013) entitled *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*.

Executive Summary

Equipping the workforce with job-relevant skills is a key priority and challenge in many economies across the world. The Middle East and North Africa (MENA) region has a large share of untapped human resources and yet at the same time, more than one-third of employers in MENA identify skill shortages as a major constraint to business operation and firm growth. Workforce development (WfD) has therefore become a topic of great interest for individuals, employers, and society as a whole.

Following independence, most MENA countries sought to rapidly expand access to education, particularly to higher education. However, the quality of education in MENA is low by international standards, with too many students not learning in school.

Arguably, nowhere are problems of quality and relevance of education more severe than in the technical and vocational education and training (TVET) system in MENA – the part of the education system that is meant to be most immediately directed at ensuring employability.

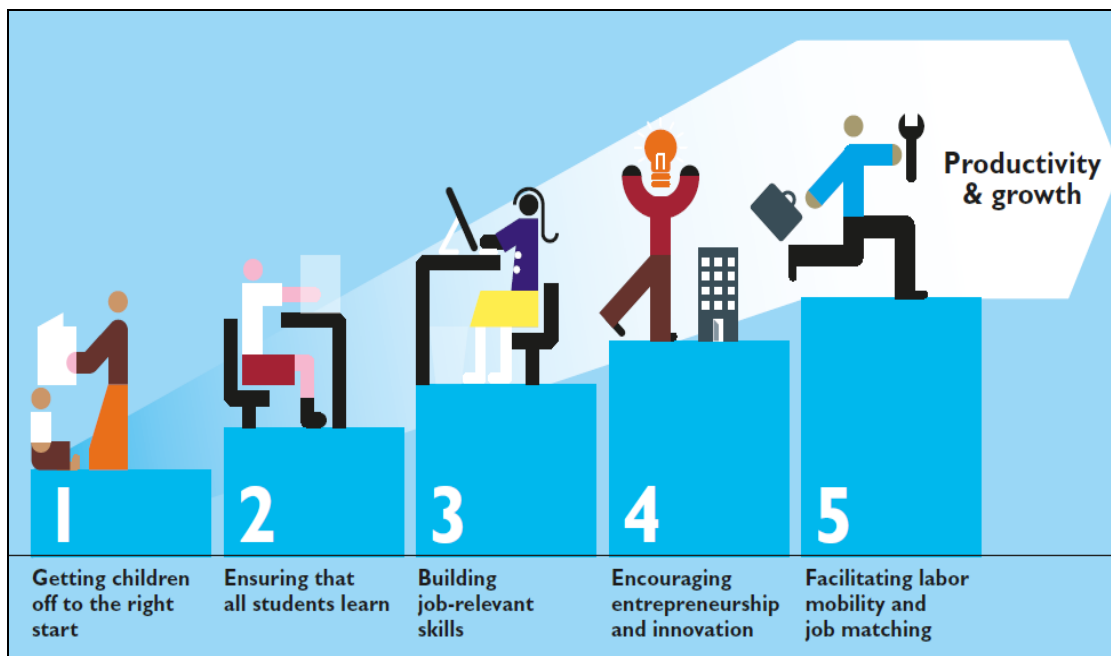
In addition, the public sector continues to be the main client of MENA educational and trainings systems and thus the main shaper of students' choices and expectations. As a consequence, there is a dramatic lack of focus on the sciences, which directly impacts research and development, innovation, and exports.

Since the education and training system follows a logic of selection, whereby students are awarded based on achievement in school-leaving examinations, rather than a logic of learning, which rewards the acquisition of skills and competencies, formal credentials have limited value and signaling capacity, hiring practices are not meritocratic and other factors – including social networks and family connections – have an important influence on hiring.

Given this, there is a clear need for systems, institutions, and policies to be put in place in MENA that aim to promote the development of an appropriately-skilled workforce. An instrument like the World Bank's WfD Assessment tool provides a baseline for understanding the current status of the WfD system in the Region, as well as a basis for discussing ideas on how best to strengthen it in the coming years. A range of – in many cases, tried and tested – policy options is available for choice by policymakers depending on the individual country context.

1. **Workforce development (WfD) has become a topic of great interest for individuals, employers, and society as a whole.** Consistent with the need to match skills supply with demand, WfD can be defined as education and training efforts that enable individuals to acquire the knowledge, practical skills, and attitudes for employment and improved performance on the job, while also providing employers with effective means to communicate and meet their skills demand. Of course, job-relevant skills are acquired throughout the education cycle, and include both hard skills (job-related or technical) and soft skills (such as creativity, the ability to communicate clearly, and problem-solving and interpersonal skills). As Figure 1 shows, the Skills Towards Employment and Productivity (STEP) framework stresses the importance of a sequenced combination of education, training, and labor market activities in order to acquire the skills needed for productivity and economic growth. This sequence starts with early childhood education through primary and secondary levels, followed by post-secondary as well as apprenticeships and on-the-job training. For present purposes, the focus is on those parts of the education and training system explicitly seeking to equip people with skills to get a job and earn a living in the near future (i.e. Step 3 in Figure 1).

Figure 1: The Skills Towards Employment and Productivity (STEP) framework shows that skills needed for productivity and economic growth require a sequenced combination of education, training, and labor market activities

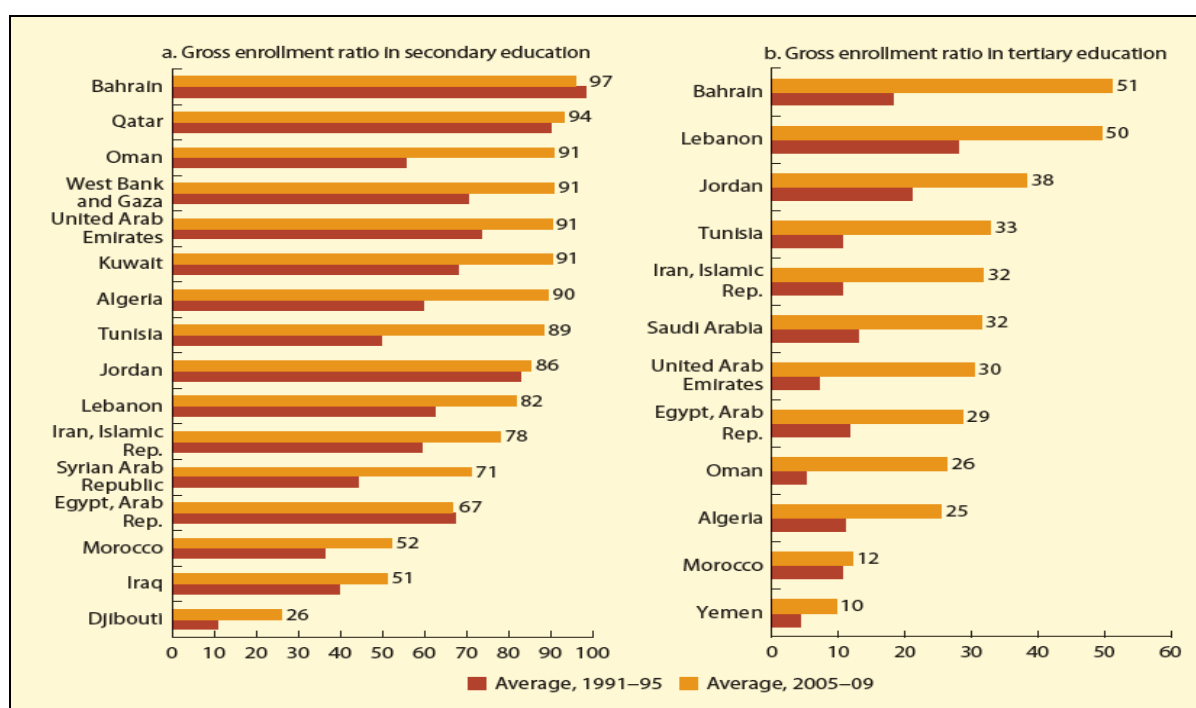


Source: World Bank. 2010. *Stepping Up Skills for More Jobs and Higher Productivity*, Figure 1, page 2.

2. **Following independence, most Middle East and North Africa (MENA) countries sought to rapidly expand access to education, particularly to higher education.** As a result, impressive progress has been made in enrollment and completion rates in both secondary and tertiary education (see Figure 2). Enrollment in secondary schooling increased almost threefold between 1970 and the mid-2000s, and the increase was nearly fivefold in higher education. This process brought about a broadening of educational opportunities and a narrowing of gender and socioeconomic gaps in access to education.

Figure 3 shows average gross enrollment rates in secondary and tertiary education by region and gender. In MENA, where enrollment in primary education is nearly universal, average enrollment is over 70 percent in secondary school and close to 30 percent in tertiary education for both men and women. Yet the dramatic expansion of post-basic education in MENA is not living up to the expectations of employers, families, and young graduates: many graduates are not getting jobs and many employers claim that young graduates are not well equipped with relevant skills.

Figure 2: Education attainment in secondary and tertiary education in MENA, 1991-2010



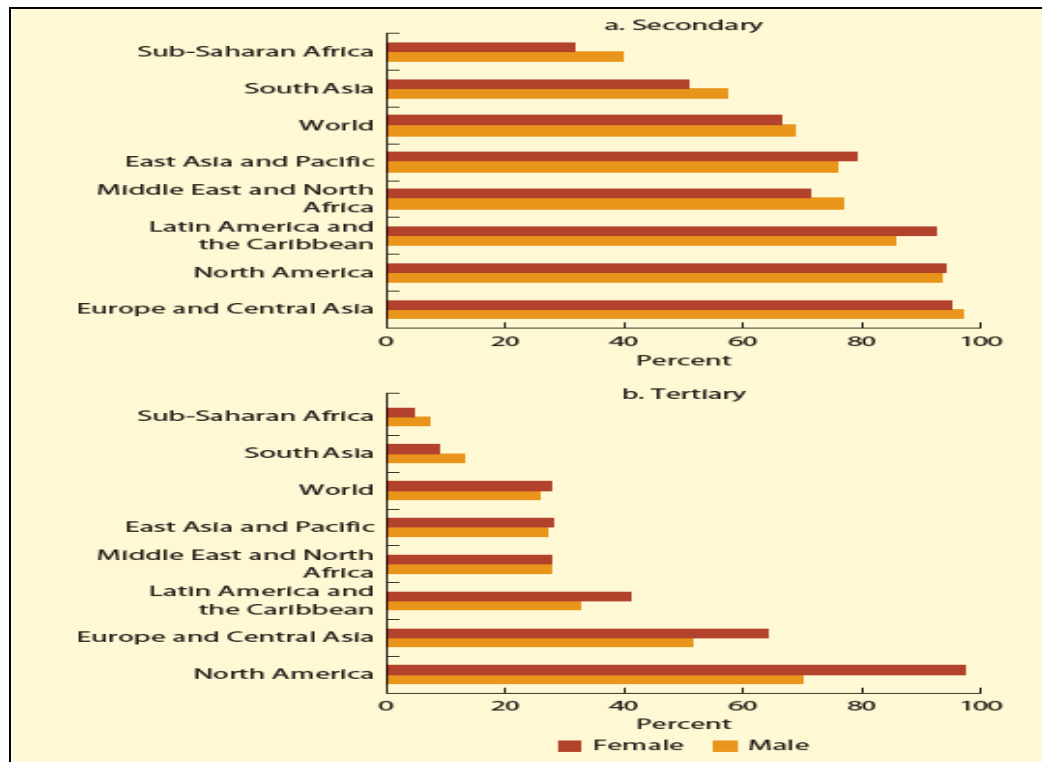
Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 6.1, page 169.

3. The quality of education in MENA is low by international standards, with too many students not learning in school. Indeed, the low quality and relevance of education are widely seen as the most important reason for the failure of MENA's educational and training systems to produce employable graduates, endowed with the knowledge and skills required for the labor market and for life. In absolute terms, MENA countries fail to raise even half their student population to "low" levels of learning.

4. Figure 4 illustrates the region's poor quality of education by comparing eighth graders in MENA at different levels of achievement to an international benchmark². The figure shows that, with the exception of Jordan and Lebanon, more than three-fourths of students in MENA possess only a basic or below basic knowledge of mathematics in 2007, well below the world median. While MENA has a large number of low and very low achievers, it has few high performers at the other end of the scale. There are virtually no students in the "advanced" category, with Jordan and Lebanon in 2007 leading the MENA countries with 10 and 9 percent in the "high" category. More recent data for 2011 suggest a significant improvement in competencies in GCC countries, driven by Qatar and Saudi Arabia, and the addition of the United Arab Emirates. In contrast, non-GCC MENA countries improved only marginally (e.g. Tunisia) or even deteriorated (e.g. Jordan). Overall, these findings indicate that the educational system is not capable of producing a critical mass of students who have the fundamentals to perform well in labor markets.

²TIMSS uses five points on the scale as international benchmarks: "advanced" (>625), "high" (550-624), "intermediate" (477-554), "low" (400-474), and "below low" (<400). According to this definition, "high" means that "students can apply their understanding and knowledge in a variety of relatively complex situations and explain their reasoning," whereas "low" indicates that "students have some basic mathematical knowledge".

Figure 3: Gross enrollment in secondary and tertiary education by gender in selected world regions, 2009



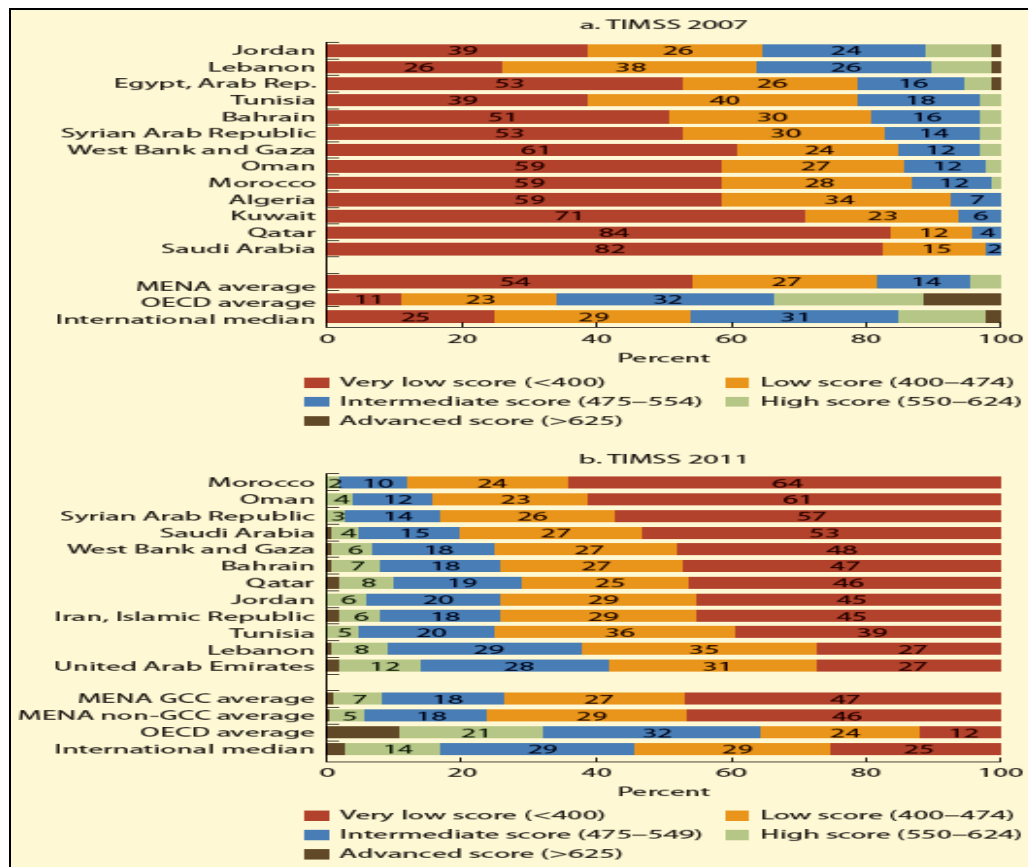
Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 6.2, page 170.

5. Arguably, nowhere are problems of quality and relevance of education more severe than in the technical and vocational education and training (TVET) system in MENA – the part of the education system that is meant to be most immediately directed at ensuring employability. The evidence shows that, over the past decade, student demand for TVET in MENA has declined, while the opposite trend is observed for upper secondary and tertiary education. Overall, student enrollment in technical or vocational secondary education as a proportion of total secondary education varies considerably across MENA countries, from less than 5 percent in Kuwait, Qatar, and the Palestinian Territories to about 20 percent in Egypt (see

Figure 5). Enrollment figures have been decreasing drastically in countries such as Bahrain, Egypt, Jordan, and Syria. Of course, the decreasing demand for TVET is a worldwide phenomenon, but as

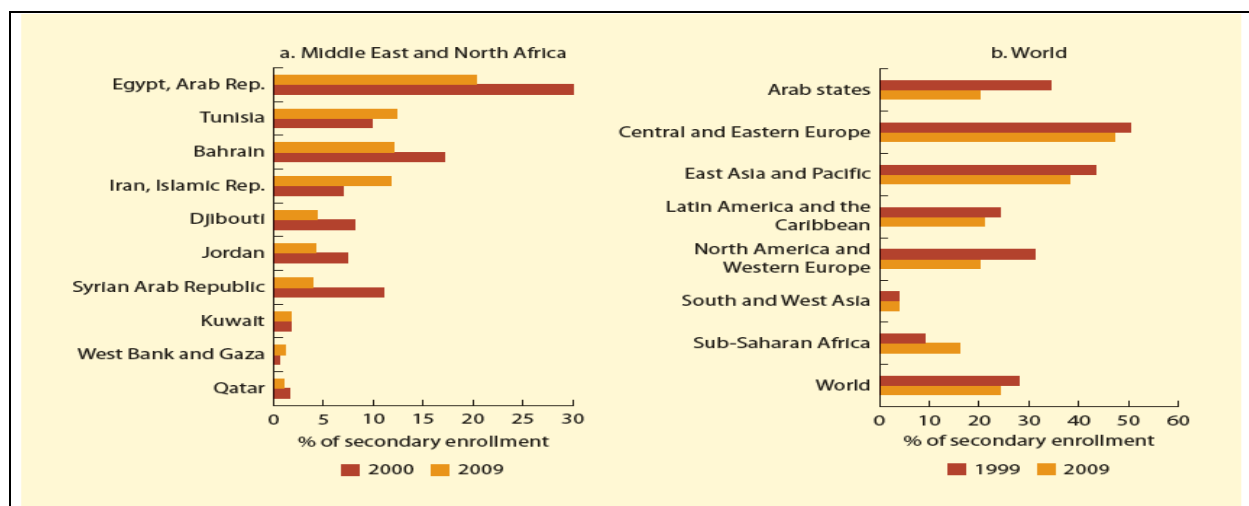
Figure 5 shows, it is particularly dramatic in MENA, where there has been a drop of 14 percentage points from 1999 to 2009, i.e. a decrease from 34 to 20 percent of total secondary education enrollment.

Figure 4: Selected economies in MENA, the region as a whole, and the OECD benchmarked against the international median in mathematics, 2007 and 2011



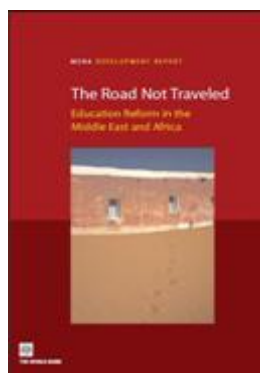
Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 6.4, page 171.

Figure 5: Enrollments in technical and vocational training in MENA and worldwide, 1999, 2000, and 2009



Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 6.13, page 185.

Improving education quality: a recent example of knowledge, partnership, and innovation



A key message of *The Road Not Travelled*, the MENA Flagship Report on Education (World Bank 2008), is that for too many students in the region, schooling has not resulted learning, and it is highly likely that poor quality is to blame.

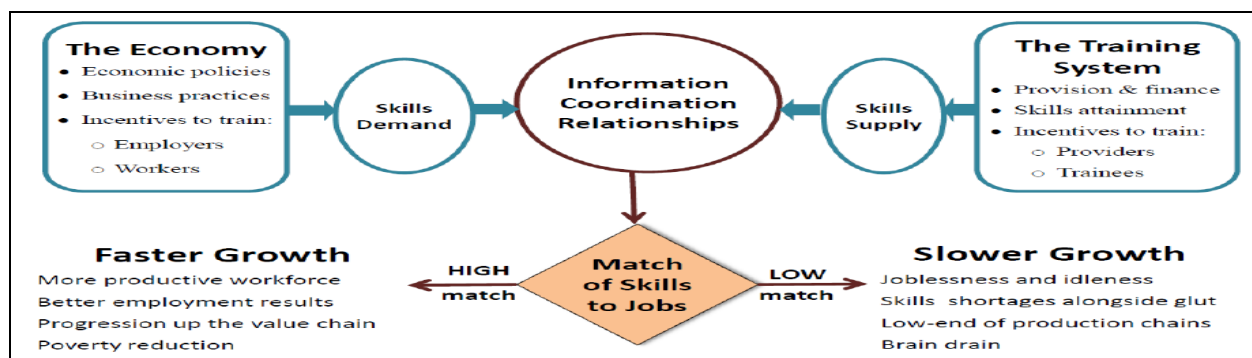
Acknowledging this, the region's 22 Ministers of Education came to together to endorse the ***Doha Declaration on Education Quality*** in November 2010 calling in effect for action on this pressing issue.

As a response, the World Bank helped develop the **Arab Regional Agenda for Improving Education Quality (ARAIEQ)**, a truly regional agenda. ARAIEQ is an umbrella initiative that ties many existing regional initiatives and institutions together with new programs into a coherent and efficient network that strives to improve education quality in the region.



6. **Equipping the workforce with job-relevant skills is, of course, a key priority and challenge in many economies across the world.** Though past investments in education and training mean labor is more educated, mismatches in the supply of skills relative to their demand remain. As Figure 6 shows, economic policies and business practices are important in defining the demand for skills, while the management, financing, and incentives of the education and training system are key for skills supply. If sufficient information flows and effective coordination and accountability mechanisms are in place, the matching of skills supply and demand can be high, leading to faster development through a more productive workforce, better employment results, and reduced poverty, amongst other benefits. Low skills matching, on the other hand, results in slower development through joblessness as well as a recurring paradoxical scenario: graduates are unable to find jobs commensurate with their education and training, while at the same time employers complain of skills shortages and deficiencies.

Figure 6: Conceptual framework for workforce development



Source: Tan, Jee-Peng; Kiong Hock Lee, Alexandria Valerio, and Robert McCough. November 30, 2011. *Workforce Development in Developing Countries: A Framework for Benchmarking* (Under the World Bank's Initiative on System Assessment and Benchmarking for Education Results (SABER)), Figure 1, page 6, Human Development Network, World Bank.

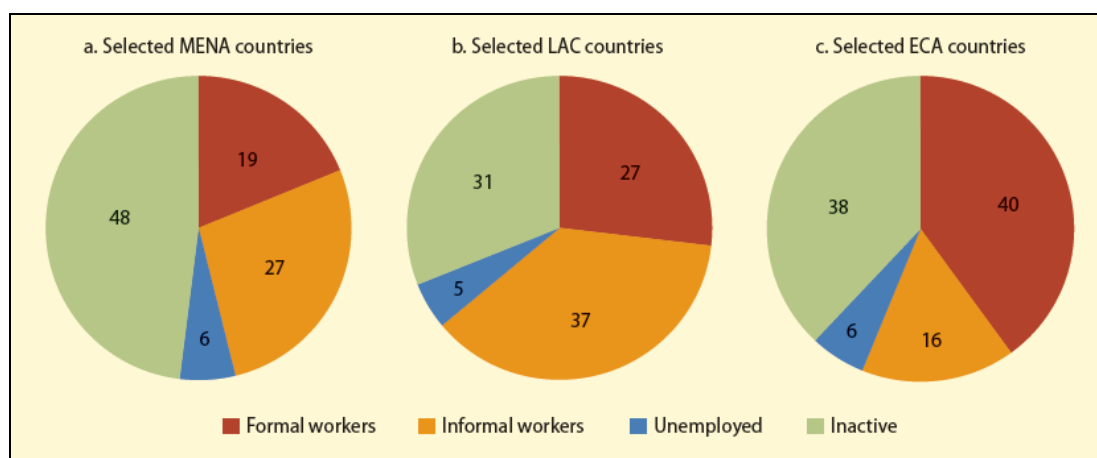
7. **The MENARegion in particular has a large share of untapped human resources.** Unemployment and inactivity are more prevalent in MENA than in other middle-income regions like Eastern Europe and Central Asia, or Latin American and the Caribbean (see

8.

9. **Figure 7)**, as a high proportion of the working-age population, particularly women and youth, is inactive or experiences high unemployment. Three out of four working-age women do not participate in the labor force and constitute 80-90 percent of MENA's inactive population (see Figure 8). The high unemployment is predominantly a youth

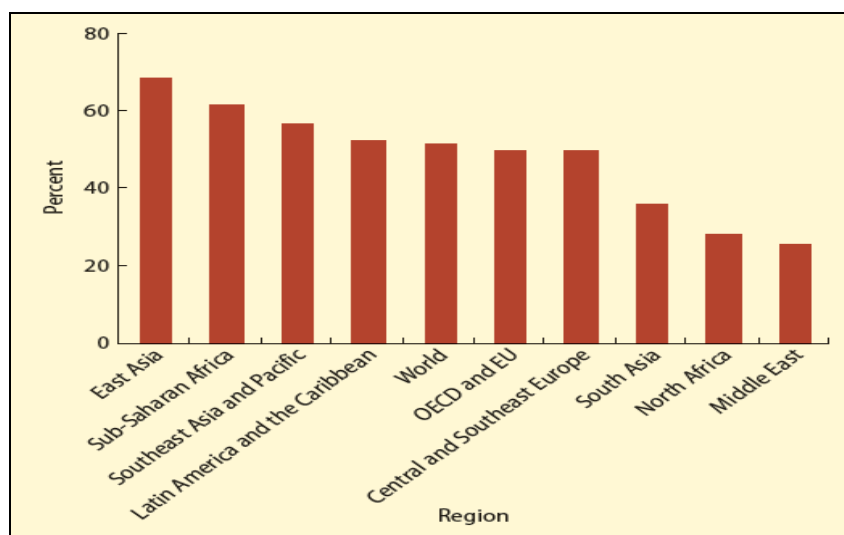
phenomenon, not only resulting from high unemployment rates among the young, but also from the young's demographic weight in the working-age population (see Figure 9). World Bank projections further reveal that while school age populations (0-24 years) in the region will rise steadily by about 2 million to 2015, they will surge by about 10 million between 2015 and 2030, at the height of the youth bulge.

Figure 7: Composition of the working age population, MENA and other regions, 2010



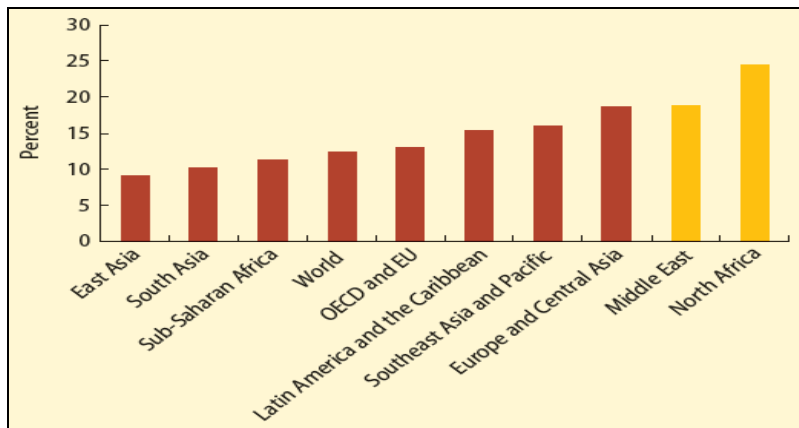
Source: World Bank.2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure O.1, page 2.

Figure 8: Rates of female labor force participation, by region, 2008



Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure O.2, page 2.

Figure 9: Youth unemployment rates by region, ages 15-24, 2008

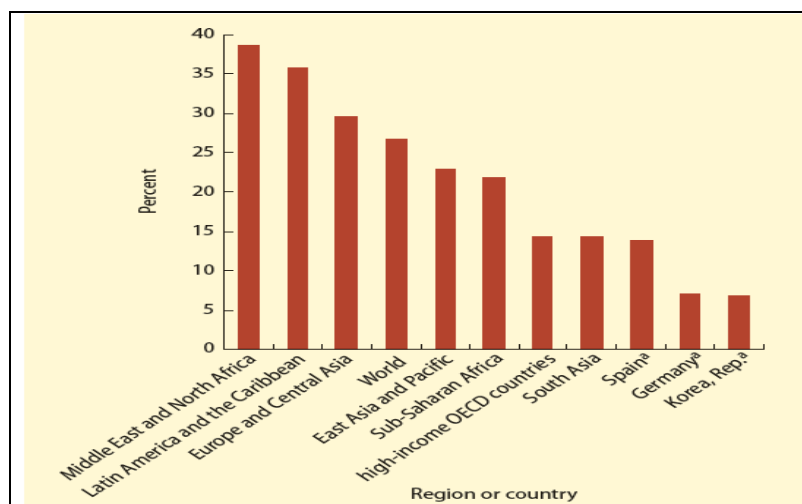


Source: World Bank 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure O.4, page 3.

10. **At the same time, more than one-third of employers in MENA identify skill shortages as a major constraint to business operation and firm growth.** This share is the highest in all developing regions of the world, comparing with 14 percent in South Asia and about 7 percent in Germany and the Republic of Korea, two countries with strong educational and training systems (see

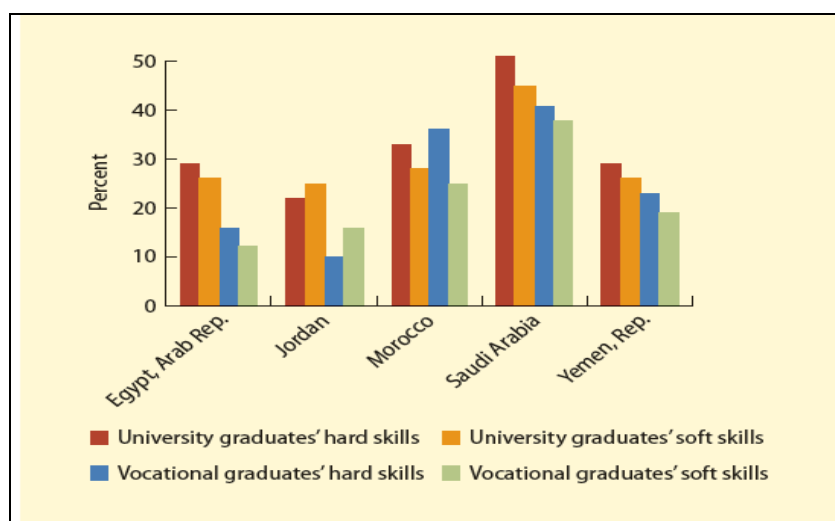
Figure 10). According to surveys of private sector employers, the skills of job applicants have low relevance to their firms' business needs, and thus these employers question the system's ability to produce employable graduates. Two different types of skills are relevant to employers, already mentioned above: hard skills (job-related or technical) and soft skills (such as creativity, the ability to communicate clearly, and problem-solving and interpersonal skills). Employer perceptions of skill mismatches seem to be stronger for technical and vocational education and training (TVET) than for university graduates, and somewhat higher for technical and cognitive (hard) skills than for soft skills (see Figure 11).

Figure 10: Share of firms identifying inadequately educated workforce as a major constraint to growth, by region and selected countries, 2005-11



Source: World Bank.2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 6.7, page 174.

Figure 11: Mismatch in hard and soft skills of newly hired graduates in selected countries in MENA, 2010



Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 6.9, page 175.

Note: Managers agreeing that graduates hired in the past year have the appropriate skills. Numbers show the percentage of the company's graduates hired in the past years who have appropriate skills.

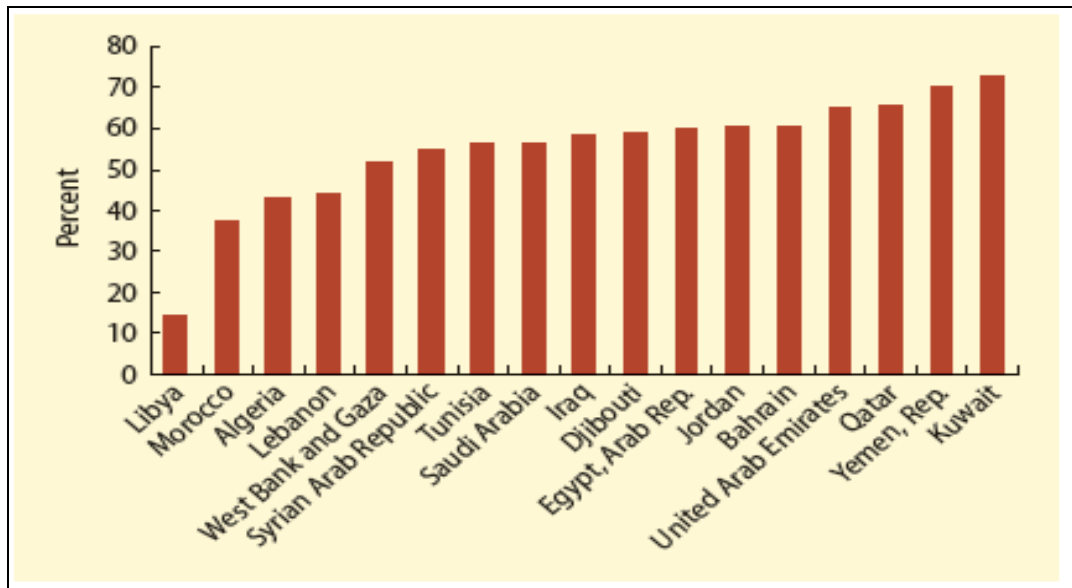
11. In addition, the public sector continues to be the main client of MENA educational and trainings systems and thus the main shaper of students' choices and expectations. In countries like Egypt, the formal private sector – most likely the most productive segment of the economy – is small and employs less than 10 percent of workers. Public sector employment is very large in Jordan, Iraq, Egypt, and less so in Tunisia, constituting 60-80 percent of total employment. Some countries have already undergone structural adjustment (Morocco, for example), and others have considerably slowed public sector hiring (Egypt). The conditions around public sector employment create inefficiencies and inequities: the relatively good salaries, benefits, and job security offered by the public sector, while not reflecting actual productivity, provide strong incentives for new labor market entrants to queue for a job. Thus, the fact that governments continue to play an important role in providing jobs in MENA and that public sector jobs (although more scarce) are still the most coveted by youth (see Figure 12) distorts incentives for skill formation. Students strive to attain degrees that fit with public employment, but those degrees are increasingly irrelevant to the private sector, leaving graduates without the skills demanded by the market. In Tunisia, for example, about half of university graduates opted to study the humanities and social sciences, curricula favored for entering the public sector. A recent tracer study found that almost 50 percent of graduates in the humanities and law had still not found a job 3.5 years after graduation, while more than 80 percent of medical school graduates had found a job by that time (Ministry of Employment and Professional Insertion of Youth and World Bank 2009).

12. The consequence of this lack of focus on the sciences is dramatic. It directly impacts research and development, innovation, and exports.

- In 2007, the Arab world spent an average of 0.3 percent of its total gross domestic product on overall research and development, compared to an average of 2.3 percent by countries within the OECD. In the last 13 years the MENA region filed a total of 3,224 patents, compared to some 1.7 million patents for Japan alone.
- In terms of entrepreneurship, the MENA region also lags behind its global peers. According to recent World Bank data measuring the number of new firms created per 1,000 people, the five MENA countries included in the survey (Algeria, Jordan, Oman, Morocco and Egypt) averaged just 0.9 startups. That figure trails countries such as France (3.08), Finland (3.37), Singapore (7.4) and the United Kingdom (8.05).

- Finally, apart from petroleum exports from the GCC, Arab world countries do poorly by world standards in terms of exports. Ecuador, for instance, a country of 14 million has a comparable GDP to that of Egypt (a country of 82-plus million), yet Ecuador exports 2 ½ more goods and services than Egypt.

Figure 12: Preference for public sector employment among youth ages 15-34 in selected MENA economies, 2010

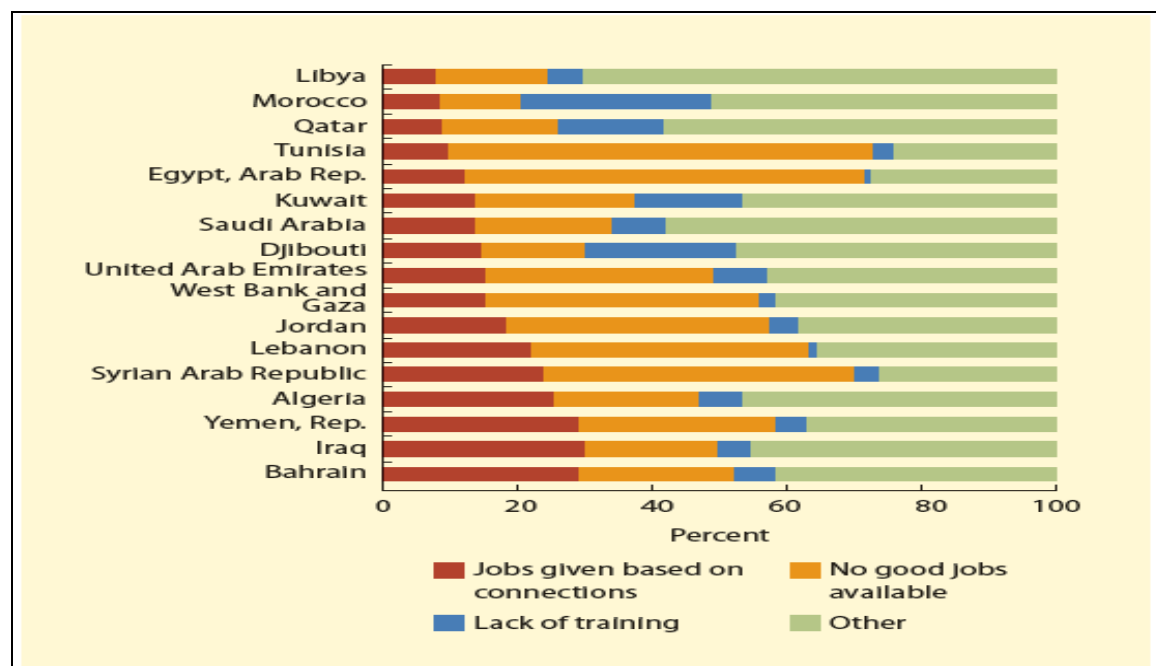


Source: World Bank. 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure O.10, page 8.

13. **Since the education and training system follows a logic of selection, whereby students are awarded based on achievement in school-leaving examinations, rather than a logic of learning, which rewards the acquisition of skills and competencies, formal credentials have limited value and signaling capacity.** From what students, graduates, and employers in MENA countries report, it is clear that educational credentials are widely perceived to play a minor role in employers' hiring decisions. For example, while in Egypt, Tunisia, and, to a lesser extent, Syria, young people identify the lack of good jobs as the main constraint to being hired, a substantial share of youth in MENA thinks that job are given to connected people (see

Figure 13).

Figure 13: Perceptions of youth in selected MENA economies of the constraints to getting a job, 2009



Source: World Bank 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure O.38, page 27.

14. Given the analysis above, there is a clear need for systems, institutions, and policies to be put in place in MENA that aim to promote the development of an appropriately-skilled workforce. The World Bank recently completed a diagnostic of seven MENA countries' workforce development (WfD) policies and institutions (Egypt, Iraq, Jordan, Morocco, the Palestinian Territories, Tunisia, and Yemen) and, in so doing, began to give an outline of the WfD landscape of the MENA as a whole³. The diagnosis is based on a new World Bank tool designed for this purpose, which is part of the World Bank's initiative on Systems Approach for Better Education Results (SABER)⁴. The aim of the SABER initiative is to provide systematic documentation and assessment of the policy and institutional factors that influence the performance of education and training systems. The SABER-WfD tool in particular is based on an analytical framework⁵ that identifies three functional dimensions of WfD policies and institutions:

³For the regional synthesis, see World Bank. 2013. *System Approach for Better Education Results – Workforce Development: Middle East and North Africa Regional Synthesis Report*. Individual country reports for the seven participating countries are also available from the World Bank.

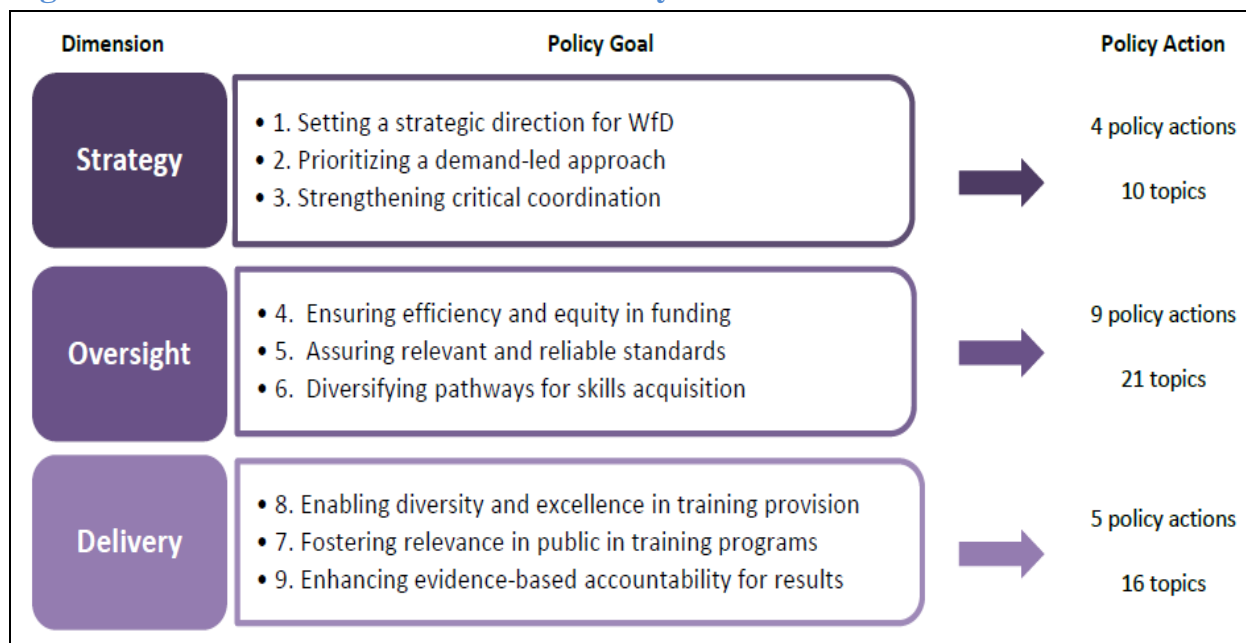
⁴ For details on SABER see <http://www.worldbank.org/education/saber>.

⁵ For an explanation of the SABER-WfD framework, see World Bank. 2013b. *What Matters for Workforce Development: A Framework and Tool for Analysis*. SABER Working Paper Series, Number 6 April 2013.

- (1) *Strategic framework*, which refers to the praxis of advocacy, partnership, and coordination in relation to the objective of aligning WfD in critical areas to priorities for national development;
- (2) *System oversight*, which refers to the arrangements governing funding, quality assurance, and learning pathways that shape the incentives and information signals affecting the choices of individuals, employers, training providers, and other stakeholders; and
- (3) *Service delivery*, which refers to the diversity, organization, and management of training provision, both state and non-state, that deliver results on the ground by enabling individuals to acquire market- and job-relevant skills.

Taken together, these three dimensions allow for systematic analysis of the functioning of a WfD system as a whole. The focus in the SABER-WfD framework is on the institutional structures and practices of public policymaking and what they reveal about capacity in the system to conceptualize, design, coordinate, and implement policies in order to achieve results on the ground. Each dimension is composed of three Policy Goals that correspond to important functional aspects of WfD systems (see Figure 14). Policy Goals are further broken down into discrete Policy Actions and Topics that reveal more detail about the system.

Figure 14: Functional Dimensions and Policy Goals in the SABER-WfD Framework



Source: World Bank. 2013b. *What Matters for Workforce Development: A Framework and Tool for Analysis*. SABER Working Paper Series, Number 6 April 2013, page 33.

15. **The SABER-WfD assessment results summarized below provide a baseline for understanding the current status of the WfD system in the seven countries studied, and so of the entire Region to some degree, as well as a basis for discussing ideas on how best to strengthen it in the coming years.** The scores for the WfD systems of the seven countries of the Region are depicted graphically in خطأ! المرجع الذاتي and numerically (including mean and variance) in

16.

17.

18. **Table 1.** The data gathered by the questionnaire are analyzed and scored according to pre-determined rubrics corresponding to four levels of maturity: latent (score of 1), emerging (score of 2), established (score of 3), and advanced (score of 4). Some interesting patterns are seen, including the fact that Policy Goals 1-3 (all in the Strategic Framework Dimension) show the greatest variance and Policy Goals 1 and 3 further exhibit the highest means amongst all policy goals. By contrast, the remaining Policy Goals 4-9 show markedly lower variation across the seven countries (with the possible exception of Policy Goal 5) and lower means (again with the possible exceptions of Policy Goals 5 and 7). The WfD systems of the countries of the Region, as a group, are therefore further advanced in terms of Strategic Framework than they are on System Oversight and Service Delivery. There is an acknowledgement of the importance of putting into place a new vision for WfD, new strategies, new coordinating mechanisms, all of which translate into a higher overall mean score for the Strategic Framework Dimension. By contrast, MENA is not as far advanced on the System Oversight and Service Delivery attributes of the system.

Figure 15: Summary of scores for seven MENA countries

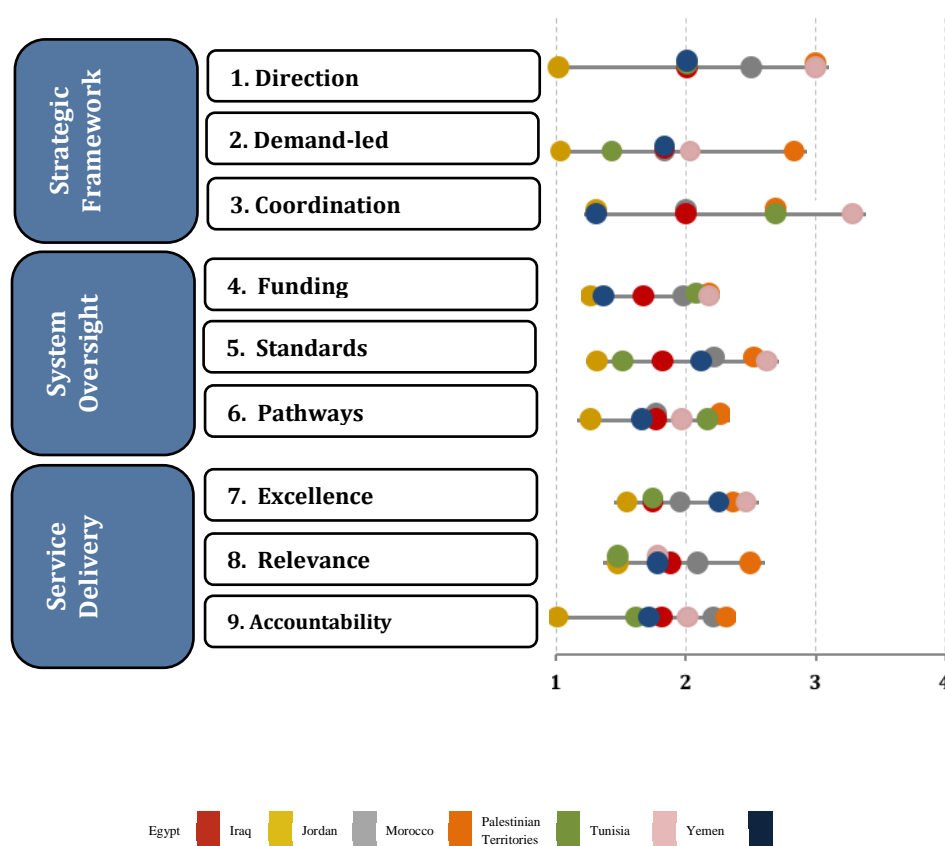


Table 1: Country scores, mean scores, and measure of dispersion

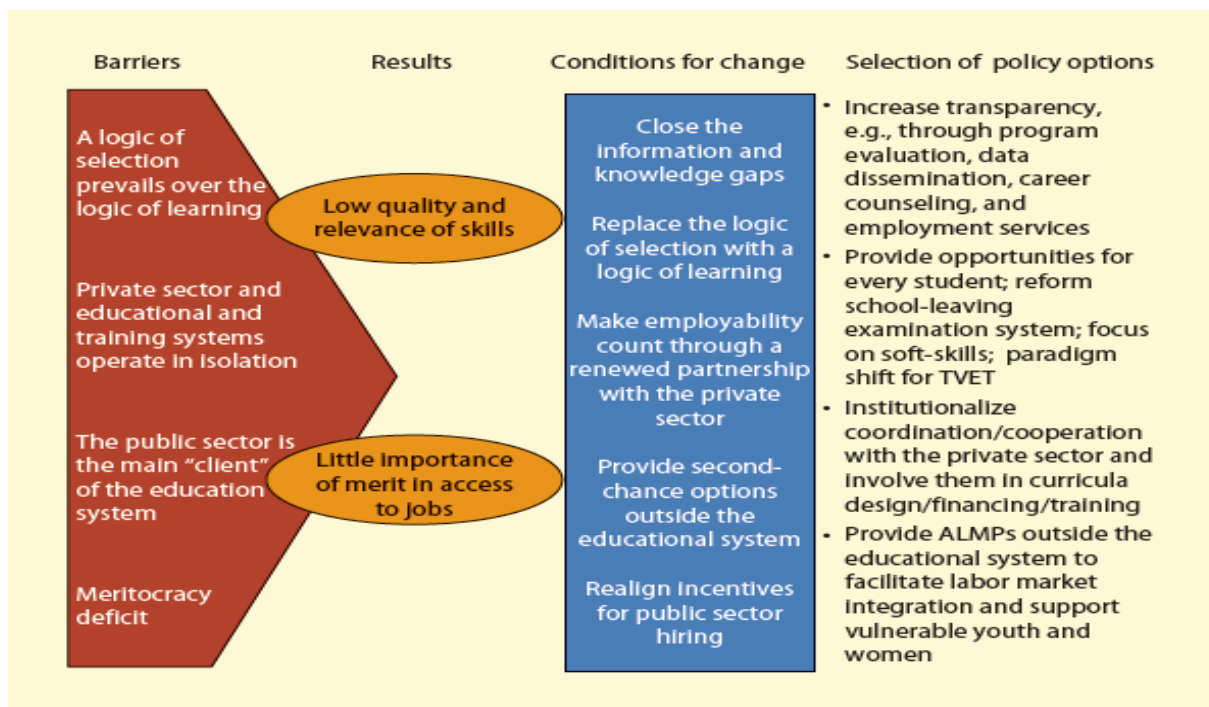
Policy Goal	Egypt	Iraq	Jordan	Morocco	Palestine Territories	Tunisia	Yemen	Variance	Mean
1	2	1	2.5	3	2	3	2	0.49	2.2
2	1.8	1	1.8	2.8	1.4	2	1.8	0.31	1.8
3	2	1.3	2	2.7	2.7	3.3	1.3	0.57	2.2
4	1.7	1.3	2	2.2	2.1	2.2	1.4	0.14	1.8
5	1.8	1.3	2.2	2.5	1.5	2.6	2.1	0.24	2.0
6	1.8	1.3	1.8	2.3	2.2	2	1.7	0.11	1.9
7	1.8	1.6	2	2.4	1.8	2.5	2.3	0.12	2.1
8	1.9	1.5	2.1	2.5	1.5	1.8	1.8	0.12	1.9
9	1.8	1	2.2	2.3	1.6	2	1.7	0.19	1.8

Note: The lowest score is a 1 and the highest a 4.

19. Once the system and institutional constraints are better understood, the required changes to arrive at implementing available policy options can be made. A selection of policy options is provided in

Figure 16, ranging from reforming school-leaving examinations to institutionalizing coordination and cooperation between the education and training system and the private sector. These policy options are tried and tested in many cases, but individual countries will find that some are more relevant for their own context than others, of course.

Figure 16: Linking the barriers to the transition from education to work to long-term policies



Source: World Bank 2013. *Jobs for Shared Prosperity: Time for Action in the Middle East and North Africa*, Figure 9.1, page 252.