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Better Skills
Better Jobs
Better Lives

A STRATEGIC APPROACH TO EDUCATION
AND SKILLS POLICIES FOR THE UNITED ARAB EMIRATES
The United Arab Emirates is identified by PISA (Programme for International Student Assessment) as one of the most rapidly improving education systems in the world. However its students still perform well below the levels expected in advanced economies. This is important because the knowledge and skills of students are a powerful predictor for a country’s wealth and social outcomes in the long run. If the UAE would raise the performance of its lowest-performing 15-year-olds at least to PISA Level 2, which can be considered a minimum for effective participation in industrialised economies, the additional long-term economic output these individuals are likely to generate for the UAE over their working life could be in the order of 2360 billion US$, which exceeds three times the country’s current GDP. Achieving gender parity in PISA outcomes would be equivalent to 660 billion US$. Even if those estimates will always entail considerable uncertainty, they indicate that the likely gains from improving educational outcomes dwarf any conceivable cost of educational reform. Importantly, they also indicate that the current deficits in schooling outcomes in the UAE and other countries are the equivalent of a permanent economic recession.

In short, better skills have become the key to better jobs and better lives. This is an important message for the United Arab Emirates and many of its neighbours: the wealth that lies hidden in the undeveloped skills of their populations is far greater than what they currently reap by extracting wealth from natural resources.

In 21st century economies, knowledge and skills have become the global currency, and it is essential that a high value is placed on education and training so that a world-class education system can be built. This “currency” of knowledge and skills can only be developed through sustained effort and investment in people. Moreover, it depreciates as skills requirements of labour markets evolve and individuals lose the skills they’re not using.

The coexistence of high unemployment and skills shortages in much of the Arab world illustrates that producing more of the same graduates cannot be the answer. To succeed with converting knowledge and skills into the jobs, growth and social outcomes that nations require, countries need a better understanding of which are the skills that drive strong and sustainable economic and social outcomes. This will help countries ensure that the right mix of skills is being taught and learned, and that effective labour markets are using people’s skill potential.

This report situates the United Arab Emirates in the global context, and puts forward international evidence and research, policy lessons and practical examples to guide the country’s future skills policy development. Following the structure of the OECD’s Skills Strategy, Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies, it explores three policy levers in the context of the United Arab Emirates: policy lever 1, developing relevant skills; policy lever 2, activating skills supply; policy lever 3, putting skills to effective use. The report concludes by discussing the way forward for the United Arab Emirates.

There are no easy answers, and effective policies are usually far easier designed than implemented. But addressing skills needs is essential: success will go to those individuals, institutions and countries that can adapt quickly and are open to change. The task for governments is to help their citizens rise to this challenge.

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Executive summary

The importance of a strategic approach to education and skills policies

Skills transform lives and drive economies

In today’s knowledge-based global economy, without adequate investment in skills, people languish on the margins of society, and technological advances do not translate into sustainable economic and social progress. People with poor skills face a much greater risk of experiencing economic disadvantage, and are more likely to be unemployed and dependent on social benefits. Conversely, the higher their skills the better their earnings, their chances of being employed, and of being engaged in society (Figure I.1).

**FIGURE I.1 LIKELIHOOD OF POSITIVE SOCIAL AND ECONOMIC OUTCOMES AMONG HIGHLY LITERATE ADULTS IN THE OECD AREA**

Increased likelihood (odds ratio) of adults scoring at Level 4/5 in literacy reporting high earnings, high levels of trust and political efficacy, good health, participating in volunteer activities and being employed, compared with adults scoring at or below Level 1 in literacy (adjusted)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>International average</th>
</tr>
</thead>
<tbody>
<tr>
<td>High wages</td>
<td>2.8</td>
</tr>
<tr>
<td>High levels of political efficacy</td>
<td>2.6</td>
</tr>
<tr>
<td>Participation in volunteer activities</td>
<td>2.4</td>
</tr>
<tr>
<td>High levels of trust</td>
<td>2.2</td>
</tr>
<tr>
<td>Being employed</td>
<td>2.0</td>
</tr>
<tr>
<td>Good to excellent health</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Note: Odds ratios are adjusted for age, gender, educational attainment and immigrant and language background. High wages are defined as workers hourly earnings that are above the country’s median.


Skills have become the global currency of 21st-century economies. But this “currency” can depreciate as the skills requirements of labour markets, especially of emerging economies such as the United Arab Emirates (UAE), evolve. Individuals also lose the skills they do not use, and for skills to retain their value; they must be continuously developed throughout life. Getting the best return on investment in skills requires the ability to assess the quality and quantity of the skills available in the population, determine and anticipate the skills required in the labour market, and develop and use those skills effectively in better jobs that lead to better lives. Working towards achieving this is everyone’s business: governments, employers, employees, parents and students need to establish effective and equitable arrangements as to who pays for what, when and how.
Skills affect people's lives and the well-being of nations in ways that go far beyond what can be measured by labour market earnings or macroeconomic variables. The benefits of skills to an individual's health are potentially great. Skills also relate to civic and social behaviour as they affect civic engagement and business relationships. If individuals are more engaged in civic processes then they are more likely to have trust in institutions, which is vital for the functioning of civil societies and business relationships. Figure I.1 above suggests that even if the causal nature of the relationship between skills and positive social and economic outcomes cannot be firmly established from the data available, adults with low levels of foundation skills have a higher likelihood of reporting poor health and participate much less in community groups and organisations. However, adults with high levels of foundation skills are much more likely to feel that they have a voice that can make a difference in social and political life. These results are consistent across a wide range of countries, confirming that skills have a profound relationship with economic and social outcomes across a wide range of contexts and institutions.

Getting education and skills policies right

The future prosperity of the United Arab Emirates and other countries will depend, to a large extent, on the country’s success in strategically developing and optimally using its skills potential. The country’s vision for future economic development aims to further diminish its dependence on oil revenue and diversify its economy. At the same time, the national policy aim is to increase the proportion of Emirati natives in the labour force and become less dependent on non-native workers and experts. All these objectives require effective and integrated skills policies that address issues including: the kinds of skills needed in an industrial economy, how today’s students and workers prepare themselves for the future labour market, and how to ensure that available skills are used productively. In considering these issues the United Arab Emirates requires a systematic and comprehensive approach to skills policies that can do the following:

- **Strengthen the case for lifelong learning.** By seeing skills as a tool to be honed over an individual’s lifetime, it is important to take a strategic approach that allows countries to assess the impact of different kinds of learning – from early childhood education, through formal schooling, to formal and informal learning later on – with the aim of balancing the allocation of resources to maximise economic and social outcomes.

- **Combine short- and long-term considerations.** Effective skills policies are needed to respond to structural and cyclical challenges, such as rising unemployment when economies contract, or acute skills shortages when sectors boom. Policies should also ensure that longer term strategic planning for the skills needed to foster competitiveness is in place, as well as the support required for structural changes.

- **Foster a whole-of-government approach.** If skills are to be developed over a lifetime, then a broad range of policy fields are implicated, including education, science and technology, employment, economic development, migration and public finance. Aligning policies between these diverse fields helps policy makers to identify policy trade-offs that may be required, avoids the duplication of efforts, and ensures efficiency.

- **Align the perspectives of different levels of government.** With major geographical variations in the supply of and the demand for skills within countries, there is a strong rationale for considering skills policies at the local level. This would help countries to align national aspirations with local needs.

- **Include all relevant stakeholders.** Designing effective skills policies requires more than coordinating different sectors of public administration and aligning different levels of government: a broad range of non-governmental actors, including employers, professional and industry associations and chambers of commerce, education and training institutions, and individuals must also be involved.

Developing and making the best use of a high-quality pool of skills involves three main policy levers: those that improve the quality and quantity of skills; those that activate skills for the labour market; and those that ensure that skills are used effectively (Figure I.2).
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FIGURE I.2 THE OECD SKILLS STRATEGY CONCEPTUAL FRAMEWORK

Policy Lever 1: How to improve the quality and quantity of relevant skills?

Build up the evidence base for effective skills policies

Developing the skills potential of a country is at the heart of skills policies. The stock of skills available in the economy at any given time is a function of the size of the working-age population and the level of their skills. Hence, demographic variables need to be taken into consideration when designing forward-looking skills policies (Figure I.3). The United Arab Emirates has one of the fastest growing populations in the world. Much of this demographic change is due to foreign labour migration, however, the United Arab Emirates’ native population has also experienced steady growth in recent decades. This implies that larger numbers of young people will enter the education system (and labour market) in the near future.

In addition to considering the changes in the size and composition of the population, economic context variables need to be considered in the design of skills policies. In the United Arab Emirates, the most salient economic feature used to be the heavy dependence on the oil sector, but in recent years it has managed to diversify its economy considerably, diminishing the reliance on the oil sector to less than 30%. Further diversification and a general shift towards more sustainable sectors of the economy are envisaged, and as with most countries, the economy is moving towards more knowledge-based sectors. These changes imply a decline in the demand for craft skills and physical labour, and a rise in the demand higher-level skills, such as cognitive and interpersonal skills.
Involve employers in designing and delivering education and training programmes

Government and business need to work together to gather evidence about skills demand, present and future, which can then be used to develop up-to-date curricula and inform education and training systems. Beyond designing relevant education and training programmes, both national and international employers also need to be better engaged in the provision of these programmes. Compared to purely government designed curricula taught exclusively in schools, learning in the workplace offers several advantages: it allows young people to develop “hard” skills on modern equipment, and “soft” skills, such as teamwork, communication and negotiation, through real-world experience. Hands-on workplace training can also help to motivate disengaged youth, who struggle with the academic instruction in schools and are at risk of disengaging from education prematurely, to stay in or re-engage with the education system.

Ensure that education and training programmes are of high quality

Time spent in education does not always directly indicate skills learnt, and the OECD’s Programme for International Student Assessment (PISA) shows that significant numbers of 15-year-olds in many countries do not acquire even a minimum level of skills through compulsory schooling. The United Arab Emirates made considerable progress between the 2009 and 2012 rounds of PISA assessment (Figure 4), however, its students still perform well below the levels expected in advanced economies. The UAE government can help to foster quality in education and training from early education through school and beyond. Teaching must be valued as a profession so that the best candidates are recruited and the most effective teachers are retained. According to the OECD Teaching and Learning International Survey (TALIS), a large majority of lower secondary education teachers in the United Arab Emirates (Abu Dhabi) report feeling “very well prepared” for the content and the pedagogy of the subject(s) they teach. However, schools struggle with high teacher turnover rates, especially among national teachers, and almost 95% of teachers are female meaning that especially young boys may be lacking male role models.
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**FIGURE I.4 TRENDS IN STUDENTS’ SKILLS – PISA 2009 AND PISA 2012 IN THE UAE**

<table>
<thead>
<tr>
<th>Main Score</th>
<th>Mathematics</th>
<th>Reading</th>
<th>Science</th>
</tr>
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<tbody>
<tr>
<td>450</td>
<td>421</td>
<td>431</td>
<td>442</td>
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<tr>
<td>440</td>
<td>434</td>
<td>438</td>
<td>448</td>
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<td>430</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>420</td>
<td>434</td>
<td>438</td>
<td></td>
</tr>
</tbody>
</table>

Source: OECD PISA 2009 and 2012 databases.

**Promote equity by ensuring access to, and success in, quality education for all**

Inequality is deepening in many areas of life, and education and training can help to bridge the divide between rich and poor. Improving equity in skills development is both socially fair and economically efficient, with research having long confirmed that the highest-performing education systems across OECD countries are those that combine quality with equity (Figure 5). Investing in high-quality early childhood education and initial schooling, particularly for children from socio-economically disadvantaged backgrounds, is an efficient strategy to ensure that children start strong in their education careers so that first skills lead to future skills. Later in life, financial support targeted at disadvantaged students and schools can improve the development of skills. A particular equity concern in the United Arab Emirates, is the irregular attendance and dropout among boys, especially Emirati nationals, who often seem to lack motivation to remain in school. This creates problems for the national goal of the “Emiratisation” of the workforce, in particular the private sector where relevant skills are necessary to ensure the employability of young men. Related to this issue is grade repetition, which international evidence suggests is not conducive to educational performance and often precludes the disengagement from education altogether.

**Remove barriers to investing in further learning**

Preparing young people for entry into the labour market with education and training is only one facet of skills development; working-age adults also need to develop their skills so that they can progress in their careers, meet the changing demands of the labour market, and not lose the skills they have already acquired. A wide spectrum of full or part-time adult learning activities needs to be available, such as: work-related employee training, formal education for adults, second-chance courses to obtain a minimum qualification or basic literacy and numeracy skills, language training for immigrants, and labour-market training programmes for jobseekers; as well as learning activities for self-improvement or leisure. The United Arab Emirates is facing the particular challenge of re-engaging adults with very low levels of skills in education, and dropout rates from the Adult Education Centres established to eradicate illiteracy are high. The United Arab Emirates can learn from countries that have developed successful strategies to reach low-skilled adults by combining different modes and purposes of learning, often in non-school environments.
Design policies that encourage students abroad to return after their studies

Knowledge and skills are often acquired outside the national territory, with international student mobility increasing dramatically in recent years. The number of UAE students studying abroad has also been increasing steadily over the last 10 years, reaching around 7000 in 2008, up from around 4000 in 1999. This has been supported by a strong scholarship system. To make this investment pay for the United Arab Emirates, however, it is important to ensure that many of these students eventually return and offer their additional skills to the United Arab Emirates’ economy and society. Creating networks of expatriates and alumni can also have positive effects on technology transfer and investments.

Invest in knowledge exchange and cross-border higher education

While governments tend to think and act primarily in national terms, economic activity is increasingly international. As a consequence, skills policies also need to adopt a global perspective. Co-operation on skills policies between source and destination countries can increase benefits to both, for example, some countries provide training to temporary labour migrants in the host country, and the workers can then take this knowledge back to their home...
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countries when they return. Another approach is to
design policies that encourage cross-border tertiary
education, which can help a country expand its stock
of skills more rapidly than if it had to rely on domestic
resources alone. The United Arab Emirates has already
successfully embarked on this approach by establishing
international university partnerships; for example, the
Emirate of Abu Dhabi has attracted Paris-Sorbonne,
INSEAD and New York University, thus increasing the
quality of its tertiary education offerings in a relatively
short period of time.

Policy Lever 2: How to encourage people to supply
their skills to the labour market?

Identify inactive individuals and
the reasons for their inactivity

People may have skills, but for a variety of reasons may
not be willing or able to supply them to the labour
market. In most countries, a significant number of
individuals are out of the labour force by choice due
to personal circumstances or financial disincentives
to work. Labour force participation rates – the sum
of people in employment and unemployment as a
percentage of the working age population – vary
considerably, ranging from close to 90% in Iceland to
below 60% in Turkey. In the United Arab Emirates,
73% of the adult population aged 15-years and older
is actively engaged in the labour market. Some socio-
demographic groups are more likely to be inactive than
others, notably women and people with disabilities or
chronic health problems, particularly if they are also
low-skilled. Integrating under-represented groups into
the labour force has the potential to greatly increase
the skills base in an economy. Targeting activation
policies efficiently requires identifying inactive
individuals and their reasons for inactivity (Figure I.7).

FIGURE I.6 EMPLOYMENT RATES AMONG ADULTS IN OECD COUNTRIES BY EDUCATIONAL ATTAINMENT (2013)
25-64 year-olds

Countries are ranked in ascending order of the employment rates of 25-64 year-olds with tertiary qualifications.

[Graph showing employment rates among adults in OECD countries by educational attainment (2013)]
Overcome barriers to female labour force participation

In the United Arab Emirates, the female labour force is largely underused, and productivity could be raised by actively including more women in the labour market. Targeted policies can help to dismantle barriers to labour force participation, which for women are often time constraints due to family and care obligations for children and senior family members. In these cases, limited opportunities for part-time work or limited mobility can be an additional barrier to employment. The reasons people choose to work part-time or leave the labour force entirely are often closely related. For example, the main reason 25-39-year-old women cite for choosing to work part-time is their care responsibilities; the same reason is given for this group’s inactivity. This suggests that part-time work, coupled with adequate childcare facilities, can facilitate labour market participation when caring responsibilities prevent full-time employment. However, the inactivity of this group can also be related to cultural norms and traditions prevailing in a country.

Support people with disabilities to be active

For adults with disabilities, it is often the quality of employment that influences participation in the labour market. Improving the general conditions for workers with health problems should therefore be part of joint employer and government strategies, for example by improving workplace safety and being more aware of specific work needs. Given the link between sick leave and incapacity to work, improving prevention and early-intervention measures, while avoiding “medicalisation”, is critical. For employers, effective wage subsidies or other financial incentives that compensate for losses in productivity can make it financially more attractive to retain sick workers or people with disabilities. The United Arab Emirates is aware of the challenge facing people with disabilities in the labour market. In 2006, the Federal Government passed the UAE Disability Act to protect the rights of UAE nationals with special needs. It stipulates that UAE nationals with special needs have the same right to work and occupy public positions. It is important to monitor the extent to which these rules are followed and to make employers and employees aware of their rights and duties.

Tackle unemployment and especially engage young people in the labour market

Temporary exclusion from the labour market due to unemployment implies that available skills are not being used. Unemployment of a long duration can translate into permanent disengagement from the labour market and needs to be tackled as a first step towards ensuring that all skills are activated. The skills of people who have stayed inactive for an extended period of time can atrophy or become obsolete. These people may require retraining or up-skilling to avoid moving from inactivity to unemployment as their skills are not in demand. Targeted vocational training and re-entry programmes can help people who have been outside the labour market due to care obligations or illness. In many countries of the Middle East and North Africa (MENA) region, youth unemployment in particular is a serious issue (Figure I.7). In the United Arab Emirates, youth unemployment is 12%, which although lower than in many other MENA countries, is still a cause for concern.
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Discourage early retirement

In about two-thirds of OECD countries the labour force participation rate among 55-64-year-olds stands at or below 60%, ranging from 85% in Iceland to just 30% in Turkey. In the United Arab Emirates, a 2008 labour force survey recorded senior labour force participation as being relatively high, at 70% for 55-59-year-olds, 50% for 60-64-year-olds and 24% for 65-70-year-olds. The increase of the official retirement age in the United Arab Emirates to 65 years has already contributed to boosting labour force participation of older workers, although some still leave the labour force early. The quality of employment often influences decisions to retire early, and there is evidence that employers’ inability or unwillingness to reduce working hours tends to push workers into retirement by limiting the possibility of a phased transition out of employment. Policies to reduce non-financial barriers to labour force participation may work in tandem with other policies intended to encourage employers to hire and retain workers from some under-represented groups. Some countries have begun to emphasise lifelong learning and targeted training, especially in mid-career, to improve employability later in life and discourage early withdrawal from the labour force.
Policy Lever 3: How to make the best use of the talent pool?

Help employers to make better use of their employees’ skills

- Not all of the skills that people are willing to offer to the labour market are used productively, and there is evidence that in many cases a mismatch exists between an employee’s skills and those required for his or her job. This mismatch, where it affects economic and social outcomes negatively, can be tackled in various ways. In the case of under-skilling, public policies can help to identify workers with low levels of foundation skills and offer an incentive to both employees and employers to invest in skills development so that the worker can meet the requirements of the job. When the skills available are not adequately used, better management practices are needed. For example, employers can grant workers some autonomy to develop their own working methods so that they can use their skills effectively. As workers assume more responsibility for identifying and tackling problems, they are also more likely to “learn by doing”, which can spark innovation.

Provide better information about the skills that are needed and available

Skills mismatch can arise because of a lack of information and transparency in skills systems. The underuse of skills is often related to field-of-study mismatch, whereby individuals work in an area that is unrelated to their field of study, and in which their qualifications or diplomas are not fully valued. The likelihood of field-of-study mismatch varies significantly across occupations, underscoring the importance of up-to-date and quality information on labour market outcomes across fields. In Abu Dhabi, for example, there is a surplus in student enrolment and graduation in some fields, such as humanities, law, administration and sciences, which the labour market does not need, whereas enrolment in the field of medicine is very low, although demand is high (Figure I.8). To raise awareness among UAE nationals of the need to study different disciplines more suited to the needs of the labour market, the government can improve career guidance systems.

FIGURE I.8 HIGHER EDUCATION SPECIALISATION SUPPLY VS. LABOUR MARKET DEMAND

Note: Sciences and Humanities have been separated into two equal disciplines/specializations.

Executive summary

Support efficient recruitment processes

Recruitment processes function smoothly if the relevant information is transparent and available to all. In the UAE labour market, however, personal networks of relatives and other contacts are very important in recruitment and job procurement among UAE locals, and information about job vacancies is most frequently communicated in religious and social gatherings, with many jobs never advertised formally. As a result, jobseekers with the most appropriate experience and qualifications for particular jobs may never find out about the vacancies. To counter these trends, the UAE government can foster the development and dissemination of better information regarding labour market opportunities among students, parents, workers, employers, education providers and policy makers.

Stimulate the creation of more high-skilled and high value-added jobs

A good match between available skills and job tasks is not always positive; for example, people can be matched with their jobs, but at a very low level. Such low-skills equilibria can adversely affect the economic development of a local economy or region, or indeed an entire country. The United Arab Emirates’ economic development strategy aims to achieve a knowledge-based economy. To reach this objective, it will be important, over time, to upgrade poor skills rather than try to match these skills with a job that only requires a low level of skill. To tackle such a situation, policies can also “shape” demand, rather than merely respond to it. By fostering competition in the market for goods and services, policy makers can promote productive economic activities that contribute to stronger economic growth and the creation of more productive and rewarding jobs. While such policies primarily fall into the realm of economic development actors, education institutions focusing on new technologies and innovation can also be involved in developing the skills that will shape the economies of the future.

Supporting research and development (R&D) is another way the government can increase the country’s knowledge base. Investment in research and development is low in the United Arab Emirates by international standards, with current R&D expenditure at 0.01% of GDP compared to 2.6% in the United States, 2.5% in Germany or 3.3% in Japan.

Foster entrepreneurship

Countries can foster the creation of new jobs and increase the demand for skills by encouraging entrepreneurship. Especially in the United Arab Emirates, a country that aims to move away from its dependence on the traditional oil business, fostering the bottom-up development of new business branches can be a highly attractive approach. To be successful, entrepreneurs need to know how to identify opportunities, turn them into successful ventures, and recognise and respond to difficulties and obstacles that may emerge. Teaching entrepreneurship in schools, universities and vocational training institutions can help instil these skills and competences in students. In promoting entrepreneurship, universities themselves need to be entrepreneurial and innovative. In some countries, for example, recruitment and career-development programmes for academic staff in many private and public universities now take into account entrepreneurial attitudes and prior experience, as well as work in mentoring entrepreneurs. Efforts by the UAE government to foster entrepreneurship have already reaped positive results, with the United Arab Emirates now ranked at 22 in the World Bank’s Doing Business report; maintaining its lead in the Arab Region and beating some advanced European and Asian economies (Figure I.9). A great deal could be gained, however, by promoting female entrepreneurship, as the potential of women in business and as entrepreneurs is still largely underused in MENA countries, including the United Arab Emirates.
FIGURE I.9 EASE OF DOING BUSINESS IN SELECTED COUNTRIES

Introduction

This chapter introduces the issues surrounding skills, and explores the various reasons, beyond simply monetary, for them being an important part of any economy. It describes the need for a comprehensive skills strategy in the United Arab Emirates, and highlights the key policy elements as part of this strategy, such as use of scarce resources, lifelong learning, and stakeholder engagement.

The importance of a strategic approach to education and skills policies

SKILLS TRANSFORM LIVES AND DRIVE ECONOMIES

The modern world is a knowledge-based global economy; without adequate investment in skills people languish on the margins of society, and technological advances do not translate into sustainable economic and social progress. People with poor skills face a much greater risk of experiencing economic disadvantage and are more likely to be unemployed and dependent on social benefits. Conversely, the higher their skills the better their earnings, their chances of being employed and of being engaged in society (Figure I.1).

FIGURE I.1 LIKELIHOOD OF POSITIVE SOCIAL AND ECONOMIC OUTCOMES AMONG HIGHLY LITERATE ADULTS IN THE OECD AREA

Increased likelihood (odds ratio) of adults scoring at Level 4/5 in literacy reporting high earnings, high levels of trust and political efficacy, good health, participating in volunteer activities and being employed, compared with adults scoring at or below Level 1 in literacy (adjusted)

Note: Odds ratios are adjusted for age, gender, educational attainment and immigrant and language background. High wages are defined as workers hourly earnings that are above the country’s median.

Skills are at the heart of economic and societal progress today. But their value can depreciate as the skills requirements of labour markets, especially of emerging economies such as the United Arab Emirates, evolve. Individuals may also lose the skills they do not use, and for skills to retain their worth they must be continuously developed and updated throughout life. In order to get the best return on investment in skills, a country needs to assess the quality and quantity of the skills available in the population (Box I.1), determine and anticipate the skills demand in the labour market, and develop mechanisms to effectively match available skills with good quality jobs. Working towards achieving this must be everyone’s responsibility, with the government, employers, employees, parents and students establishing effective and equitable arrangements as to who pays for what, when and how.

Skills affect people’s lives and the well-being of nations in ways that go far beyond what can be measured by labour market earnings or macroeconomic variables. The benefits of skills to an individual's health are potentially great. Skills also relate to civic and social behaviour as they affect civic engagement and business relationships. If individuals are more engaged in civic processes then they are more likely to have trust in institutions, which is vital for the functioning of civil societies and business relationships. Figure I.1 above suggests that even if the causal nature of the relationship between skills and positive social and economic outcomes cannot be firmly established from the data available, adults with low levels of foundation skills have a higher likelihood of reporting poor health and participate much less in community groups and organisations. However, adults with high levels of foundation skills are much more likely to feel that they have a voice that can make a difference in social and political life. These results are consistent across a wide range of countries, confirming that skills have a profound relationship with economic and social outcomes across a wide range of contexts and institutions.

Skills are also key to tackling inequality and promoting social mobility. In most countries with comparable data, income inequality has deepened over the past two decades (Figure I.2). Investing in human capital is the single most effective way of not just promoting growth, but also of distributing its benefits more fairly. And investing in skills is far less costly in the long-term than paying the price of poorer health, lower incomes, unemployment and social exclusion – all of which are closely tied to lower skills.

There is ample evidence that countries can improve how they develop and use the skills available to them. For example, at the height of the economic crisis in 2009, more than 40% of employers in Australia, Japan and Mexico reported difficulties in finding people with the appropriate skills (OECD, 2010b). At the same time, however, unemployment rates were at a record high in many countries, meaning that many people were not using their skills productively.

Employees are often mismatches with the work they do: on average, 30% of workers in European countries (for which data are available) report that they have the skills to cope with more complex tasks at work, while about 13% report that they need more training to meet the demands of their job (Quintini, 2011). The skills of migrants, particularly those skills acquired abroad, also tend to be underused in many countries. In addition, skills are unequally distributed in societies: the OECD’s Programme for International Student Assessment (PISA) shows that in some countries, relatively large proportions of 15-year-olds do not reach even the lowest level of foundation skills, and remain without the minimum considered necessary to succeed in today's societies and economies. At the same time, the data also show that these problems are not unchangeable or intrinsic, and variations across countries and over time indicate that they can be successfully tackled by applying informed and balanced policies (OECD, 2010c).

**TOWARDS A SKILLS STRATEGY FOR THE UNITED ARAB EMIRATES**

The future prosperity of the United Arab Emirates will depend, to a large extent, on the country’s success in strategically developing and optimally using its skills potential. The country’s vision for future economic development aims to further diminish its dependence on oil revenue and diversify its economy. At the same time, the national policy aim is to increase the proportion of Emirati natives in the labour force and become less dependent on non-native workers and experts. All these objectives require effective and integrated skills policies that address issues including: the kinds of skills needed in an industrial economy, how today's students and workers prepare themselves for the future labour market, and how to ensure that available skills are used productively. In considering these issues the United Arab Emirates can explore a systematic and comprehensive approach to skills policies that can do the following:

- **Help to prioritise investment of scarce resources.** It is costly to develop a population’s skills, therefore skills policies need to be designed so that these investments reap the greatest social and economic benefits. All governments face difficult choices when allocating scarce resources and the global crisis has only exacerbated these difficulties. An approach to skills policies that considers how demand for, activation of, and the effective use of skills influence each other, can improve efficiency in spending.

- **Strengthen the case for lifelong learning.** By seeing skills as a tool to be honed over an individual’s lifetime,
Box I.1. Definition and measures of skills as a basis for effective policy making

In today’s world, it is important to shift the focus from traditional proxies of skills, such as years of formal education and training or qualifications/diplomas attained, to a much broader perspective that includes the skills people acquire, use and maintain – and also lose – over a whole lifetime. Skills (or competences, the concepts are used interchangeably in this document) are defined as the bundle of knowledge, attributes and capacities that can be learned and that enable individuals to successfully and consistently perform an activity or task, and can be built upon and extended through learning. People need both hard and soft skills to help them succeed in the labour market, and a range of skills that help them contribute to better social outcomes and build more cohesive and tolerant societies. The sum of all skills available to the economy at a given point in time forms the human capital of a country.

The typical skills proxies used in past have limitations as they do not account for skills that were acquired after formal education or training, or for the loss of skills. The OECD Survey of Adult Skills (OECD, 2013), however, measures adults’ skills directly and assesses key skills (literacy, numeracy, problem solving in technology-rich environments) and the use of skills in the workplace. It also collects information on the antecedents, outcomes and context of skills development and use. Although the United Arab Emirates has not yet participated in the Adult Skills Survey, the data is used in this publication to illustrate important general trends and findings. Direct skills measures for the United Arab Emirates are available from recent rounds of the Programme for International Student Assessment (PISA) which assesses the skills of 15-year-old students. The United Arab Emirates (Abu Dhabi) also participated in the OECD Teaching and Learning International Study (TALIS). Other data used in this study stem from national and other non-OECD sources as referenced.

The figure below illustrates the relationship between traditional proxies for human capital and directly measured skills. It shows how the skills that individuals with similar qualifications have attained vary widely, which underlines that formal qualifications and diplomas cannot be equated with foundation skills (here, literacy skills). This suggests that these types of skills can be acquired from various sources, and that the quality of education systems, as measured by students’ proficiency when they leave formal education, varies. It also suggests that direct measures of skills are a much more reliable basis for policy development than indirect proxies, such as qualifications attained. Over time, it will be beneficial for the United Arab Emirates to develop more direct measures of skills to allow for a more precise evaluation of the country’s skills potential, and help guide skills policy development.

**FIGURE I.2 DISTRIBUTION OF LITERACY PROFICIENCY SCORES AND EDUCATION IN ITALY AND JAPAN**

Mean literacy proficiency and distribution of literacy scores, by educational attainment

![Distribution of Literacy Proficiency Scores and Education in Italy and Japan](image-url)

a strategic approach to skills policies allows countries to assess the relative impact of different institutional and informal settings for skills development; from early childhood education, through formal schooling, to formal and informal learning throughout a lifetime, with the aim of balancing the allocation of resources to maximise outcomes.

■ Foster a whole-of-government approach. If skills are to be developed over a lifetime, then a broad range of policy fields are implicated, including education, science and technology, family, employment, industrial and economic development, migration and integration, social welfare, and public finance. Creating linkages between different policy fields is essential for ensuring efficiency and avoiding duplication of effort. A co-ordinated approach to skills policies allows policy makers to detect policy trade-offs, such as between immigration and labour market integration, or between spending on early education and investing in welfare programmes later on.

■ Combine short- and long-term considerations. Skills policies cover both ad hoc policy responses to emerging or cyclical challenges, such as rapidly rising numbers of unemployed people when economies contract or acute skills shortages when sectors boom; and longer-term strategic planning for how an economy and society should evolve, as well as the structural changes that might be required. A strategic approach can help countries to maintain a long-term vision while becoming more responsive to immediate challenges.

■ Align different levels of government. By considering significant local variations in the demand for and supply of skills within a country, a strategic approach to skills policies integrates national, regional and local dimensions of skills policies.

■ Include all relevant stakeholders. Designing effective skills policies requires more than co-ordinating different sectors of public administration and aligning different levels of government: a broad range of non-governmental actors, including employers, professional and industry associations and chambers of commerce, sector councils, education and training institutions, and individuals must also be involved.

■ Provide a global perspective. Given the growing interdependence among countries’ economies, a global perspective on how the talent pool of skills is developing and deployed is essential.

Recognising both the complexity of skills policies and the potential for peer learning, the OECD has developed a skills strategy that helps countries to identify the strengths and weaknesses of their national skills systems, benchmark them internationally, and develop policies that can transform better skills into better jobs, economic growth and social inclusion. To this end, it addresses three inter-related policy levers (Figure I.3):

■ Developing relevant skills: ensuring that the supply of skills is sufficient in both quantity and quality to meet current and emerging needs is a central goal of skills policies. Supply can be ensured by developing the right mix of skills through education and training, and influencing the flow of skills by attracting and retaining talent. Supply influence as well as respond to demand.

■ Activating skills supply: people may have skills, but for a variety of reasons may decide not to offer them to the labour market. In all countries, many individuals are out of the labour force by choice, because of their personal circumstances or because there are financial disincentives to work. Integrating under-represented groups into the labour force can increase the skills base in an economy. However, this requires identifying inactive individuals, possibly re-training them, ensuring that the benefits system offers them financial incentives to enter or return to the labour market, and removing demand-side barriers to hiring.

■ Putting skills to effective use: investing in skills is just the first step; successful skills policies also need to ensure that available skills are used effectively so that no investment is wasted. Moreover, the match between the skills demanded in a job and the skills of the person doing the job has an impact on further skills development: unused skills tend to atrophy, while new skills are, to a large extent, developed informally, often through work experience.
Introduction

This publication situates the United Arab Emirates in a global context, and puts forward international evidence and research, policy lessons and practical examples to guide the country’s future skills policy development.
REFERENCES

FURTHER READING
Policy Lever 1

Developing Relevant Skills

This chapter explores how the United Arab Emirates can improve the quality and quantity of relevant skills within the country. It highlights the need for building up an evidence base that can be used to inform skills policies, and explores the benefits and requirements of an equitable and efficient education and training system, both for compulsory education, and adult learning and professional development. Finally, this chapter discusses cross-border skills policies and knowledge transfer, the reliance of the United Arab Emirates on migrant workers, and the need to enable UAE students studying abroad to return home and bring their knowledge and skills back into the country.
How to improve the quality and quantity of relevant skills?

Developing the skills potential of a country is at the heart of skills policies. This requires designing curricula and education and training systems that are responsive to the needs of the labour market and society at large, and that are equitable and of good quality. It also involves encouraging and enabling all individuals to participate in learning. Engaging in cross-border skills development and knowledge exchange can help to enhance the skills potential available in the country.

BUILD UP THE EVIDENCE BASE FOR EFFECTIVE SKILLS POLICIES

Consider changes in demography

The stock of skills available in the economy at any given time is a function of the size of the working-age population and the level of their skills. Hence, demographic variables, such as overall population change, aging societies or burgeoning youth populations need to be taken into consideration when designing forward-looking skills policies (Box 1.1).

Box 1.1. Global demographic shifts between 1960 and 2010

Most OECD countries have shown a fall in fertility rates between 1970 and 2008. This fall was particularly pronounced in Mexico (-4.76%) and South Korea (-3.34%). Over a similar period (1960 to 2009) OECD countries also recorded a rise in the proportion of elderly people, which was most pronounced in Japan (17.4%), Italy (11.2%), Greece (10.8%) and Finland (10%).

FIGURE 1.1 CHANGE IN THE ELDERLY POPULATION RATE FROM 1960 TO 2009

All OECD member countries saw a drop in the population of young people between 1960 and 2010. South Korea recorded the largest change (-26.1%) followed by Poland (-19.1%), Canada (-17.24%) and Japan (-17.2%). Among G20 countries, China saw a decline of 20.2% during the same period. Shrinking youth populations in most OECD countries and some emerging economies stand in sharp contrast to the growth of those populations in other regions of the world. For example, more than 60% of Africa’s population is under the age of 25, and this proportion is expected to increase to 75% by 2015. The United Arab Emirates is part of the group of countries experiencing a low negative change of its elderly population (between -0.1 and -4.9%) meaning that during the last fifty years the share of young people in the population has grown slightly.

The United Arab Emirates has one of the fastest growing populations in the world (Table 1.1). Much of this demographic change is due to foreign labour migration: of the 9.5 million UAE inhabitants today, only about 1.5 million are nationals, the remainder are expatriates from various destinations. However, the native population has also experienced steady growth in recent decades, and this combined with inward migration has led to a 75% increase in population between 1995 and 2005; one of the highest growth rates in the world (Saeed Al-Qubaisi, 2012). Even though the rate of population growth has declined since then, it remains high at 3.7% in 2009. This implies that larger numbers of young Emiratis will enter the education system (and labour market) in the near future.

### TABLE 1.1 POPULATION GROWTH OF NATIONALS, BY EMIRATE

<table>
<thead>
<tr>
<th>Emirate</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abu Dhabi</td>
<td>361.636</td>
<td>373.584</td>
<td>385.655</td>
<td>398.148</td>
<td>404.546</td>
</tr>
<tr>
<td>Dubai</td>
<td>144.296</td>
<td>151.127</td>
<td>157.514</td>
<td>164.448</td>
<td>168.029</td>
</tr>
<tr>
<td>Sharjah</td>
<td>141.281</td>
<td>144.319</td>
<td>147.855</td>
<td>151.506</td>
<td>153.365</td>
</tr>
<tr>
<td>Ajman</td>
<td>39.897</td>
<td>40.555</td>
<td>41.192</td>
<td>41.852</td>
<td>42.186</td>
</tr>
<tr>
<td>Umm Al-Quwain</td>
<td>16.238</td>
<td>16.576</td>
<td>16.930</td>
<td>17.296</td>
<td>17.482</td>
</tr>
<tr>
<td>Ras Al-Khaimah</td>
<td>89.785</td>
<td>91.777</td>
<td>93.973</td>
<td>96.329</td>
<td>97.529</td>
</tr>
<tr>
<td>Fujairah</td>
<td>58.031</td>
<td>59.803</td>
<td>61.738</td>
<td>63.802</td>
<td>64.860</td>
</tr>
<tr>
<td>Total</td>
<td>851.164</td>
<td>877.741</td>
<td>904.857</td>
<td>933.381</td>
<td>947.997</td>
</tr>
</tbody>
</table>


Within the United Arab Emirates, national and non-nationals differ in their respective age and gender composition (Table 1.2). While the national population is largest in the 1-20-year age group, the biggest non-native population is in the 25-39-year age group. The non-native population is also male dominated, with 78% of males in 2010 (UAE/NBS, 2014). This has implications for skills policies, as most immigrants acquired their skills outside the country and bring a considerable amount of diversity to the national education system and economy.

### FIGURE 1.2 POPULATION PYRAMID

Panel A. UAE nationals (2005) in thousands

Gather and use intelligence on the demand for skills

In addition to considering changes in the size and composition of the population, economic context variables need to be considered in the design of skills policies. In the United Arab Emirates, the most salient economic feature used to be the heavy dependence on the oil sector. This has greatly contributed to the steep economic development path the country has experienced during recent decades. But it has also led to an overly strong concentration of economic activity in one sector that relies heavily on a low-skilled labour force and limited natural resources. In the last few years, the country has managed to diversify its economy considerably and reduce the reliance on the oil sector to less than 30%. Further diversification and a general shift towards more sustainable sectors of the economy are envisaged. The United Arab Emirates’ current development aims, detailed in the Vision 2021 National Agenda, focus on a knowledge-based sustainable economy, which has important consequences for the country’s future skills needs.

The move towards more knowledge-based economies is a general global trend, and as the nature and structure of employment has changed markedly in recent decades, so has the demand for skills in many economies. Studying the development path and related changes in the skills demand of advanced countries can provide important insights for the United Arab Emirates and other emerging countries. Between the 1960s and 2009, jobs in the industrialised world shifted from the farm to the factory floor to the professional office. The number of managerial jobs rose during the period, while the number of medium- and low-skilled white-collar jobs in the clerical and service occupations remained more stable (Figure 1.3).
FIGURE 1.3 CHANGE IN THE GLOBAL EMPLOYMENT STRUCTURE

A. Changes in employment shares, by occupational groups, 1960-2009, selected OECD countries

2. Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.


B. Human resources in Science and Technology growth, by industry, 1998-2008, average annual growth rate

1. Human resources in science and technology are defined by the Canberra Manual as persons who have graduated at the tertiary level of education or are employed in a science and technology occupation for which a high qualification is normally required and the potential for innovation is high.


Source: OECD, ANSKILL Database.
Fundamental changes in employment imply a rise in the demand for non-routine cognitive and interpersonal skills, and a decline in the demand for routine cognitive and craft skills, physical labour and repetitive physical tasks (Handel, 2012). Over recent decades, the increase in highly-skilled workers has generally not led to a decline in their pay in OECD countries, which happened among less qualified workers. In most countries, the earnings advantage for university graduates has increased despite there being significantly more of them in the labour force (OECD, 2011a).

There are indications of a trend towards a greater polarisation of skills: highly skilled workers are needed for technology-related jobs; low-skilled workers are hired for services that cannot be automated, digitised or outsourced, such as personal care; and mid-level skills are being replaced by smart robotics (Michaels, Natraj and Van Reenen, 2010). While these broad trends are clear-cut, more direct measures of skills requirements by occupation are less conclusive, suggesting that there is no clear trend in cognitive skills requirements within occupations (Handel, 2012).

Another study, based on the survey of European working conditions, reveals that while most workers are employed in "learning" environments that require higher-order skills, there are still workers who carry out routine jobs and there appears to be only a modest rate of decline in the physical intensity of work (OECD, 2012d). While most observers agree that the long-term trend has been towards jobs requiring more education and cognitive skills, the rate and timing of changes, the levels and kinds of skills in demand, and the drivers of change are matters for debate. Given these differences, it is clear that more and better information is needed about recent and on-going changes to skills demands. The OECD Survey of Adult Skills can help with this by providing instruments to monitor and analyse changes in the demand for skills within an internationally comparative framework.

Projections for the demand of skills provide important insights but need to be interpreted with care

The perception that the demand for cognitive skills is rapidly changing has spurred attempts to predict which industrial sectors and occupations are most likely to expand in the years to come. Current projections suggest that the trends in employment shares by occupation described in Figure 1.3 above will continue for the foreseeable future (CEDEFOP, 2008a), suggesting a continuing rise in employers’ needs for better cognitive and interpersonal skills (see Box 1.2). However, as it is more difficult to make detailed projections at the occupational/industrial level, such projections are best provided to use additional information for education and training systems, rather than serve as a basis for detailed manpower planning. The United Arab Emirates currently lacks the capacity to gather comprehensive, up-to-date, and disaggregated occupational data.

Box 1.2 Methods of forecasting skills needs

Occupational and educational forecasting has a long tradition in many OECD countries, including Australia, Canada, France, Germany, Italy, the Netherlands, the United Kingdom, the United States and, more recently, Finland, New Zealand and Israel. Forecasting is conducted by academic and government organisations, the private sector and increasingly at the multinational (e.g. European) level.

Most forecasts rely on dynamic macroeconomic models and use a “top-down” approach to forecasting labour demand. Dynamic macroeconomic modelling has been labelled “best practice” in international skills forecasting, but there are limits to its effectiveness. These macroeconomic models require the specification of a large set of external parameters related to the development of the world economy, such as oil prices and exchange rates. A problem common to many of the reviewed forecasts is that it is difficult to forecast future migration and its skills composition.

In England, the UK Commission for Employment and Skills conducted a National Strategic Skills Audit in 2010, combining quantitative and qualitative methods in order to incorporate a broader “scenario-based” approach to assess future skills needs. The overall intention of this ongoing project is to provide insights to government, employers, individuals and providers on England’s strategic skills needs, reporting information on key issues and periodically updating the results. The project includes three main instruments:

- **Working futures**: consists of quantitative forecasts of employments prospects for industries and occupations, qualification/level of diploma, gender and employment status for the UK, individual nations and English regions. It aims to provide a comprehensive picture of the labour market for 2020.

- **Horizon scanning and scenario development**: identifies key issues and changes taking place in the UK and globally that may affect employment and skills over the long term. It uses a range of horizon-scanning techniques, including scenario development, and a series of interviews with key experts to debate scenarios for 2020.

- **Targeted skills assessment reports**: in-depth skills assessments conducted in key emerging sectors to enhance understanding of important developing areas of the economy, such as low-carbon industries, digital economies and advanced manufacturing.
Box 1.2 Methods of forecasting skills needs (continued)

Despite the different methodologies in forecasting, the results are often similar. In general, employment among low-skilled workers will decline, while employment among highly skilled workers is projected to increase. Some projections indicate a future excess supply of highly skilled workers in some fields. The trend is for employment to continue to shift from primary industries towards more service-based economies.

Employers, too, can be involved in forecasting skills needs, for example:

In Finland, The Oivallus Project. Oivallus – literally “Insight” – was launched by the Confederation of Finnish Industries (EK) in 2008 and ran until December 2011. The project, financed by EK, the European Social Fund and the Finnish National Board of Education, focused on future competence needs of businesses. Representatives from companies, academics, teachers and other experts examined the underlying premise that working life in 2020 will be even more networked. Oivallus found that competence needs are changing because the ways of working are changing, as jobs are becoming less and less routine and fewer jobs can be done “by the book”. The future working life resembles filmmaking: work is increasingly done on a project basis in collaboration with various contributors. There is also a tendency for tasks to become more variable. The ability to apply network skills is the foundation of future work, and network skills find their application in the ability to find, use and disseminate knowledge. A learning network can identify new opportunities and find solutions to problems, where the key to success is the ability of people with different competencies to work together. Working as a network, learning from one another and building on existing ideas are skills that require practice and that should be developed from early on throughout education. For more information, see http://ek.multiedition.fi/oivallus/en/index.php.

Source: Lüdemann (2012), Review of Recent Projections of Skill Supply and Demand at the National and European Level.

An analysis of skills shortages can help determine their causes

Skills shortages, such as those that result from changes in demand, can affect growth through their adverse effects on labour productivity. They increase the hiring cost per skilled worker, which leads firms to employ less productive unskilled workers, and may also put workers in a stronger bargaining position to demand an easier pace of work. Hard-to-fill and unfilled vacancies also appear to slow the output of individual workers and affect productivity, as they hinder the adoption of new technologies (Bennet and McGuinness, 2009, Lucifora and Origo, 2002).

In the United Arab Emirates, a constant flow of expatriate workers in both low- and high-skilled sectors have so far prevented major skills shortages and have allowed for the continuous economic development of the national economy. However, the country’s mid-term aim is to become less dependent on foreign labour and to integrate more Emirati nationals into the labour force, in particular into the private sector. Known as “Emiratisation”, these policies impose restrictions on the employment of expatriate workers in the public sector and force the private sector to employ nationals in certain areas. This can result in bottlenecks if the provision of adequately skilled national labour is not sufficient. It is therefore important to assess the implications of such policies, and to improve labour market intelligence to allow for the anticipation and quick reaction to potential imbalances in the supply of skills.

Skills shortages can be both cyclical and structural. Shortages that occur during periods of rapid economic growth, when unemployment is low and the pool of available workers is reduced to a minimum, are less of a problem than during periods of economic slowdown. Some structural changes, such as the adoption of new technologies, may increase the demand for certain skills that are not immediately available in the labour market. This can create shortages even when unemployment is high. Figure 1.4 shows unemployment rates in 2011 resulting from the global economic crisis. It also presents the share of employers who reported having difficulties filling positions due to a lack of suitable skills in 2010 (Quintini, 2011). It suggests that shortages are widespread and co-exist with unemployment in many countries. Some studies show that the share of firms concerned about the availability of adequately trained workers averages about 40% in sub-Saharan Africa and 50% in East Asia and the Pacific, compared to about 25% in OECD countries (World Bank, 2010).
Labour shortages can arise because of a lack of workers with the skills needed, but also for various other reasons, including: working conditions and pay rates that are unattractive to workers; a lack of workers in countries with very low unemployment rates, referred to as labour shortage; geographical imbalances in supply, where there are sufficient numbers of skilled people in the labour market, but they do not have easy access to available jobs, referred to as geographical mismatch; or a shortfall in the number of appropriately skilled individuals. Some of these reasons are associated with education and training. These types of shortages, as well as those due to cyclical factors in specific sectors, tend to adjust over time through market mechanisms. However, as Figure 1.4 suggests, having a large pool of unemployed people provides no guarantee that employers can find appropriately skilled individuals to fill their vacancies. In such cases, policy makers need to encourage rapid adjustments in education and training systems and address the causes of geographical mismatch to meet employers’ skills requirements. Box 1.3 illustrates promising policies to respond to skills shortages.

**FIGURE 1.4 SHARE OF EMPLOYERS REPORTING RECRUITMENT DIFFICULTIES AND UNEMPLOYMENT RATES**

Selected countries, 2010 and 2011

<table>
<thead>
<tr>
<th>Share of employers reporting recruitment difficulties</th>
<th>Unemployment rates (2011, Q3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>90</td>
</tr>
<tr>
<td>Ireland</td>
<td>30</td>
</tr>
<tr>
<td>Norway</td>
<td>70</td>
</tr>
<tr>
<td>Spain</td>
<td>10</td>
</tr>
<tr>
<td>South Africa</td>
<td>0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>50</td>
</tr>
<tr>
<td>Sweden</td>
<td>40</td>
</tr>
<tr>
<td>Netherlands</td>
<td>20</td>
</tr>
<tr>
<td>France</td>
<td>10</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>0</td>
</tr>
<tr>
<td>Hungary</td>
<td>5</td>
</tr>
<tr>
<td>China</td>
<td>40</td>
</tr>
<tr>
<td>Austria</td>
<td>80</td>
</tr>
<tr>
<td>Slovenia</td>
<td>20</td>
</tr>
<tr>
<td>Italy</td>
<td>30</td>
</tr>
<tr>
<td>Canada</td>
<td>50</td>
</tr>
<tr>
<td>Belgium</td>
<td>40</td>
</tr>
<tr>
<td>Germany</td>
<td>10</td>
</tr>
<tr>
<td>Greece</td>
<td>30</td>
</tr>
<tr>
<td>Mexico</td>
<td>20</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>5</td>
</tr>
<tr>
<td>Turkey</td>
<td>5</td>
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<tr>
<td>United States</td>
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<td>Australia</td>
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<td>Brazil</td>
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<tr>
<td>Japan</td>
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**Note:** Brazil: Urban areas only; China: Registered unemployment rate in rural areas in 2009; India: 2009/10; Indonesia: 2011Q1.

Box 1.3 A co-ordinated approach to addressing skills supply and demand in Queensland, Australia

In Queensland, Australia, shortages are seen to be as much about work organisation and turnover as about problems with the supply of skilled people from education and training institutions. Rather than responding automatically to labour shortages by creating new training courses, Queensland first seeks to assess the causes of those shortages: is there a skills shortage because of a lack of training? Or is it rather that local jobs are unattractive and therefore cannot retain staff? Three core features define the approach:

- Recruitment and retention problems are not defined as "skills shortages", but rather are treated as problems involving the structure of jobs on offer, and therefore often defined as a shortage of decent jobs.
- The response involves groups of employers accepting joint responsibility for overcoming the problem.
- The crucial factor behind successful innovation is the existence of highly competent brokers or facilitators capable of dealing with issues of business development and not just the development of the workforce.

On the basis of these principles, the state government in Queensland has developed over 60 skills-formation strategies in 20 different industry sectors, including the public sector. For example, in the health and community-services sector, skills shortages and long waiting lists were reduced by changing work organisation and the definitions of roles. This was accomplished in conjunction with local unions. Skills-formation strategies are generally funded for two years at AUD 120 000 a year.


DESIGN EFFICIENT AND EFFECTIVE EDUCATION AND TRAINING SYSTEMS

Consider both national aspirations and local needs

Education and training systems need to have adequate access to information on the demand for skills and the drivers of changes in skills demand. Coordinated strategies are necessary to make adequate use of the available intelligence on skills demand to design education systems that are responsive to the needs of the labour market. Morocco’s Human Development Programme is an example from the region of how different stakeholders have managed to jointly set up a comprehensive strategy to respond more effectively to the country’s social and economic needs and create a better match between training and job opportunities (Box 1.4).

In designing strategic human development programmes it is important to consider that contrary to what some national or even supra-national targets for educational attainment suggest, there is generally no “right” proportion of certain educational qualifications in specific occupations. What is “right” depends on a range of context-specific factors, the structure and skills needs of the economy, and the country’s overall aspirations, and it can change over time. Governments, especially those of emerging countries whose skills needs are changing particularly fast, can reach national aspirations through targeted education programmes. An example of this is the new skills needs emerging from a move towards low-carbon economies (Box 1.5).

A strategic approach to skills policies also needs to take into consideration local differences, particularly in emerging economies where these differences can be large (Giguère, 2008; Froy and Giguère, 2010b; Froy, Giguère and Meghnagi, 2011). The United Arab Emirates is composed of several emirates, each with a different development history, economic orientation, and population composition. While a national agenda like the United Arab Emirates’ Vision 2021 can help in setting ambitious goals for a nation and spur reforms to reach the desired targets, the achievement of national policy goals may sometimes require a certain degree of local differentiation. Collaboration among different education bodies, employers and economic-development officials should be supported to ensure that the training provided meets the needs of the economy as a whole and of different local labour markets in particular (Box 1.6). Sectoral differences in skills needs can be equally important and need to be taken into consideration when designing skills strategies.
The Moroccan authorities attach particular importance to the development of human capital and have put in place an impressive array of programmes, institutions and tax incentives to enhance capacities in education, improve vocational training, and promote employment so as to respond more effectively to the country’s social and economic needs and create a better match between training and job opportunities. The principal text in this field is the National Education and Training Charter of 2000, which covers the entire education sector, including basic education and vocational training. There are specific programmes to help young graduates find employment, to adapt the profile of jobseekers affected by long-term unemployment, and to offer businesses financial support for job-creating projects. Several sector-specific training programmes have been set up to meet needs in agriculture, craft industries, and information and communication technologies. These programmes also offer direct subsidies to firms in support of their training efforts. The main institutions responsible for implementing these various labour market and training measures and assessing their impact are the National Employment and Skills Promotion Agency (ANAPEC) and the National Employment Observatory. Training programmes are guided by the Ministry of Education, assisted at the local level by the academic directors and co-ordinators for the sectoral programmes. These arrangements are supplemented by a system of tax advantages. Private education and vocational training establishments are eligible for reduced rates of income tax (20%) and corporate tax (15%) for the first five years, and a VAT holiday on equipment purchases during the first 24 months of operation. They do not pay the local business tax and municipal service taxes for premises devoted to instruction and student housing. These programmes are carried out in partnership between the state and vocational training firms. Since 1996 the state and business federations have been establishing “Inter-Professional Consulting Groupings” to help firms identify their training needs and adopt suitable strategies. The first in-house apprenticeship training centres were created in 2004 in the textiles and hotel sectors to organise recruitment and develop the required skills. Since 2008 firms have been eligible for a government training grant in emerging industries such as automotive, aeronautics, electronics and offshore services, allowing firms to choose a public or private training provider operating in Morocco or abroad. Initial evaluation of the various vocational training programmes and arrangements shows that firms offering training to their employees have increased their turnover and achieved noticeable productivity gains.

There is now wide agreement that economic growth needs to be decoupled from unsustainable environmental practices, such as those leading to global climate change. A successful transition to a low-carbon economy could reshape the labour market and skills requirements. For example, employment in the renewable-energy sector is likely to increase, as it declines among firms specialising in the extraction and combustion of fossil fuels. Skills policies have to adapt to this demand and new programmes of study in secondary and tertiary schools will also need to be developed. Just as ICT technology spread across the entire economy, turning much of the workforce into “knowledge workers”, green technologies and work practices will also diffuse across the economy, giving a progressively greener tint to all occupations. For example, increasing numbers of construction workers are being trained to use the building materials and construction techniques that are required for energy-efficient buildings and to retro-fit existing structures for greater energy efficiency. Experience to date suggests that the greening of existing occupations is an incremental process: workers already trained in, say, carpentry, can easily learn the new green skills they will require, provided that they have access to the right types of “top-up” training. However, the transition to a green labour market has only just begun, and it is difficult to predict how skills requirements will evolve as the process continues. Results from an OECD survey of small and medium-sized enterprises (SME) indicates that firms are often not sufficiently aware of the need for green skills for the future, and their investment in green training or green knowledge-intensive activities is often limited, as is their awareness of the impact of regulations on their industry. Green vocational education and training programmes (formal training) are just emerging, while knowledge-intensive green activities (informal learning) are more frequently used by firms to help their workers to acquire the knowledge they need and to upgrade their skills. Those SMEs with potential to grow are more likely to invest in developing green skills as part of their productivity- and innovation-enhancing skills repertoire. As the environmental policy framework needed to support green growth develops, it will become clearer how governments can best ensure that students and workers acquire the green vocational skills they will need in the workplace. OECD data show that about 60 of the countries surveyed had implemented at least one labour market measure targeting green growth, with training being the most common. While that is an encouraging start to addressing emerging green skills demands, most of these programmes are small and have yet to be subjected to rigorous evaluations. Case studies suggest that it is particularly important that these training programmes co-ordinate closely with employers and trade unions to assure that the training offered corresponds to evolving labour market needs.
Box 1.6 Lessons from local skills strategies

The OECD’s Local Economic and Employment Development (LEED) programme has studied a range of local skills strategies. One successful strategy is used in the region of Mackay in Queensland, Australia. This region has enjoyed unprecedented growth since the mid-2000s, putting significant pressure on company development. In response, manufacturing companies in Mackay have formed an industry cluster named Mackay Area Industry Network (MAIN) with the aim of addressing skills shortages quickly and effectively. A skills partnership forum, which grew out of the network approach, allowed all stakeholders involved in skills policies, including public organisations, industry clusters, community organisations and education providers, to come together to discuss their skills needs and initiatives, and to integrate their knowledge into strategic plans.

In China, the Shanghai Highland of Talent Initiative is a good example of a balanced, bottom-up, citywide skills strategy that developed specific targets for the organisations involved. The municipal government launched its first skills development initiative in 1995 to transform Shanghai into a “highland of talent” in mainland China. However, efforts to implement a concerted strategy were not made until the municipality launched a detailed action framework in 2004. The framework defined ten priorities to be addressed between 2004 and 2010 based on attracting high-skilled Chinese returnee emigrants. The priorities included providing specialised training programmes to train highly skilled scientists and managers, and wider programmes to reform the vocational training system and upgrade the skills in Shanghai’s labour force. In 2006, these priorities were consolidated into five key tasks, the most urgent being to train migrant workers and surplus rural labourers arriving in the city. Training is now delivered on the basis of an annually reviewed Training Development Catalogue, which lists skills in demand. Outcomes of such a balanced and targeted approach have been encouraging.

Ensuring close collaboration among the many different actors involved in skills development and use is the basis of many local skills strategies. The US state of New Jersey established a series of Talent Networks (New Jersey Department of Labor and Workforce Development) in 2011. Six networks were set up to focus on the specific needs of key industries in the state that, collectively, provide more than half of the jobs in the state: advanced manufacturing, financial services, health care, life sciences, technology and entrepreneurship, transportation, logistics and distribution. The networks connect employers, jobseekers, one-stop career centres, government and community groups and educational institutions. A Talent Development Advisory Group was created to obtain feedback on employers’ workforce needs in order to guide future development initiatives.

Evidence from the OECD Reviews of Higher Education and Regional and City Development also shows that, in many cases, higher education is often geared more towards national skills needs or to the global aspirations of higher-education institutions than to local needs or realities. This illustrates the importance of developing education and training systems that are flexible enough to be adapted to the needs of different labour markets. In some countries, university training is skewed away from technical subjects that are needed for the economy. For example, despite high unemployment rates among college-educated workers in Egypt, firms there identified inadequate skills and education as among the top five constraints to business (AfDB, 2010). Although educational reforms and incentives to study technical subjects are needed, these kinds of policies have limited support because a humanities or law degree are important credentials for securing a government job. This concern is also relevant for the United Arab Emirates where young Emirati nationals tend to aspire to a career in the public sector and chose their study subject accordingly. The Vision 2021 aim of increasing the share of United Arab Emirate nationals employed in the private sector from less than 1% to 5% will require a re-orientation in skills development among Emirati nationals.

Education attainment in the United Arab Emirates has grown significantly over recent decades (Table 1.2), however, the distribution of skills varies across different social groups. For example, although Emirati women have twice as high illiteracy rates as men, they have surpassed their male counterparts in university level education attainment.
TABLE 1.2 CHANGE IN EDUCATIONAL ATTAINMENT

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Provide an appropriate mix of general and occupation-specific skills

A great deal is expected from initial education and training systems in the 21st century. State-of-the-art skills in a discipline remain important, as it is often those with specialised skills in a field of knowledge or a practice that are the most creative and innovative. The dilemma for educators, particularly for those in the United Arab Emirates, is that the skills that are easiest to teach and easiest to test – the routine cognitive skills that involve reproducing subject-matter content – are also the skills that are the easiest to digitise, automate and outsource. Education is increasingly expected to develop new ways of thinking that involve creativity, critical thinking, problem-solving and decision-making; new ways of working that include communication and collaboration; and new tools for working that include the capacity to recognise and exploit the potential of new technologies. Education is also expected to provide the capacity to live in a complex world as active and responsible citizens (Box 1.7).

The United Arab Emirates still has progress to make on developing these skills in students, as evidenced by the latest PISA results for problem solving (discussed below), where more than half of students performed at the lowest level considered necessary to fully participate as productive, engaged and reflective citizens, both locally and globally. However, the country has made important steps towards modernising its teaching and learning approaches. For example, the New School Model, developed by the Abu Dhabi Education Council, promotes curricula that move away from textbook content towards a more student-centred learning focusing on problem solving capacities rather than memorising knowledge.
Box 1.7 Redesigning curricula for the 21st century

The last major changes to curriculum and related expectations to the education system were effected in the late 1800s as a response to the sudden growth in human capital needs brought about by the Industrial Revolution in many European countries and North America. The world of the 21st century bears little resemblance to that of the late 1800s, so education curricula are overdue a major redesign. Curricula worldwide have often been tweaked, sometimes to a large extent, but they have never been deeply redesigned at the level of knowledge, skills, and character, while also considering the meta-layer/fourth dimension that includes learning how to learn, interdisciplinarity, and personalisation. Adapting to 21st-century needs means revisiting each dimension and how they interact:

Knowledge – relevance required. Students’ lack of motivation, and often disengagement, reflects the inability of education systems to connect content to real-world experience. This is critically important to economic and social needs, not only students’ wishes. There is a profound need to rethink the significance and applicability of what is taught, and to strike a far better balance between the conceptual and the practical. Questions that should be answered include: Should engineering become a standard part of the curriculum? Should trigonometry be replaced by more statistics? Is long division by hand necessary? What is significant and relevant in history? Should personal finance be taught to everyone – and starting in which grade? Should entrepreneurship be mandatory? Should ethics be re-valued? What is the role of the arts – and can they be used to foster creativity in all disciplines?

Skills – necessity for education outcomes. Higher-order skills (“21st-Century Skills”), such as the “4 Cs” of creativity, critical thinking, communication, collaboration, and others are essential for absorbing knowledge and for work performance. Yet the curriculum is already overburdened with content, which makes it much harder for students to acquire (and teachers to teach) skills via deep dives into projects. There is a reasonable global consensus on what the skills are, and how teaching methods via projects can affect skills acquisition, but there is little time available during the school year, given the overwhelming amount of content to be covered. There is also little in terms of teacher expertise in coherently combining knowledge and skills with guiding materials, and assessments.

“Character” (behaviours, attitudes, values) – to face an increasingly challenging world. As complexities increase, humankind is rediscovering the importance of teaching character traits such as performance-related traits (adaptability, persistence, resilience) and moral-related traits (integrity, justice, empathy, ethics). School is just one of the places where character is shaped. The challenges for public school systems are similar to those for skills, with the extra complexity of accepting that character development is also becoming an intrinsic part of the mission, as it is for private schools.

Meta-Layer. This is essential for activating transference, building expertise, fostering creativity via analogies, establishing lifelong learning habits etc. It will answer questions such as: how should students learn how to learn? What is the role of interdisciplinarity? What is the appropriate sequencing within subjects and between subjects? How do we develop curiosity? How do we facilitate students’ pursuit of their own passions in addition to the standard curriculum? How do we adapt curricula to local needs?


For any education and training programme, decisions need to be taken about the right mix of knowledge and skills, and even behaviour, attitudes and values that it should impart to serve desired economic and social outcomes. Skills requirements change and people need to adapt and learn new skills during their working lives to ensure occupational mobility. Compulsory education, therefore, is where people should master foundation skills and develop the general desire and capacity to engage in learning over an entire lifetime. Beyond compulsory education, an effective way to ensure that young people are well-prepared to enter the labour market is to use the workplace as a place of learning, particularly for vocational education and training, but also for more academically oriented university programmes (Box 1.8).
Box 1.8 Different forms of workplace learning

Workplace learning includes a diverse set of practices ranging from brief periods allowing the learner to observe a workplace, to structured, long-term apprenticeships leading to a qualification or diploma.

- **Job shadowing:** very short periods of time – usually days – in which students “shadow” a worker to learn about the job. This often involves younger students and serves the purpose of exploring possible careers. In Canada, for instance, ninth-grade students shadow an adult close to them in real-life work settings (the “Take Our Kids to Work” initiative; www.thelearningpartnership.ca/).

- **Service learning:** voluntary work by students, usually in non-profit organisations, designed to provide a service while also offering students a learning opportunity. In the Flemish Community of Belgium, for example, some students in part-time VET programmes participate in such learning.

- **Internships:** short periods of time – weeks or months – in which students work in actual workplaces, usually for no or nominal wages. They may be governed by a special contract. In various OECD countries, including Austria, the Flemish Community of Belgium, Chile, Hungary, Italy and Mexico, students in school-based upper secondary VET programmes may participate in internships, although not all VET students participate.

- **Apprenticeships:** more structured dual-track approach, combining part-time, workplace-based training in a company with classroom instruction in a vocational school, usually over a period of years, leading to a qualification. Well-developed apprenticeship systems can be found in the Germanophone countries, such as Austria, Germany, Luxembourg and Switzerland, and also exist in Australia, the Flemish Community of Belgium, Denmark and the Netherlands, among others.


When employers are involved in designing curricula and delivering education programmes at the post-secondary level, students seem to have a smoother transition from education into the labour market (OECD, 2010b and 2008a). Compared to purely government designed curricula taught in school-based systems, learning in the workplace offers several advantages: it allows trainees to develop “hard” skills on modern equipment, and “soft” skills, such as teamwork, communication and negotiation, through real-world experience. Hands-on workplace training can also help to motivate disengaged youth to stay in or re-engage with the education system. Workplace training also facilitates recruitment by allowing employers and potential employees to get to know each other, while trainees contribute to the output of the training firm. Workplace learning opportunities are also a direct expression of employers’ needs, as employers will be ready to offer opportunities in areas where there is a skills shortage.

Vocational education and training in the United Arab Emirates can play an important double role by developing relevant skills for the labour market and supporting a smooth transition for young people from education to the world of work. Vocational education and training programmes that are oriented to the needs of the labour market may offer an attractive alternative pathway for Emirati men, who often struggle with academic instruction in schools and are at risk of disengaging from education prematurely. This is provided that the programme is high quality and relevant, rather than a second best solution for those who do not make it to tertiary education.

For vocational education and training programmes to succeed, a joint strategy needs to be implemented that focuses on improving their relevance, and that reaches out to students and families to remove the stigma and improve the reputation of vocational pathways.

The United Arab Emirates’ vocational education and training system still has scope for improvement. The vocational teacher and trainer labour force needs to receive continuous professional development and up-to-date knowledge of the industry. Workplace-based training offers are scarce and concentrated mainly in the leading oil and transportation sectors. Employers need to be systematically engaged in the design of programmes and the delivery of practical training. Establishing institutionalised forms of employer engagement that ensure all sectors and types of companies, in particular SMEs, are represented remains a challenge.

At the national level, there is no coherent governance structure that is able to analyse the changing needs of the economy and assure the quality and relevance of corresponding vocational education and training programmes in both public and private institutions. The Abu Dhabi Centre for Technical and Vocational Education and Training (ACTVET), founded in 2010 to establish policies and standards that effectively regulate technical and vocational educational institutions in the emirate of Abu Dhabi, is a step in the right direction. However, similar structures need to be established at the national level that oversee developments in other less advanced Emirates.
A recent study of the Egyptian vocational education and training system (Álvarez-Galván, J., 2015) provides a range of recommendations that may also be relevant in the context of the United Arab Emirates (Box 1.9).

**Box 1.9 OECD recommendations on vocational education and training in Egypt**

The OECD Skills beyond School review in Egypt focused primarily on the post-secondary level of vocational education and training. The review followed a standard methodology – on the basis of a background report prepared by the Egyptian local team and a series of visits and interviews with stakeholders including government officials, employer representatives, staff and students in training institutions in the country, the OECD prepared a report including concrete policy recommendations to guide and inform future reforms:

- Egyptian postsecondary VET should reinforce efforts to improve its quality in three essential areas: i) improve coordination in the system; ii) improve the assessment of learning outcomes; and iii) facilitate a clear and coherent governance structure for quality assurance.

- Take action to enhance employers’ engagement in Egyptian VET: i) to ensure the labour market relevance of VET programmes; and ii) to reinforce those structures and frameworks already in place.

- Develop workplace learning as a systematic, credit-bearing, quality assured and mandatory element in vocational programmes and convince employers of the benefits that can be obtained.

- Identify weaknesses and target support to improve numeracy and literacy and encourage course completion, strengthen workforce skills, and support transition from VET to academic education.

- Improve data and information available to support policy and operational decisions and enhance guidance to support students’ educational choices.


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**RAISE THE QUALITY OF EDUCATION**

Governments need to raise the quality of education and training at all levels so that investment in skills development is effective and people leave education not only with a qualification/diploma, but also with the corresponding skills. For initial schooling, PISA results gathered over the past decade show that the performance of 15-year-old students differs considerably across countries (Figure 1.5), with substantial numbers of students in some countries failing to acquire the most basic skills by the end of compulsory education. This is significant as research shows a strong link between higher skills and economic growth (Box 1.10).

**FIGURE 1.5 THE READING SKILLS OF 15-YEAR-OLD STUDENTS, AS MEASURED BY PISA**

Box 1.10 The relationship between skills and economic growth

Research based on the premise that people with better skills continuously add value to an economy through on-going productivity increases, suggests that the higher economic outcomes resulting from better skills are very significant. One estimate puts the long-term economic value of improving the student performance of OECD countries in PISA by 25 score points over the next 20 years – which is what countries like Brazil, Chile, Indonesia, Israel, Mexico, Poland, Portugal or Turkey have achieved in selected school subjects over the past decade alone – at USD 115 trillion over the working life of individuals born this year. Even if the estimated impact of skills were twice as large as its true effect on growth, the resulting present value of successful school reform still far exceeds any conceivable costs of improvement.

EDUCATIONAL PERFORMANCE AND ECONOMIC GROWTH ACROSS WORLD REGIONS

The figure above plots regional growth in real GDP per capita between 1960 and 2000 against average test scores, after allowing for initial differences in GDP per capita in 1960. Regional annual growth rates, which vary from 1.4% in sub-Saharan Africa to 4.5% in East Asia, fall on a straight line. When added to this model, school attainment is unrelated to growth-rate differences. The figure implies that after accounting for initial income levels, regional growth over those four decades was closely associated with observed cognitive skills.

Notes: Added-variable plot of a regression of the average annual rate of growth (in percentage) of real GDP per capita in 1960-2000 on the initial level of real GDP per capita in 1960 and average test scores on international student achievement tests (mean of the unconditional variables added to each axis). Depiction based on the database derived in OECD (2010d).

The United Arab Emirates first participated in PISA through Dubai’s involvement in PISA 2009, followed by the remaining Emirates in 2010 as part of a special round (PISA 2009+). In 2012, the United Arab Emirates was among 65 countries and economies, including 34 OECD countries, who took part in PISA. A total of 11,500 15-year-old students from 375 schools were selected across the United Arab Emirates through a rigorous statistical sampling process. Emirati students constituted approximately half of all participants.

Among PISA 2012 participants, the United Arab Emirates ranked 48th in mathematics, with a mean score of 434; 44th in reading literacy, with a mean score of 442; and 46th in science, with a mean score of 448. It also ranked 40th among 44 participants in the problem solving domain, with a score of 411. Compared to the country’s previous participation in 2009, results measured in PISA 2012 were higher by, on average: 13 points in mathematics, 10 points in reading and 11 points in science (Figure 1.6).

![Figure 1.6: Trends in Students' Skills - PISA 2009 and PISA 2012 in the UAE](http://www.oecd.org/pisa/pisaproducts/)

In both rounds of PISA, a considerable gender difference could be observed (Figure 1.7), with females significantly outperforming males in all domains except mathematics (where no significant difference was observed). In PISA 2012, the largest gender differential in skills amongst 15-year-old students was identified in reading, where females scored approximately 56 points higher than males. In science and problem solving, this differential was reduced to 28 and 26 points respectively. Teachers should pay special attention to this gender gap to avoid male students falling too far behind in essential literacy skills, which are important for the acquisition of higher level skills and for later work life.

Another concern for the Emirati school system is the extremely high percentage of young people spending an additional year in preparatory education before entering a higher education institution, which was recorded as 96% in 2009 by the Ministry of Higher Education and Scientific Research. This indicates a clear gap between the requirements of higher education and the preparation that schools are able to provide to students.
FIGURE 1.7 GENDER DIFFERENCES IN PISA PERFORMANCE

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<tr>
<td>Mean score in science</td>
<td>430</td>
<td>420</td>
</tr>
</tbody>
</table>

There are considerable demands placed on teachers to improve student skills (OECD, 2005b). While it is essential that teachers have an excellent knowledge of the subjects they teach, they also need a rich repertoire of teaching strategies, the ability to combine approaches, and the knowledge of how and when to use certain methods and strategies. Teachers have to be able to work collaboratively with other teachers and professionals or para-professionals within the same organisation, or with those in other organisations; in networks of professional communities; and in different partnership arrangements, including mentoring other teachers. They also need to acquire strong technology skills to be able to use technology as teaching tools and as information-management systems to track student learning (Schleicher, 2012).

The United Arab Emirates (Abu Dhabi) has taken part in the OECD Teaching and Learning International Survey (TALIS) (OECD, 2014a). Findings from this survey indicate that a large majority of lower secondary education teachers feel “very well prepared” for the content (83%) and the pedagogy (72%) of the subject(s) they teach (Figure 1.8). Abu Dhabi also scores high in the availability and use of mentoring and induction programmes. Along with teacher educational attainment, teachers’ work experience helps to shape their skills and competencies. A teacher’s tenure may also affect his or her willingness to implement innovative practices or reforms (Goodson, Moore and Hargreaves, 2006). Across TALIS countries, teachers have, on average, 16 years of teaching experience, 3 years of experience in other educational roles and 4 years of experience in other types of jobs. On average one-third of all lower secondary teachers have more than 20 years of teaching experience. In Abu Dhabi teacher turnover is relatively high and teachers have, on average, only 13 years of teaching experience, 1.5 years of experience in other educational roles and 1.5 years of experience in other types of jobs.
The distribution of teachers across educational systems is an important issue to consider, as several studies have found that less qualified teachers are more likely to teach in disadvantaged schools, which could lead to discrepancies in educational opportunities for the student population of these schools (OECD, 2014a). In some countries, teachers with more than five years of teaching experience are less likely to teach in schools that could be considered more challenging. In Abu Dhabi’s case, 60% of teachers with more than five years’ experience are less likely to work in schools with a higher proportion of students from diverse language backgrounds. This is a particular challenge for the country due to its large immigrant population.

Many education systems face a daunting challenge in recruiting the teachers needed to ensure that participation in education leads to the desired learning outcomes (particularly in shortage areas) and then retaining them once they’re hired. This is a particular concern in many low- and middle-income countries with growing youth populations and rising participation rates. There are, however, a number of countries that have successfully improved the match between teacher demand and supply, even in difficult contexts (Box 1.11).

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**FIGURE 1.8 TEACHERS’ FEELINGS OF PREPAREDNESS FOR TEACHING**

Percentage of lower secondary education teachers who feel “very well prepared”, “well prepared”, “somewhat prepared” or “not at all prepared” for the content and the pedagogy of the subject(s) they teach and whether these were included in their formal education and training.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Pedagogy of the subject(s) being taught</th>
<th>Content of the subject(s) being taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Malaysia</td>
<td>[ ]</td>
<td>[ ]</td>
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<tr>
<td>Israel</td>
<td>[ ]</td>
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<tr>
<td>Slovak Republic</td>
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</tr>
<tr>
<td>Spain</td>
<td>[ ]</td>
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</tr>
<tr>
<td>Serbia</td>
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<tr>
<td>Latvia</td>
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<tr>
<td>Czech Republic</td>
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<td>Brazil</td>
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<td>Poland</td>
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<td>Croatia</td>
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<tr>
<td>Portugal</td>
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<tr>
<td>Estonia</td>
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</tr>
<tr>
<td>Abu Dhabi (United Arab Emirates)</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Sweden</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Chile</td>
<td>[ ]</td>
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</tr>
<tr>
<td>Italy</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Flanders (Belgium)</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Average</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>England (United Kingdom)</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Netherlands</td>
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<tr>
<td>Norway</td>
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<tr>
<td>Denmark</td>
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<tr>
<td>Austria</td>
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<tr>
<td>Bulgaria</td>
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</tr>
<tr>
<td>France</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Alberta (Canada)</td>
<td>[ ]</td>
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<td>Singapore</td>
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<tr>
<td>Korea</td>
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<tr>
<td>Iceland</td>
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<tr>
<td>Mexico</td>
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<td>[ ]</td>
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<tr>
<td>Japan</td>
<td>[ ]</td>
<td>[ ]</td>
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<tr>
<td>Finland</td>
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</tbody>
</table>

The issue of teacher demand and supply is complex and multi-dimensional as it reflects several challenges: how to expand the pool of qualified teachers, how to address shortages in specific subjects, how to recruit teachers to the places where they are most needed, how to distribute teachers in equitable and efficient ways, and how to retain qualified teachers over time. Policy responses are needed at two levels: first, they should seek to improve the profession’s general status and competitive position in the job market; and second, they should involve more targeted responses and incentives for particular types of teacher shortage, recognising that there is not a single labour market for teachers, but several that are distinguished by school type and characteristics, such as subject specialisation.

Attracting the most talented teachers to the most challenging classrooms may be achieved through strategies such as: competitive compensation and other incentives, career prospects and diversity, and giving teachers responsibility as professionals. Active recruitment campaigns can emphasise the fulfilling nature of teaching as a profession, and seek to draw in groups that might not otherwise have considered teaching. The image and status of the teaching career have been low over recent decades in the Emirates. In Abu Dhabi only about 40% of the teaching force are Emirati, and of those only 5% are male. The turnover rate is high, especially among female Emirati teachers. The teaching profession is not generally considered as an attractive career path, but rather as a high workload and low earning profession (Kaabi, 2004).

Where teaching is seen as an attractive profession, its status can be further enhanced through selective recruitment that makes teachers feel that they will be going into a career sought after by accomplished professionals. Initial teacher education is essential for ensuring the supply of high-quality teachers in the longer term, yet, no matter how good the pre-service education for teachers is, it cannot be expected to prepare teachers for all the challenges they will face throughout their careers. High-quality continuing professional development is necessary to ensure that all teachers are able to meet the demands of diverse student populations, effectively use data to guide reform, engage parents, and become active agents of their own professional growth.

School principals play a crucial role in shaping the quality of education institutions and driving reform. The OECD TALIS study examines the role and profile of school principals, in addition to assessing the characteristics and working conditions of teachers. Abu Dhabi is an outlier among participating countries with respect to the small number of years of teaching experience among school principals (OECD, 2014a). Their role is conceived as administrative rather than as instructional leaders. As a consequence, their credibility as educationists among
staff risks being low, which may impede collegial planning on teaching and learning issues within the schools. Beyond the quality of teachers, PISA has identified a number of other factors that are associated with better performance in schools (OECD, 2010e). First, the data suggest that schools and countries that expect all of their students to perform well and be willing to work at learning, and that enjoy good student-teacher relations and high teacher morale tend to achieve better results. Second, schools that have more autonomy in determining their curricula and allocating resources tend to show better student performance, provided that those schools also have effective knowledge-management and accountability mechanisms. Third, in virtually all high-performing education systems, it is the responsibility of schools and teachers to work with all students and their diverse interests, capacities and socio-economic backgrounds, without having the option of making students repeat a school year, or transferring them to a different educational track or type of school with lower performance requirements. Fourth, some countries have successfully experimented with innovative learning environments (Box 1.12).

**Box 1.12 Innovative learning environments**

OECD analysis finds that high quality learning environments need to: make learning central and encourage engagement; ensure that learning is social and often collaborative; be highly attuned to the motivations of learners; be acutely sensitive to individual differences, including in prior knowledge; use assessments that emphasise formative feedback; and promote connections across activities and subjects, both in and out of school.

**Europaschule in Linz (Austria).** This pilot secondary school is affiliated with a university college of teacher education and functions both as a centre for practical in-school training of teacher-students and as a school that offers, and empirically investigates, ideal learning conditions. The school emphasises language learning and international contacts, but students can also choose a science, arts or media programme. Students learn in flexible, heterogeneous groups. Teaching methods include open teaching, during which students work according to weekly schedules. Individual feedback on student performance and behaviour is given in the form of portfolios that include teachers’ reports and student self-assessments. Based on the feedback, students can prepare remedial instruction and a resource plan. The ultimate aim of the approach is for students to self-manage their learning and be intrinsically motivated to learn.

**John Monash Science School (Australia).** This secondary school is devoted to the teaching of mathematics and science to selected high-achieving 15-18-year-olds. The school, located on the Clayton campus of Monash University, works with university staff to develop cutting-edge, research-inspired curricula and weekly co-curricular activities, and to give students access to university-level enhancement subjects. Students are almost exclusively taught in large groups by several teachers, and supported in small tutorials and via close monitoring of student performance. The physical environment can be flexibly configured and allows ready access to many ICT resources. All students have an individual tablet computer that is both a chief learning tool and used for electronic communication between students and staff. Professional learning and staff development are emphasised.

**Instituto Agrícola Pascual Baburizza (Chile).** This school is an agricultural VET school primarily attended by students from rural areas and socio-economically disadvantaged backgrounds. It aims to provide students with a cross-disciplinary balance of general education subjects (mathematics, languages, science), agricultural subjects (horticulture, watering and cattle management), and hands-on work using sustainable agricultural practices. Learning “soft” skills, such as a sense of command, initiative and honesty, is also emphasised. Teachers act as mentors by providing guidance and support for groups of ten students. National evaluations reveal that language and mathematics scores among these students have steadily improved, as have graduation rates.

Attention to quality in education should go beyond compulsory schooling, as underlined by an OECD study that found the benefits of early childhood education and care can be substantial, depending on the quality of the services provided (OECD, 2011c). Quality at this level of education can be assured by establishing goals and regulations, designing and implementing curricula and standards, improving the qualifications, training and working conditions for staff, and involving families and communities. In the United Arab Emirates the enrolment rate in pre-school education is low by international standards, with only just above 50% of children aged between 3 and 5 years enrolled, compared to an OECD average of 70% of 3-year-olds, 84% of 4-year-olds and 94% of 5-year-olds in 2012 (OECD, 2014b).
PROMOTE EQUITY IN EDUCATIONAL OPPORTUNITIES

Inequality is deepening in many areas of life, and education and training can help to bridge the divide between rich and poor. Improving equity in skills development is both socially fair and economically efficient, with research having long confirmed that the highest-performing education systems across OECD countries are those that combine quality with equity (Figure 1.9) (OECD, 2011e).

FIGURE 1.9 HIGH-PERFORMING EDUCATION SYSTEMS COMBINE QUALITY WITH EQUITY (PISA 2009)

Quality of learning outcomes, as measured by the reading skills of 15-year-olds, and equity, as measured by the strength of the relationship between skills and socio-economic background (PISA 2009)

Individuals who have low levels of skills due to a lack of access to high-quality education, or because they fail to succeed in education and don’t get a second chance to improve their skills later on, are much more likely to have poor labour market and social outcomes (Psacharopoulos and Patrinos, 2004; Machin and Vignoles, 2005; OECD, 2005a). As Figure I.1 in the introduction illustrates, people with poor foundation skills face a greater risk of experiencing economic disadvantage and a higher likelihood of unemployment and dependency on social benefits. Skills also influence civic and social behaviours in ways that can have significant impacts on civic processes and business relationships. These results are consistent across a wide range of countries, even after adjusting for educational attainment and other background variables. This relationship between foundation skills economic and social outcomes exists independent of the level of formal qualifications or diplomas achieved. One reason for this is that direct measures of skills provide a more up-to-date picture of an individual’s skills because they reflect both the outcomes of skills gain and skills loss over a lifetime, as well as the learning that has taken place in various contexts.

Providing good-quality early childhood education and schooling, particularly to children from socio-
economically disadvantaged backgrounds, is an efficient way of ensuring that children start strong in their education careers (OECD, 2006a; Woessmann, 2008) so that skills beget skills later on (Carneiro and Heckman, 2003). But most countries find it difficult to sustain high participation rates among disadvantaged students. On average, 20% of young people in OECD countries leave school without completing upper secondary education. The proportions range from 3% in Korea to 62% in Turkey (OECD, 2012a). Some countries have developed mechanisms to identify and keep track of students at risk of failure, particularly at the crucial transition point between compulsory education and work or further education (Box 1.13).

**Box 1.13 Gathering information to identify and track students at risk**

In the Netherlands, the Personal Identification Number (PGN), which is issued to every child in the country over the age of three and a half, is an important source of information for research and monitoring. Commonly referred to as the education number, it is the same as the tax and social insurance number. Schools share among themselves the PGN and other data on pupils as the child progresses through education. These data are increasingly used to monitor student performance, school attendance and the risk of dropping out. All secondary schools are expected to register absenteeism, disengagement and dropouts, and a monthly report is available to municipalities and schools to allow them to prioritise those at risk. This information is linked to socio-economic data, including immigrant status, minority status, unemployment and entitlement to benefits, by region, city and district, providing a wealth of information for implementing and adjusting policy.

In Switzerland, the VET Case Management Programme aims to help socially and/or academically disadvantaged students to stay in the education system and give them the opportunity to attain an upper-secondary VET qualification. The programme identifies, records, and monitors at-risk youth. Socially and/or academically disadvantaged students considered to be at risk are usually identified at the age of 14 or 15. Young people who are not placed in an apprenticeship programme, have not completed it or fail to qualify and also have several social and/or academic disadvantages, are considered to be at risk and are contacted by an agency integrated in the programme. The agency is in charge of determining, together with the concerned young person, the measures needed to attain an upper-secondary qualification, and of co-ordinating those measures. Career orientation and other measures are provided.


The irregular attendance and dropout from education among boys is a concern in the United Arab Emirates, and is especially common among Emirati nationals, who often lack the motivation to remain in school as a career in the military or police force is almost guaranteed if they leave the education system with a low level of skill. This creates problems for the national goal of the “Emiratisation” of the work force, in particular the private sector where relevant skills are necessary to ensure the employability of young men. Related to this issue is grade repetition, which affects a substantial number of students whose marks are not sufficient for progression to the next level. International evidence shows that grade repetition is not conducive to educational performance and often preludes dropping out of education and disengaging altogether. It would be important to attract more male teachers to the profession, as male role models may encourage the engagement of boys and male adolescents in school.

Governments can prevent school failure and dropout by eliminating system-level practices that undermine equity, such as grade repetition and early tracking. They can also manage school choice to avoid segregation, which can exacerbate inequities, and design alternate upper secondary education pathways to ensure that students complete their education. Governments can also support schools that have a higher proportion of disadvantaged students by: investing in school leadership that fosters a supportive learning environment, attracting and retaining high-quality teachers, and linking schools with parents and communities (OECD, 2012a; Lyche, 2010). Some countries have developed effective strategies that support disadvantaged schools by linking them with the strongest-performing schools (Box 1.14).
Box 1.14 Supporting disadvantaged schools

Shanghai consortium of schools. Shanghai has adopted the strategy of converting “weaker schools” into strong ones as a way of improving the school system as a whole. The strategy consists of grouping strong and weak, old and new, public and private schools in a cluster, with a strong school at the core. An example of this approach is the Qibao Education Group. Qibao Secondary School, located in a suburb of Shanghai, is well-known for the high percentage of its graduates who are admitted to prestigious universities. In 2005, the Qibao Education Group was established around the Qibao Secondary School. Three other public schools and two private secondary schools were “adopted” by the Qibao Secondary School. All schools in the group have shown improvements since becoming members of the group.

Strengthening and distributing school leadership in Ontario. In 2003, the Ontario Ministry of Education launched a reform of secondary education called Student Success/Learning to 18 Strategy. The Student Success Strategy focuses on providing engaging, quality learning opportunities for all students and support for students at risk of not graduating. One of the main objectives of this reform was to promote strong leadership in schools and district school boards, with the aim of changing school culture and achieving long-term systematic improvement. New roles at the district and school levels were created in an effort to provide high-quality learning opportunities for all students and to support students who were at risk of not completing secondary education. At the district schoolboard level, a new role, Student Success Leader, was created to build leadership capacity. At the school level, the role of Student Success Teacher was created to provide support to students who were at risk of leaving school, while a Student Success Team (which includes school leaders, Student Success Teachers and staff) tracks and addresses the needs of disengaged students, and also works to establish quality learning experiences for all students.

Improving school climate in France. In September 2010, the ECLAIR programme (Écoles, collèges et lycées pour l’ambition et la réussite) was launched, aiming to improve the climate in schools with very high levels of disruptive behaviour and violence. The programme has two main objectives: ensure a better learning environment for all students, and retain and motivate teachers and other school staff. To attain these objectives, the programme tries to align educational needs and pedagogic resources, offering more – and higher-quality – human resources, more freedom in recruiting school leaders, and specific measures to improve school safety. ECLAIR ran for one year in 105 schools with the highest level of disruption; in September 2011, it was expanded to 324 lower secondary schools and 1 911 primary schools.

Financing mechanisms can be instrumental in mitigating inequities, particularly after compulsory education. Equal access to education can ultimately reduce income inequality, and public funding and tax relief can be leveraged to ensure that financial considerations are not a barrier to skills development. Countries should back their overall funding approach with a comprehensive student-support system to make it easier for disadvantaged students to participate in further education and training. A mixed system of loans and grants, available to students in the public and private sectors alike, can be particularly helpful. These schemes can assist disadvantaged students in covering tuition fees and living costs, while obviating the need to spend excessive hours in part-time work and/ or rely too much on family support. Means-tested grants help those with greater needs who might underestimate the net benefits of post-compulsory education (OECD, 2008b).

Some disadvantaged groups require special support to ensure that they have access to high-quality education and training and manage the school-to-work transition. In most countries, young people with an immigrant background do not perform as well in school as their peers who do not have an immigrant background, even after accounting for their socio-economic status. They are over-represented among low-educated individuals who are not in employment, education or training (Figure 1.10). However, the differences in their performance across countries, as shown in PISA results, confirm that some countries are more successful than others in integrating children of immigrants into their education system and fostering a smooth school-to-work transition for them. In the United Arab Emirates students with an immigrant background (after accounting for socio-economic status) perform better than nationals in PISA by, on average, 63 points in mathematics.

Population at risk is defined as poorly educated (below upper-secondary) and neither in employment nor in education or training (NEET). Young immigrants are those who are foreign-born and who arrived before the age of 18.

Successful policies aimed at fully integrating immigrant families into host countries focus on providing language instruction at all levels (OECD, 2010f), particularly for very young children (Liebig and Widmaier, 2009). Proficiency in the language of instruction in addition to mastery of the mother tongue is crucial if immigrant students are to participate fully and perform well in school. In the United Arab Emirates, given the importance of both Arabic and English in the labour market, these two languages should be systematically promoted from an early age amongst national and non-national children alike. In addition, children of immigrants and their parents may need some additional counselling to inform them of the education choices available to them (Box 1.15).
Box 1.15 Denmark’s “We Need All Youngsters” and “Retention Caravan”

The campaign “We Need All Youngsters” was launched in 2003 by the Danish Ministry of Refugee, Immigration and Integration Affairs with the aim of fostering equal opportunities in the education system and labour market. Since December 2011, the campaign has been transferred to the Ministry of Children and Education. The campaign also has a separate and independent branch called the “Retention Caravan”. The main objective of these two large-scale campaigns is to improve the integration of young immigrants, including second-generation immigrants, into the labour market by promoting their educational attainment, particularly in vocational education. In order to ensure a sustainable integration, a second objective is to encourage these young students to pursue training in areas where future shortages are predicted and where young people with a migrant background are under-represented.

We Need All Youngsters created a team of young role models with an immigrant background who have been successful in education and the labour market. These role models travel around the country discussing their experiences with other young people who have an immigrant background, and giving advice on how to choose and successfully complete education programmes. A team of so-called “parent role models” was also created to share experiences among parents.

In response to a shortage of training places and apprenticeships, the Retention Caravan has also developed a user-friendly online guide for students looking for apprenticeships. The guide assists those seeking apprenticeships in writing applications and CVs and helps them to perform better in interviews.

The Retention Caravan is also recruiting a mentor team of retired skilled mechanics and blacksmiths to help vulnerable youth in vocational training courses. The mentor team will advise and support this group of students during the vocational programme.

REMOVE BARRIERS TO INVESTING IN FURTHER LEARNING

Preparing young people for entry into the labour market with education and training is only one facet of skills development; working-age adults also need to develop their skills so that they can progress in their careers and meet the changing demands of the labour market. Moreover, there is strong evidence that foundation skills rapidly depreciate as individuals age, making continued learning of particular importance in countries with aging populations (Desjardins and Warnke, 2012). The United Arab Emirates has a diverse offer of continuing education possibilities, both at universities and in the form of independent public and private training institutes. However, assessing the continuing education offer and the participation rates and labour market outcomes of adult learning, in particular employer-based training, is difficult in the United Arab Emirates due to the lack of comprehensive publicly available data in English.

Adult learning participation varies

Some countries are more successful than others at encouraging participation in further education and training. In the United Arab Emirates, only 6,105 adult learners were enrolled in further education and training in one of the 255 adult training classes offered by the Ministry of Education in 2009-2010. Differences across countries are also apparent when focusing on the type of education and training provided. For example, in Finland, participation is mainly focused on job-related education and training, both formal and non-formal, while Denmark and Sweden report higher participation rates in education and training that are not job-related (OECD, 2011a).

Many obstacles prevent the take-up of training

There are a number of factors that determine the propensity of individuals to engage in adult learning, and skills policies need to identify and dismantle the institutional and situational barriers that may prevent individuals from participating. A survey conducted in several European countries shows that the most common reason for not participating in adult learning is lack of time.

When asked what would help people to overcome obstacles to training, the most common responses were: flexible working hours (21%), individualised programmes of study (20%), and access to good information and advice (14%) (CEDEFOP, 2003). Generally, situational barriers, such as time constraints related to work or family life, tend to be indirectly linked to a broader range of welfare or labour market policies, for example those related
to childcare; whereas institutional barriers, such as inflexible hours or geographically remote locations, high user fees or entry requirements, are more directly linked to how adult education is provided. These need to be addressed in conjunction with other policy interventions. The OECD has identified a number of policy approaches that can help to dismantle some of these barriers (OECD, 2005a), these include:

- **Greater transparency:** making the return on adult education and training more transparent helps to increase the motivation of users to invest in adult education and training. Governments can provide better information about the economic benefits (including wages net of taxes, employment and productivity) and non-economic benefits (including self-esteem and increased social interaction) of adult learning.

- **Information and guidance for potential learners:** less-educated individuals tend to be less aware of education and training opportunities or may find the available information confusing. A combination of easily searchable, up-to-date online information and personal guidance and counselling services to help individuals define their own training needs and identify the appropriate programmes is needed, as is information about possible funding sources.

- **Recognition of learning outcomes:** clear certification of learning outcomes and recognition of informal learning are also incentives for training. Transparent standards, embedded in a framework of national qualifications, should be developed alongside reliable assessment procedures. Recognition of prior learning can also reduce the time needed to obtain a certain qualification or diploma and thus the cost of foregone earnings.

- **Flexible delivery of relevant programmes:** it is essential to ensure that programmes are relevant to users and are flexible enough, both in content and in how they are delivered (i.e. part-time, flexible hours) to adapt to adults’ needs. A number of countries have recently introduced “one-stop-shop” arrangements, with different services offered in the same institution. This approach is particularly cost-effective as it consolidates infrastructure and teaching personnel and makes continuing education and training more convenient. Distance learning and the open educational resources approach (OER) (Box 1.16) have significantly improved users’ ability to adapt their learning to their lives. Developing OER courses in Arabic will be important to increase access and take-up of such educational offers in the United Arab Emirates.

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**Box 1.16 Open Educational Resources (OER)**

The term “Open Educational Resources” (OER) was coined by UNESCO to denote digital learning resources that are freely available (mostly online, but sometimes in print) to teachers, educators, institutions, students and independent learners. In January 2007, the OECD identified over 3 000 open courses available from over 300 universities worldwide. Since the Massachusetts Institute of Technology (MIT) launched its OpenCourseWare (OCW) initiative in 2011, more and more institutions are developing and using OER. Licensing arrangements, such as Creative Commons, offer appropriate intellectual property protection for such resources. Given its benefits in access, quality and cost-efficiency, the OER approach will undoubtedly change not only the business model of many education institutions, but also the education system itself. MIT announced plans for a new initiative, MITx, that essentially combines the open courseware concept with opportunities for credentialing.

OECD work on OER offers some policy recommendations to be followed at the international, national, intermediate and institutional levels:

- **Copyright legislation has to be harmonised and standardised at the international level to move towards a more generous way of looking at the use of digital materials for education. Copyright legislation has been identified as one of the main barriers to OER.**

- The OECD recommends the use of open standards and open-source software licensing.

- Public-private partnerships can effectively promote OER, because they combine the know-how and resources from both sectors, while sharing and reducing risks.

- Since many OER users are independent and use it for informal learning, it offers a way to encourage lifelong learning and wider participation in higher education, and to bridge the gap between formal, non-formal and informal learning.

- A holistic approach to all kinds of digital-learning resources and to all parts of the education system should be promoted to maximise benefits.

- Institutions, particularly those of higher education, should be encouraged to participate in OER, with a well-reasoned information technology strategy, including e-learning issues.

Workplace or employer characteristics also impact on the decision whether or not to participate in later learning, as skills development is most often provided by large firms (Martinez-Fernandez, 2008; Dalziel, 2010; Kubisz, 2011). All firms, but particularly SMEs, need to overcome various obstacles to investing in employee training, including: lack of time, workload pressures, resources and cost; complicated paperwork/red tape; lack of enterprise/managers’ skills, experience, data and support; an operational culture that does not include training; learning needs that are not met by the training offered; lack of awareness; and market position (Martinez-Fernandez, 2008; CEDEFOP, 2011).

SMEs need special support for training

One of the greatest obstacles for SMEs participating in skills development and training activities is the lack of customised training (Martinez-Fernandez and Sharpe, 2010). Since SMEs have a finite amount of resources to devote to training activities, pooling resources and partnership arrangements among SMEs should be encouraged (OECD, 2005a). Policies could also encourage co-investments, both financial and in-kind, by the companies receiving publicly funded training advice and activities. Policy interventions, such as designing and disseminating skills audits and other assessment tools, are needed to help SMEs systematise their training practices (Box 1.17). Public policy should be co-ordinated across local, regional and national levels to help SMEs identify their training needs and determine the best options for their businesses.

Box 1.17 Encouraging training in SMEs

In Korea, a private or public training provider can receive public subsidies if it forms a partnership or consortium with SMEs in which the providers’ facilities or equipment are used to develop skills. Subsidies can cover the costs of the facilities, equipment and salaries for training personnel. Government spending on this programme has steadily increased since 2003. In 2009, 78.3 billion won (about USD 69 million) was spent under this programme to train 231,000 employees at 111,000 SMEs.

Separately, SMEs can receive public subsidies to cover part of the costs associated with organising learning in the workplace. Specific activities that are eligible for the funding include study-group activities, creation of study spaces, high-quality learning programmes, development of learning networks, and on-the-job training programmes. This initiative started in 2006. In 2009, subsidies were applied to organised learning activities at 307 SMEs. In other cases, when SME employees participate in training offered by private providers, and the Ministry of Employment and Labour deems the activities to be core or central to the tasks of SMEs, then training costs and part of the labour costs may be subsidised.

The government provides enhanced employment and training services to help SME employees and non-regular workers to develop job skills on their own and move on to better jobs. Under "JUMP" (Job Upgrading and Maturing Programme), SME employees and non-regular workers may take a module-based training course on weekends or weeknights. In 2009 alone, 13.8 billion won (about USD 12.1 million) was spent on this programme, benefiting more than 52,000 people.

Some countries establish levy schemes to increase employers’ financial contributions to training and ensure that there is a reliable training budget independent of public resources (Müller and Behringer, 2012; Johanson, 2009; CEDEFOP, 2008b). Payments into these schemes are compulsory in some countries, in others the schemes are initiated by the private sector. These schemes attempt to address situations where employers “poach” trained workers from competing employers instead of investing in the skills of their own staff. This often leaves other employers unwilling to provide training and can result in an overall underinvestment in skills development (Johanson, 2009). The design of these schemes varies in coverage (universal, sectoral or regional), collection method, and obligation to contribute (Müller and Behringer, 2012). One study (Smith and Billett, 2005) concludes that levies tend to be accepted by employers more readily if they are targeted at the sectoral or regional levels, rather than universal, and if the levy is managed locally. Given these findings, employers should be encouraged to actively engage in designing these kinds of schemes.
Second-chance options for adults need to be made attractive

For individuals who leave education with a very low level of skills, second-chance options for education can provide a way out of a low skills/poor economic outcome trap. Low or unskilled individuals are unlikely to engage in education and training on their own initiative, given their negative experience with the school system, and they are not likely to receive employer-sponsored training (Desjardins and Rubenson, 2011), which means they face even greater difficulties in the labour market. Governments can offer second-chance foundation-skill courses for these individuals, and incentives for employers to send their low-skilled employees to these courses. In the United Arab Emirates, where illiteracy rates are still high, Adult Education Centres have been established that offer courses to eradicate illiteracy. However, the dropout rates of these centres are high. Some countries have developed successful strategies to reach low-skilled adults by combining different modes and purposes of learning, often in non-school environments (Box 1.18). This allows people who have been at the margins of or excluded from the labour market to work their way back in by developing their skills.

Box 1.18 Second-chance options for low-skilled adults

In a number of countries that have well-defined strategies to reach low-skilled adults, an approach that has proved successful is to move away from the school model and try to combine different modes and purposes of learning as often as possible. In Germany, for example, there are a range of second-chance opportunities for those at the lower end of the skills spectrum. Some focus on providing non-formal environments compatible with daily lives, with courses lasting only a few hours per week. These aim to support adults who are reluctant to participate in learning activities. In the Netherlands, some programmes also combine language teaching with work and, in certain cases, on-the-job training. The intergenerational approach has also been a success.

Korea has adopted alternative methods to reach and successfully train low-skilled adults. Literacy courses are delivered at the local level by social welfare centres, women’s organisations and many non-governmental organisations. To reach and convince adults to enrol, for instance, the staff of the Anyang Citizens Adult Education Centre approaches women in places like supermarkets, beauty shops and bus stops. The teaching force is composed of volunteers, some of them former course participants. This Centre is networked with 25 other NGOs that also offer literacy courses. Special schools, called “paraschools”, deliver adult basic education for low-skilled individuals that do not require all-day attendance. “Civic schools” offer basic education condensed into a three-year course, and “civic high schools” offer the equivalent of secondary education.

Some countries provide second-chance programmes that focus on combining school-based learning with on-the-job training, in a dual apprenticeship system for adults. In Austria, for example, “intensive apprenticeships” for adults last one year instead of three, with many adults likely to be interested in second-chance vocational preparation. The programmes are short as well as intensive, and lead to a qualification that carries the same currency as the conventional apprenticeship system. In 2002, 5 300 persons took the intensive apprenticeship exam and started a trade afterward; that represents more than 10 per cent of the people starting a trade after finishing a regular apprenticeship. In Poland, the success of apprenticeship programmes for young people has raised interest in developing similar programmes for low-skilled adults.

Komvux, in Sweden, is a municipal institution for adult education at compulsory and upper secondary levels. It offers adults over the age of 20 the opportunity to improve and/or redirect their skills and to fulfil the general admissions requirement for studies at the tertiary level. Traditional subjects, such as social science, Swedish, English and mathematics dominate. Thanks to a high degree of “commonality”, meaning that high proportions of students study the same general courses, less adult education is needed to switch from a profession requiring a vocational qualification to one requiring a general diploma (e.g. a bachelor’s degree in business administration or computer science).

Consider cross-border skills policies and knowledge exchange

While governments tend to think and act primarily in national terms, economic activity is increasingly international. Skills policies need to adopt a global perspective, in addition to catering to the needs of the national economy. In certain situations, developing skills in the national population may not be enough, and to avoid bottlenecks in production due to skills shortages, especially in the fast changing labour markets of emerging economies, targeted policies can enable skilled people to enter the country. Facilitating return migration and engaging in cross-border knowledge exchange can also be an effective means to increase a country’s skills potential.

DECREASE DEPENDENCE ON SKILLED MIGRANTS

Countries may have skills shortages due to booming emerging sectors and not enough people trained in those fields, or because they have aging societies and too few young people to replace retiring workers, or because they want to move major parts of the economy to higher value-added production, which requires a better-trained workforce. Labour-migration policies can complement other measures to address these shortfalls. The OECD road-map for managing labour migration (OECD, 2009) recommends that an effective migration programme:

- Identifies labour market needs, considering demographic changes in the non-immigrant population and changes in educational attainment.
- Establishes formal recruitment channels, including for low-skilled migration.
- Issues a sufficient number of visas and processes them quickly.
- Provides efficient ways to verify residence and immigration status.
- Implements effective border-control and workplace-enforcement procedures.

The United Arab Emirates has a long tradition of labour immigration to fill the high demand of the labour force at all skills levels, with UAE nationals representing only 4% of employees in the major occupation sector in 2008 (UAE/NBS, 2014). By far the largest foreign migrant population in the United Arab Emirates is from the Indian subcontinent, with 1.75 million Indian expatriates and 1.25 million Pakistanis in 2009 (Saeed Al-Qubaisi, 2012). There are also very large numbers of Bangladeshis, Sri Lankans, Egyptians, Jordanians and Filipinos in the United Arab Emirates, followed by substantial numbers of Yemenis, Iranians and Sudanese (Kapiszewski 2006). Western expatriates from a range of countries accounted for around 500,000 of the population, according to 2009 estimates (Saeed Al-Qubaisi, 2012). The education levels vary across migrant groups ranging from illiterate to highly skilled (Figure 1.12).

The United Arab Emirates has benefited considerably from migrant workers in the past, and still needs large numbers of migrants to ensure that the demand for workers at all skills levels in the labour market is covered. Over time, however, the aim should be to decrease the dependence on expatriate workers by improving the quality, relevance and equity of the education so that the right skills in the national population are developed.
ENABLE RETURN MIGRATION

The number of UAE students studying abroad, supported by a strong scholarship system, has increased steadily over the last 10 years, reaching around 7,000 in 2008, up from around 4,000 in 1999. The UAE Ministry of Higher Education and Scientific Research allocated over $1 billion in 2012 to provide scholarships and training opportunities abroad for UAE nationals. However, to make this investment pay for the United Arab Emirates, it is important to ensure that many of these students eventually return and offer their additional skills to the economy and society.

Migrants returning home can bring back knowledge and experience of use to their home country. However, some emigrants do not return to their home countries. A long-term residency status in the destination country can help to remove that barrier, as can measures that allow social security contributions or rights to “migrate” with the individual. A number of countries have tried to eliminate disincentives to return and to facilitate and encourage return migration (OECD, 2009). Poland provides financial support to municipalities that invite returnees and provide them with housing, Estonia has developed a specialised website aimed at connecting Estonians living abroad with possible employers in Estonia, and several countries in Asia have developed training and business-counselling services offered to return migrants who want to set up businesses. Italy, New Zealand, Portugal and Spain provide income-tax concessions to highly skilled nationals returning to their home country (OECD, 2011g).

FACILITATE KNOWLEDGE TRANSFER AND CROSS-BORDER EDUCATION

Co-operation on skills policies between source and destination countries can increase benefits to both. For example, some countries provide training to temporary labour migrants in the host country, and the workers can then take this knowledge back to their home countries when they return (Box 1.19).

Box 1.19 Training foreign workers

Korea offers an “occupational skills and set-up business training programme” for workers under its five-year-maximum temporary Employment Permit Scheme for low-skilled workers in SMEs. The programme aims to help foreign workers to successfully resettle in their own country after returning and is targeted at both foreign workers with E-9 visas and, more recently, overseas Koreans with H-2 visas (a temporary work permit) who have worked for more than three years or have been re-employed.

The courses offered include hairdressing, computer repair, automobile maintenance, electrical welding, excavator driving, Korean translation, Korean cuisine, and trade with China (most H-2 visa holders are Chinese). There were 720 spaces in the programme in 2012; enough to accommodate only a small fraction of the several hundred thousand workers in the EPS scheme. Some 5,000 active foreign workers can participate in the training programme. Other OECD countries have also set up temporary labour-migration programmes for training that are often administered in close co-operation with origin countries. Germany, for example, has a “guest employee” programme that is aimed at allowing skilled and semi-skilled migrants from Eastern and South-eastern Europe to obtain supplementary specific training in Germany for 1 year to 18 months. The intention is to train them and teach them about the German labour market, economy and language so they can find work in their respective country of origin, if that country engages in a trade partnership with Germany. Under certain circumstances, the migrants may also stay in Germany after the programme.

Policies that encourage cross-border tertiary education help a country to expand its education system more rapidly than if it had to rely on domestic resources alone. They can also help to improve the quality, variety and relevance of domestic higher education – three key elements that require a critical mass of high-quality academics. A growing number of emerging economies in Asia have allowed foreign universities to introduce cross-border tertiary education on their territories. In Malaysia, for example, foreign providers offered 34% of the 899 bachelor degrees and post-graduate programmes in the country’s private education sector in 2006. The government has encouraged this by allowing foreign providers to bid for domestic research funding (OECD, 2008c). The United Arab Emirates has been successful in establishing international university partnerships, especially the Emirate of Abu Dhabi, which has attracted Paris-Sorbonne, INSEAD and New York University, thus increasing the quality of its tertiary education offerings in a relatively short period of time.

Creating networks of expatriates can also have positive effects on technology transfer and investment. Organisations of expatriate scientists have been instrumental in encouraging firms in the host country to invest in the expatriate group’s country of origin. There is also evidence that networks of expatriates have initiated joint research projects with scientists in their countries of origin, thus improving the flow of technology and information (Dowell and Findlay, 2001).

NOTES
2. The OECD’s Programme for International Student Assessment (PISA) measures 15-year-old students’ proficiency in the core subjects of reading, mathematics and science. This survey provides a way of comparing countries’ success in imparting cognitive foundation skills through their systems of compulsory education OECD (2010c).
3. OECD (2011d). The Gini coefficient, a standard measure of inequality, where zero means everybody has the same income and 1 means the richest person has all the income, stood at an average of 0.29 for working-age persons in OECD countries in the mid-1980s. By the late 2000s, it had increased by almost 10 per cent to 0.316. Today in advanced economies the average income of the richest 10 per cent of the population is about nine times that of the poorest 10 per cent.
4. Equity in education has two dimensions: inclusion (ensuring that all students reach a minimum level of skills) and fairness (ensuring that personal or social circumstances, such as gender, ethnic origin or family background, are not obstacles to educational achievement); Field, Kuczera and Pont (2007).
5. Unfortunately, many educators still hold bilingualism of migrant children as responsible for linguistic delay, academic underachievement, and identity issues. However, the source of academic and linguistic difficulties is typically not rooted in the use of their languages of origin, but rather the lack of cohesive support and recognition for their heritage cultures and languages. Students could be taught to capitalise on first-language knowledge by using cross-linguistic transfer strategies, which not only would improve literacy in the second language, but also bolster their self-esteem and recognise the value of preserving home language and culture. Della Chiesa et al. (2012).

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Policy Lever 2

Activating Skills Supply

In all countries, there are people who possess skills that they don’t bring to the labour market, either through choice or because of labour market access barriers. This chapter explores the reasons behind this inactivity, and considers how the United Arab Emirates can encourage people to supply their skills to the market. Gender differences, issues surrounding youth unemployment, and considerations for those with disabilities are highlighted. This chapter also covers how to retain skilled people, including through discouraging early retirement and staunching brain drain.
How to encourage people to supply their skills to the labour market?

People may have skills but decide, for various reasons, not to offer them to the labour market. For example, women and people with disabilities or chronic health problems are more likely to be inactive, and some young people who are not in employment, education or training (NEET) risk becoming disengaged from the labour market altogether and may remain at the margins of society. In addition to investing in the development of new skills, and before importing skills from outside the country, it is worthwhile for the United Arab Emirates to consider tapping this unused source of skills. It is also possible for skilled people to be discouraged from withdrawing from the labour market through early retirement, or because they decide to find work in another country.

**ENCOURAGE INACTIVE PEOPLE TO PARTICIPATE IN THE LABOUR MARKET**

Many individuals are out of the labour force by choice, because of their personal or family circumstances, or because there are financial disincentives to work. Unused human capital represents a waste of skills and of initial investment in those skills. As the demand for skills changes, unused skills can become obsolete, and skills that are unused during inactivity are likely to decline over time. Conversely, the more that individuals use their skills and engage in complex and demanding tasks, both at work and elsewhere, the more likely the decline of skills due to ageing can be prevented (Desjardins and Warnke, 2012). Moreover, when adults acquire new skills, they often do so on the job; someone who is not in the labour market will not have this advantage.

**The incidence of inactivity varies**

Labour force participation rates – the sum of people in employment and unemployment as a percentage of the working age population – vary significantly across countries and by educational levels (Figure 2.1). Some socio-demographic groups, such as women and people with disabilities or chronic health problems, are more likely to show lower participation rates than others, particularly when they are poorly skilled. Variations in the composition of the labour force, and in the participation rates of these socio-demographic groups, translate into significant cross-country differences in what higher participation rates could mean for skills supply.

**FIGURE 2.1 EMPLOYMENT RATES AMONG ADULTS IN OECD COUNTRIES BY EDUCATIONAL ATTAINMENT (2013)**

Countries are ranked in ascending order of the employment rates of 25-64 year-olds with tertiary qualifications.

The OECD projected how the labour force would develop by 2050 under different policy scenarios (OECD, 2010a). The results show that in some countries, such as Denmark, Finland, Hungary and Norway, higher participation rates among workers with disabilities could play a significant role in increasing future labour supply. In Greece, Italy and Spain, closing the gender gap offers the greatest potential for raising labour force participation rates by 2050. Later retirement, which is also among these scenarios, would lead to labour force growth similar to the “disability equality” scenario, with the exception of those countries in which early retirement is still particularly widespread. Activating the supply of skills in the United Arab Emirates will require identifying and adequately supporting those groups that are most likely to disengage from the labour market.

**Gender differences are large**

In the Middle East and North Africa (MENA) region there are considerable gender differences in labour force participation. The men-to-women ratio of participation ranges from over 3.7 to 1 in Saudi Arabia and Syria, to 1.86 to 1 in Qatar. Participation rates among men range from 71% in Tunisia to 93% in Qatar, while among women it ranges from 15% in Iraq to 53% in Qatar. Women find it particularly difficult to secure decent employment in Egypt, Jordan, Libya, Morocco and Tunisia. In all five countries, only about a quarter of adult women were in the labour force in 2010 (a figure that also includes discouraged workers), compared to 70-80% participation rates among adult men (see Box 2.1).

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**Box 2.1 Labour-force participation among women in MENA countries**

Many countries in the Middle East and North African (MENA) region have made significant progress towards reducing gender gaps in key dimensions of education and health, but improvements in employment outcomes are limited. The increase in women’s labour-force participation over the past two decades has been slight: from 22% in 1990 to 30% in 2010, almost 40 percentage points below the labour-force participation rate among men in the region.

**Patterns of employment and occupational segregation.** Women are often employed in the public sector. In Egypt, for example, the public sector accounts for 56% of employed women compared with 30% of men. However, female public employees tend to work in the areas traditionally regarded as “feminine”. In Morocco, for example, in 2009, women represented about 50% of employees in the Ministries of Health and Social Affairs, but only 4% in the General Directorate for Civil Protection and 6% in the General Directorate for National Security.

Similar to OECD countries, when employed, women earn lower salaries than men in both the private and public sectors and do not have equal access to leadership training. Women are less represented in senior and leadership positions in both the private and public sectors. In 2010, women’s representation in top management in national government was 14% in Morocco, 26% in Egypt, and 45% in Tunisia.

**Barriers to employment.** Lack of work-family balance policies is one of the main barriers to women’s employment in the region. Family responsibilities are considered a woman’s domain and marriage plays a key role in women’s labour force participation, particularly among women in the private sector. In Morocco, only 12% of married women join the labour force, compared with 79% of married men. In Egypt and Jordan, the share of women in private jobs falls sharply at first marriage. This pattern is observed regardless of women’s level of education. In contrast, the proportion of women in public sector jobs is less affected by marriage: 57% of married working women are employed in the public sector.

Other institutional, legal, economic and social norms also help to explain the slow progress of women in employment in the region. These include norms restricting the type and hours of work for women and requirements to get the permission of husbands or fathers to work. Some MENA countries, including Egypt, Jordan and Yemen, also report that safe public transport and a more suitable working environment would improve employment prospects for women, particularly for those in remote areas.

**On the reform path.** Many MENA governments have introduced measures to improve women’s employment prospects. Morocco, for example, regularly reports on gender employment trends and women’s access to leadership positions in the civil service; and measures to guarantee public-sector pay equity have been put in place in Egypt, Jordan, Morocco and Tunisia.
A labour force survey in the United Arab Emirates reported that the share of the adult population aged 15-years and older actively engaged in the labour market is 73%. Gender differences are considerable, with male labour force participation almost twice as high (89%) as female participation (42%) (Table 2.1). Out of the active population, 4.2% were unemployed in 2009, again with large gender differences: 10.8% female versus 2.4% male unemployed.

### Table 2.1 Employment in the United Arab Emirates (15 years and over) by gender and employment status

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Employer</td>
<td>9,167</td>
<td>276</td>
<td>7,081</td>
<td>172</td>
<td>14,5</td>
<td>1,279</td>
</tr>
<tr>
<td>Self-employed</td>
<td>14,384</td>
<td>96</td>
<td>9,07</td>
<td>287</td>
<td>10,706</td>
<td>1,003</td>
</tr>
<tr>
<td>Waged worker</td>
<td>275,456</td>
<td>38,084</td>
<td>481,569</td>
<td>61,663</td>
<td>839,223</td>
<td>114,919</td>
</tr>
<tr>
<td>Non-waged</td>
<td>54</td>
<td>0</td>
<td>192</td>
<td>43</td>
<td>544</td>
<td>122</td>
</tr>
<tr>
<td>Total</td>
<td>299,061</td>
<td>38,456</td>
<td>497,912</td>
<td>62,165</td>
<td>864,973</td>
<td>117,323</td>
</tr>
</tbody>
</table>


**Young people are at a risk of being left behind**

Young people are also at risk of disengaging from the labour market. The OECD’s Jobs for Youth study (OECD, 2010b) identifies “youth left behind” as young people who have several disadvantages, including: the lack of a diploma, an immigrant/minority background, residence in disadvantaged/rural/remote areas, teenage motherhood, and a prison or foster-care background. Because these groups vary in size and composition across countries, the OECD has chosen to proxy this group with the number of NEET young people aged 15 to 29. In 2010, in the 26 OECD countries for which data was available, the group of “youth left behind” represented 12.5% of 15-24-year-olds. In Europe, where the figure can be refined further to exclude youth who hold a diploma, the OECD estimates that in 2005, the most recent year for which this statistic is available, the group of “youth left behind” represented 11% of out-of-school 15-29-year-olds.

Youth unemployment is a serious issue in several MENA countries. Exact numbers are difficult to estimate due to the high incidence of informal work, but the International Labour Organization’s (ILO) Global Employment Trends for Youth (ILO, 2013) identified the Middle East as having the highest youth unemployment rate of all regions, standing at 28% in 2012 and expected to rise to 30% in 2018. In North Africa the corresponding rates were 23.7% and 24% respectively, to be compared to a global youth unemployment rate of 12% in 2012, projected to rise to 13% by 2018. Moreover, there are large gender differences in the employment situation for young people in the Middle East. While the unemployment rate for young males was estimated at 24.5% in 2012, 42.6% of young females in the labour force were unemployed. The unemployment rate for young women is high despite the fact that the female labour force participation rate is the lowest of all regions, at 13.2% in 2012 (ILO, 2013).

In several MENA countries, college-educated workers account for a large share of the unemployed as they tend to have greater resources and more incentives to wait for a job in the formal sector than less-educated workers. These incentives include the relatively high pay and benefits offered in public-sector employment, which accounts for a substantial share of jobs. Figure 2.2 shows how unemployment rates are higher for those with higher education than for those with few educational qualifications – the opposite of what is observed in the industrialised world.

Compared to other countries in the region, youth unemployment is low in the United Arab Emirates. However, at 12% it is still much higher than the country’s overall unemployment rate. Given the predicted national population growth rate, the number of young people graduating from education is going to increase and an increasing proportion of them will be highly educated. Measures will therefore have to be taken to absorb them into the labour market. The availability of internationally comparable statistics for the United Arab Emirates is limited and out-of-date by several years, therefore to allow for a regular and up-to-date assessment and comparison of social and economic data, efforts should be undertaken to develop the statistical infrastructure and capacity to analyse labour market data, and to use the information for policy development.
IDENTIFY AND TACKLE REASONS FOR INACTIVITY

Reasons for inactivity vary and can include both economic and social or cultural factors. Some working-age individuals make a conscious decision to withdraw from the labour market or have major health-related work impediments. Others are willing and able to work but are prevented from doing so by a range of supply- and demand-side barriers. Because there are often multiple reasons behind inactivity, improving labour force participation requires policy packages that combine several initiatives. Participation by employers is always crucial.

Overcome barriers to female labour force participation

Policies can help to dismantle various barriers to labour force participation. For women, these barriers are often time constraints related to family and care obligations, both for children and for senior family members. Limited opportunities for part-time work can be an additional barrier to employment in these cases. The reasons people choose to work part-time or leave the labour force entirely are often closely related. For example, the main reason 25-39-year-old women cite for choosing to work part-time is their care responsibilities; the same reason is given for this group’s inactivity (Figure 2.3). This suggests that part-time work, coupled with adequate childcare facilities, can facilitate labour market participation when caring responsibilities prevent full-time employment (OECD, 2010c; Gornick and Hegewish, 2010). However, the inactivity of this group can also be related to cultural norms and traditions prevailing in a country.

Part-time work may imply less job security, lower wages and limited career prospects, however it is increasingly seen as a vehicle for activating groups with traditionally low labour market participation (Gustman and Steinmeier, 2004; OECD, 2010c). Employers who offer flexible start times and working hours, control over working hours, and especially for women, flexible working arrangements around the time of childbirth could make a substantial difference to labour-force participation (Box 2.2).
FIGURE 2.3 REASONS FOR WORKING PART-TIME OR BEING INACTIVE
Percentages, average over 21 European countries¹ and years 2005–07

<table>
<thead>
<tr>
<th></th>
<th>Studies</th>
<th>Preference for part-time</th>
<th>Caring responsibilities</th>
<th>Illness</th>
<th>Other reasons</th>
</tr>
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<tbody>
<tr>
<td>Youth (20-24)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Women (25-39)</td>
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<tr>
<td>Women (40-54)</td>
<td></td>
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<tr>
<td>Older workers</td>
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![Graph showing reasons for working part-time or being inactive across different age groups and genders.](image)

1. Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovenia, the Slovak Republic, Spain, Sweden and the United Kingdom.


Box 2.2 Employment conditions that facilitate participation in the labour market

**Jobs for parents.** While some parents prefer to stay home with children regardless of childcare options, others prefer to combine home care with full- or part-time work. In **Austria, Denmark, Finland, the Netherlands** and **Sweden**, parental-leave programmes involve adjustments of working hours and part-time jobs. In **Portugal** and **Sweden**, the parental leave period can be used at different times, for example to extend holiday periods until children go to school (age six in Portugal, age eight in Sweden).

**Employers’ obligations.** In order to retain workers with health problems, some countries have legislated obligations for employers that aim to reduce non-financial barriers for workers with health problems or disabilities.

- **Germany.** Employers have to offer preferential selection for within-company training to those workers with health problems or disabilities, and support their efforts to enrol in training elsewhere. Furthermore, workers with disabilities or health problems have the right to work assistance, an adapted workplace and part-time employment, if required.

- **Luxembourg.** Firms with more than 25 workers are obliged to find an appropriate job for their workers with disabilities, either a different job or the same one on a reduced schedule.

- **Spain.** Employers must keep a post open for up to two years for a worker with health problems. Moreover, former employees on disability benefits who recovered after taking leave have priority for filling suitable vacancies or for a similar job.


The UAE government has made efforts to promote female education and labour force participation in the recent past. As a consequence, the literacy rate among women increased from 22.4% in 1980 to 88.7% in 2003, and in recent years women have accounted for more than 72% of all university students (Saeed Al-Qubaisi, 2012). Female labour force participation has also risen significantly from only 3% in the early 1970s to 15% in 2000 and over 40% today. Further efforts will be necessary to achieve full labour market equity and to fully include Emirati women in the labour force and avoid wasting valuable human capital.
Support people with disabilities to be active

For those with disabilities, it is generally the quality of employment that influences participation in the labour market. Improving the general conditions for workers with health problems should therefore be part of employer and government strategies aimed at reducing non-financial barriers to employment (OECD, 2011d). Employers and unions can help workers to retain their jobs by improving workplace safety and by being more aware of specific work needs (OECD, 2006). Given the link between sick leave and incapacity to work, improving prevention and early-intervention measures, while avoiding “medicalisation”, is critical. For employers, effective wage subsidies or other financial incentives that compensate for losses in productivity can make it financially more attractive to retain sick workers or people with disabilities.

The United Arab Emirates is aware of the challenge facing people with disabilities in the labour market. In 2006, the federal Government passed the UAE Disability Act (Federal Law No.29/2006) to protect the rights of people with disabilities and special needs. It stipulates that UAE nationals with special needs have the same right to work and occupy public positions. To fulfil these rights, the Community Development Authority of the Emirate of Dubai has introduced the El Kayt (Arabic for “lifeboat”) programme for the employment of people with disabilities, by empowering and integrating them into jobs in leading institutions in the public and private sectors.

Tackle unemployment and especially engage young people in the labour market

Temporary exclusion from the labour market due to unemployment implies that available skills are not being used. Unemployment of a long duration can translate into permanent disengagement from the labour market and needs to be tackled as a first step towards ensuring that all skills are activated. The OECD Jobs Strategy provides a number of recommendations on how countries can tackle unemployment (Box 2.3).

Box 2.3 Policy advice to tackle unemployment

In 1994, the OECD Jobs Strategy was released to provide a set of policy guidelines to OECD countries to tackle high and persistent unemployment. In 2006, a revised version of the Jobs Strategy was published. The Strategy rests on four main pillars, each of which includes either direct or indirect policy measures to address unemployment.

Pillar A: Set appropriate macroeconomic policy

- Temporary increases in unemployment due to adverse shocks can become persistent if macroeconomic policy does not help to stabilise the economy. A call for monetary and fiscal policy is required.
- Monetary policy should pursue medium-term price stability by reacting to either inflationary or deflationary shocks. The ultimate aim is to stabilise economic activity.
- Fiscal policy should aim to restore and maintain sound public finances, so that automatic stabilisers can be allowed to operate.

Pillar B: Remove impediments to labour market participation and job search

- Unemployment benefit replacement rates and duration should be set at levels that do not discourage job search, especially where they are relatively generous.
- Employment services should offer unemployed workers in-depth interviews and job-search assistance. Participation in active labour market programmes should be compulsory.
- Performance of employment services should be assessed on the basis of their long-term impact on employment benefit caseloads; inefficient programmes should be terminated.
- Employment should be financially attractive vis-à-vis benefit receipt. Tax-benefits reforms and in-work benefits to make work pay are policies to be addressed.

Pillar C: Tackle labour- and product-market obstacles to labour demand

- Ensure that minimum wages are set at levels that do not harm job creation significantly for low-productivity workers.
- Legal impediments to entry of new firms should be removed in all areas where competition is feasible, and administrative burdens and costs on business start-ups should be reduced and simplified to promote an entrepreneurial climate.
- Employment-protection legislation should be reformed in countries where it is overly strict, by sanctioning unfair dismissal (on the basis of discrimination) and reducing constraints on dismissals for economic reasons. Reasonable dismissal notice periods should be provided so as to help laid-off workers find new jobs.

Pillar D: Facilitate the development of labour-force skills and competencies

- Establish a system of recognition of new competencies acquired by adults through training and work experience, including recognition of the credentials of new immigrants.
- Ensure that some employment programmes are targeted to the specific needs of disadvantaged groups, such as unemployed persons.
- Reduce early exit from education and ensure that young people acquire skills relevant to the labour market.
- Help combine education with work; apprenticeship systems or more informal channels are a good start.

Combine activation policies with opportunities for retraining or up-skilling

The skills of people who have stayed inactive for an extended period of time can atrophy or become obsolete. These people may require retraining or up-skilling to avoid moving from inactivity to unemployment as their skills are not in demand. Targeted vocational training and re-entry programmes can help people who have been outside the labour market due to care obligations or illness (OECD, 2007b and 2010a). In addition, active labour market policies, primarily used to help unemployed people find work, are being extended to target those who are inactive but who have the capacity to work, such as single mothers or individuals with health problems. These programmes can involve work-related and job-search training, as well as subsidised employment in the open labour market or in protected sectors.

Activation measures, such as individual case management that helps hard-to-place unemployed people to find work, often also work for target groups that face multiple barriers to participation. But it is a challenging task as it is much more difficult to impose a mutual obligation on a heterogeneous group than on an individual (Carcillo and Grubb, 2006). Participation in activation programmes is more difficult to enforce if non-compliance carries no consequences, such as reducing or eliminating benefits. Employment-related services tend to be most effective when they are personalised, which explains why these services are often targeted to specific groups and provided by private specialists (OECD, 2006 and 2011c; Carcillo and Grubb, 2006).

To be effective in increasing labour force participation and the use of skills, these measures need to be combined with efforts to reduce employers’ reluctance to hire inactive individuals (Carcillo and Grubb, 2006), particularly workers with health problems or those with disabilities (OECD, 2006 and 2010a). If there are not enough job opportunities on offer, any efforts to employ larger numbers of these workers will fail. This problem also faces disengaged young people, and the OECD has made a number of recommendations on how countries can use supply- and demand-side approaches to support hard-to-place young people at risk of total labour market disengagement and long-term inactivity that can leave them languishing at the margins of society their entire lives (Box 2.4).

### Box 2.4 Policy advice from the OECD’s Jobs for Youth study

Promote a smooth transition from school to work and early career development by:

- Using early and selective interventions to help avoid creating a large pool of youth at risk of becoming long-term unemployed, inactive or involved in informal jobs or jobs that do not make full use of their skills.
- Ensuring that youth leave education with recognised qualifications or diplomas.
- Promoting the use of internships and other forms of on-the-job learning that could help students acquire some labour market experience before graduation.
- Adopting a “learn/train first” approach to boost employability of low-skilled youth who have difficulty finding a job.

Remove demand-side obstacles to better youth employment outcomes by:

- Investing in funds that promote new skills for new jobs, targeting young entrants.

Reduce the cost of employing low-skilled youth.

Pursuing efforts to reduce labour market duality overall, particularly that of temporary vs. permanent contracts.

Provide support for unemployed and inactive youth who are not engaged in learning by:

- Strengthening the safety net and promoting smoother employment and training pathways for unemployed youth and young workers.
- Assisting unemployed youth in their job search with appropriate measures.
- Designing programmes for youth who are disconnected from work and education, focusing on mentoring and vocational learning and a rigorous “mutual obligations” approach.

It should be remembered that figures on unemployment and inactivity do not tell the whole story. In countries that have a large informal sector, most notably in the developing world, official statistics do not capture the full employment picture.

**RETAINT SKILLED PEOPLE**

Developing skills is a substantial investment for any country. To reap the return on this investment, skills policies need to ensure that skilled people do not withdraw from the labour market either because they retire prematurely or because they decide to move to other countries. The extent of these problems varies substantially across countries: early retirement is a particular concern in many European OECD countries where populations are ageing and social systems are not sustainable if large numbers of workers retire prematurely; and brain drain is often associated with developing countries, however several OECD countries, including Poland and New Zealand, also struggle with losing skilled labour to other countries. For the United Arab Emirates, the challenges of retaining skilled people are less severe. Nevertheless, the UAE government could consider successful approaches to prevent certain individuals from leaving the labour market prematurely.

**Discourage early retirement**

In about two-thirds of OECD countries, the labour force participation rate among 55-64-year-olds stands at or below 60%, ranging from 85% in Iceland to just 30% in Turkey (Figure 2.4). On average in OECD countries, the participation rate of older workers is 19 percentage points below that of prime-age adults, but the difference between the two varies widely, from just 5 percentage points in Iceland to 53 percentage points in Slovenia. In the United Arab Emirates, a 2008 labour force survey recorded senior labour force participation as being relatively high, at 70% for 55-59-year-olds, 50% for 60-64-year-olds and 24% for 65-70-year-olds.

**FIGURE 2.4 LABOUR FORCE PARTICIPATION AMONG OLDER WORKERS**

Percentage of the population aged 55-64, 2013

In many countries, recent pension reforms prompted a rise in participation rates for the senior age group over the past two decades, with the United Arab Emirates increasing the official retirement age from 60 years to 65 years in 2011. However, many older workers continue to leave the labour market well before the standard age at which they are eligible for a pension. Differences are marked across countries: Mexico has the highest average age at which men leave the labour market (72.2 years) and the second highest average age for women (69.5 years), and at the other extreme, men and women retire under the age of 60, on average, in Austria, Belgium, Luxembourg and the Slovak Republic (OECD, 2011d). For older workers, leaving the labour market early tends to be definitive: an OECD study found that fewer than 5% of 50-64-year-olds who had left employment before the official pensionable age had returned to a job one year later (OECD, 2006).
Cross-country variation in employment rates among 55-64-year-olds can largely be explained by a country’s pension system (Bassanini and Duval, 2006), some of which include financial disincentives to stay in work (Box 2.5). The absolute level of pension wealth and its marginal change, embedded in the so-called “implicit tax on continuing to work” for an additional year, influences the decision to exit the labour force, and countries with the lowest implicit tax on continuing to work have the lowest withdrawal rates among older workers (OECD, 2011d).

Box 2.5 Features of pensions systems that reduce incentives to work

Although technical policy recommendations on retirement-income systems are reported by the OECD, the main policy conclusion is that details matter. System details determine whether the pension system treats individuals who participate in the labour force in different ways, and whether the pension system influences work and retirement decisions. Some technical examples are provided below, but no general guidance is offered.

1. In France, Greece and Luxembourg it is possible to retire at 60, or earlier in some cases, without any reduction in benefits. This discourages older workers from staying in work. The average reduction in benefits in earnings-related schemes for each year of early retirement is around 4.5% (the actuarially neutral level is around 6-8%).

2. Greece, Spain and the United States have limits to the number of years during which pension benefits can accrue in their earnings-related schemes. These policies discourage work once the maximum number of years has been achieved. Additional benefits can be accrued in Greece and the United States only if working after 65.

3. Many OECD countries used to calculate pension benefits based on a subset of years with the best or final earnings.

This policy encourages people to retire once their earnings have peaked, and not to stay employed at older ages.

4. An earnings-related scheme with uniform accrual structure would provide older workers with incentives to work. In Spain’s public-pension system, the accrual rates at younger ages are higher than those later on, discouraging older workers from remaining in work.

5. Resource-tested schemes can have negative effects on work incentives for low earners, although these schemes also target benefits for those most in need, reducing the use of higher taxes and contributions. Some countries, such as Chile, the Czech Republic, Iceland, Ireland, New Zealand and Switzerland, have managed to combine redistributive pension systems with incentives to stay in work.

6. Increments in pension benefits for people who defer claiming the pension after normal age are, on average, 5% below actuarial neutrality. Only Canada, the Czech Republic, Japan, the United Kingdom and the United States offer more attractive terms for deferring pensions and staying in work.


Although most countries have eliminated early-retirement schemes, increased the official pensionable age, and corrected distorted financial incentives to retire early, pension systems still offer powerful incentives to leave work at the earliest possible opportunity (OECD, 2011d), and there is considerable scope to further improve financial incentives to remain in the workforce after reaching the official pensionable age. An example of a good measure can be seen in the Netherlands, where an additional year’s work is rewarded with a 24% increase in pension wealth, and early-retirement programmes providing benefits from age 60 to 65 have been abolished.

The quality of employment also influences decisions to retire early, and there is evidence that employers’ inability or unwillingness to reduce working hours tends to push workers into retirement by limiting the possibility of a phased transition out of employment (OECD, 2011d; Gustman and Steinmeier, 2004). Policies to reduce non-financial barriers to labour-force participation may work in tandem with other policies intended to encourage employers to hire and retain workers from some under-represented groups. For example, a rise in the pensionable age would lengthen the period of time over which employers could recover training costs, and is therefore likely to reduce employers’ reluctance to provide for their older employees (Aubert, 2011).

In all OECD countries, it is increasingly seen that workers over the age of 50 are less likely to be hired or retained (OECD, 2006). Employers often cite obsolete skills as a reason for not wanting to hire older jobseekers, but age discrimination is still common. Rigid compensation structures, whereby labour costs increase with age rather than reflect workers’ productivity, also play a role, although these are often circumvented through...
early-retirement schemes (OECD, 2011d). To tackle these demand-side barriers to employing older workers, some countries have run large anti-discrimination campaigns; others have tried to balance labour costs with productivity by reducing employers’ social security contributions or providing wage subsidies for older workers (OECD, 2006, 2011d; 2011a). Some countries have also begun to emphasise lifelong learning and targeted training, especially mid-career, to improve employability later in life and discourage early withdrawal from the labour force. Another measure used is to improve the match between the type of work the older worker wants to perform and remuneration. For example, older workers may prefer fewer night shifts for lower pay, while younger workers may be more willing to do more night shifts for higher pay. This improved match will automatically increase demand.

**Staunch brain drain**

Some countries incur large costs because skilled labour leaves and the return on investment in skills development is reaped by the new host country. As Table 2.2 shows, emigration rates vary across countries, even within the same region. Europe, Latin America and Oceania have the highest emigration rates. In 2008, for example, the outflow from Bulgaria represented 1% of the country’s total population, and from Romania and Poland it represented 0.8% and 0.6% respectively (OECD, 2010d). The emigration rates of Africa, Asia and North America are less than half of these regions, and in all regions, the emigration rate for tertiary-educated workers is significantly higher than the total emigration rate (OECD, 2011e). This difference is especially great for African countries, with an emigration rate of 10.6% for tertiary-educated people born in Africa. Latin America also has a high emigration rate of 8.8% among highly skilled people.

<table>
<thead>
<tr>
<th>Region</th>
<th>2005/06</th>
<th>2000</th>
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<tr>
<td></td>
<td>Total</td>
<td>Low-</td>
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<tr>
<td>Emigrant population</td>
<td>population (thousands)</td>
<td>educated</td>
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<tr>
<td>High-income: OECD</td>
<td>25 155</td>
<td>2.9</td>
</tr>
<tr>
<td>High-income: non-OECD</td>
<td>3 404</td>
<td>7.7</td>
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<tr>
<td>Upper-middle-income</td>
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</tr>
<tr>
<td>Lower-middle-income</td>
<td>26 309</td>
<td>4.6</td>
</tr>
<tr>
<td>Low-income</td>
<td>8 319</td>
<td>0.6</td>
</tr>
<tr>
<td>Africa</td>
<td>8 947</td>
<td>1.6</td>
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<tr>
<td>Morocco</td>
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<td>9.0</td>
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<tr>
<td>Other North Africa</td>
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<td>2.2</td>
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<tr>
<td>Sub-Saharan Africa</td>
<td>4 437</td>
<td>0.9</td>
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<tr>
<td>Asia</td>
<td>19 510</td>
<td>0.7</td>
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<tr>
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<tr>
<td>India</td>
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<td>0.4</td>
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<tr>
<td>Philippines</td>
<td>2 491</td>
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<tr>
<td>Europe</td>
<td>34 281</td>
<td>4.5</td>
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<td>EU27</td>
<td>22 129</td>
<td>5.1</td>
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<tr>
<td>Turkey</td>
<td>2 603</td>
<td>4.7</td>
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<tr>
<td>North America</td>
<td>2 075</td>
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<tr>
<td>Oceania</td>
<td>1 221</td>
<td>4.7</td>
</tr>
<tr>
<td>South America &amp; Caribbean</td>
<td>24 786</td>
<td>6.0</td>
</tr>
<tr>
<td>Mexico</td>
<td>10 780</td>
<td>13.1</td>
</tr>
<tr>
<td>Total</td>
<td>90 818</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Note: Weighted averages. Income groups are classified according to the World Bank classification of economies based on the 2005 GNI per capita: low income USD 955 or less, lower middle income USD 996 –USD 3 945, upper middle income USD 3 946 – USD 12 195 and high income USD 12 196 and more. Former USSR and Former Yugoslavia are classified in “Upper middle income” countries, the aggregated category North and South Korea to “High income: OECD”.

Losing highly skilled individuals through migration to other countries can create skills shortages in the source country. Some countries have therefore introduced retention policies aimed to staunch brain drain. Experience has shown that the best policies are those that provide incentives to stay rather than coercive measures to prevent migration, which may even increase pressure to leave (Box 2.6). The possibility of migrating to earn higher returns abroad can create an incentive for people in the source countries to invest more in education and training. As not all of them will leave, there is likely to be a net addition to the stock of human capital in the source country as a result.

Box 2.6 Staunching brain drain: Retaining vs. restricting

Restricting policies. Compulsory service schemes (“bonding”) are widely used to try to manage the exodus of health-care professionals from developing countries. In Ghana, for example, the bonding system requires that health professionals work at least five years in the country, otherwise the cost of the training must be paid back. Although bonding systems have had some success in increasing the number of doctors serving temporarily in deprived and rural areas, bonding is not successful in retaining workers. High inflation and currency depreciation may weaken the effectiveness of these systems. Thailand and Mexico have had similar experiences with bonding. In Ghana too, many doctors left without paying their bond, since there was poor monitoring of the policy. This makes it even more unlikely that those migrants will return.

Retaining policies. Policies that provide incentives to stay may be more successful if they tackle the perceived needs of healthcare professionals. Most of these needs are related to management and governance of the health services and to salaries and working conditions. This is why some developing countries introduced incentive schemes for health professionals that include higher salaries, improved pension and insurance systems, clothing and travel allowances, child care allowances and subsidised meals, accommodation and training. In Thailand, financial incentives were introduced in 1983 with allowances for physicians working in remote district hospitals; in 1995 those who agreed not to engage in private practice received an extra USD 400 per month. In Indonesia, higher salaries are offered to those graduates who work in very remote areas. A guarantee of a civil-service career is also featured, with free access to specialist training after the completion of the three-year compulsory contract.


Emigration patterns in the MENA region are diverse owing to the stark differences in economic and social situations. Expatriation rates range from very large shares of the population leaving the country (e.g. in countries like Syria where emigration also takes place for security and humanitarian reasons) to shares lower than 1% in the oil-exporting countries. The United Arab Emirates is one of the top receiving courtiers in the world and issues of brain drain are of marginal importance.
REFERENCES


FURTHER READING


Policy Lever 3

Putting Skills to Effective Use

This chapter explores how the United Arab Emirates can make the best use of its talent pool, and reduce the mismatch between a worker’s skills and the job they are carrying out. As part of this, issues such as supporting employers, improving management and innovation, improving transparency and supporting efficient recruitment processes are covered. This chapter also explores how the United Arab Emirates can increase the demand for high-level skills, through supporting the creation of high-level jobs, helping local economies, and fostering entrepreneurship.
How to make the best use of the talent pool?

Not all of the skills that people are willing to offer to the labour market are used productively, and there is evidence that in many cases there is a mismatch between an employee’s skills and those required for his or her job. This mismatch can be reduced through better management and more transparent information. “Low-skills equilibria”, where people are matched with their jobs, but at a very low level of skill, and under-employment due to a lack of demand for higher-level skills, can be countered by boosting the demand for such skills.

CREATE A BETTER MATCH BETWEEN PEOPLE’S SKILLS AND THE REQUIREMENTS OF THEIR JOB

Support employers in making better use of their employees’ skills

Some workers are not well matched with their current jobs: some are over-skilled and capable of handling more complex tasks, while others lack the skills normally needed for their job. Skills mismatch is difficult to measure (Box 3.1), but available indicators suggest that these two phenomena are widespread. These indicators, however, need to be interpreted in context. For example, in a low-skills equilibrium, where the policy objective is to move up the value-added chain, a high level of skills match is not a desirable outcome as it may prevent supply-led improvement, and skills that are not used in an individual’s current job may be used elsewhere, to the benefit of society as a whole.

Box 3.1 Alternative measures of skills mismatch on the job

There are several ways of measuring skills mismatch, each having an impact on how the issues are framed, investigated and interpreted. Most of the academic and policy analyses on mismatch to date have focused on qualification rather than skills mismatch because this is what the available data have permitted. Some analyses have used indirect or self-reported measures of skills mismatch, but few have been based on direct measures of skills. The OECD’s Programme for the International Assessment of Adult Competencies (PIAAC) will change that by making available direct measures of skills along with measures of the requirement to use those skills at work. The three sets of measures are distinct yet complementary, and each has advantages and disadvantages.

Qualification mismatch measures (based on the International Standard Classification of Education, ISCED):
- Provide a less-accurate reflection of actual skills at a given period of a worker’s life.
- Indicate a broader set of skills (covering a range of cognitive and non-cognitive skills), albeit indirectly.
- Assume skills are fixed at the qualification point.
- Ignore possibilities for skills gain or loss after the qualification point.
- Ignore quality differences in qualifications both within cohorts, over time, and between countries.
- May lead to the application of a static measure to a dynamic problem.

Self-reported mismatch measures (based on workers’ opinions of the use of their skills at work):
- Refer to skills more specifically, as opposed to qualifications or diplomas.
- Provide a subjective measure of the use of skills at work.
- Do not lend themselves to measuring under-skilling.

Skills mismatch measures (based on direct measures of skills and use of skills):
- Provide a more accurate reflection of actual skills at a given period of a worker’s life.
- Indicate a narrower set of skills more directly (covering only a small number of foundation skills).
- Account for skills gain or loss after the qualification point.
- Account for quality differences in qualifications or diplomas.

Even if the measures used only deal with a small number of skills, these are key foundation skills, because mastery, to at least a minimum level of functionality, of these skills:
- Influences the potential to develop and maintain other higher-order and job-specific skills.
- Helps people to cope with text-based processing tasks that are relevant to a wide range of jobs and are of increasing importance in a wide variety of contexts (civic, social, political and personal).

Panel A of Figure 3.1 shows the incidence of self-reported skills mismatch in Europe. On average, 30% of workers in European countries report that they have the skills to cope with more complex tasks than those required in their current job, and about 13% feel they need more training to handle their job. Panel B presents an alternative measure of mismatch based on the comparison between actual measured skills and how those skills are used at work. It suggests fewer, but still numerous, incidences of both underuse of existing skills and under-skilling.

FIGURE 3.1 THE INCIDENCE OF SKILLS MISMATCH
A. Incidence of self-reported over- and under-skilling in selected OECD countries, 2010

1. Data for Switzerland is from 2005.

Skills mismatch can be a temporary phenomenon, for example, the demand for skills may take time to adjust to the larger pool of highly skilled workers available, therefore not all types of skills mismatch are bad for the economy. Skills surpluses, which can result from the underuse of skills in specific occupations, can serve as a skills reserve that may be used in other, more advanced jobs, and for building knowledge economies over the long run. Skills may also be useful beyond serving immediate economic needs, as education also has a major impact on social, political, and cultural life, and individuals do not necessarily acquire skills only to use them in the labour market. A population with high-level skills also influences the consumption of "knowledge products" (i.e., computer software, new media, electronic databases and libraries, and internet delivery of goods and services), which, in turn, can affect market exchange and may generate economic growth as demand for these products increases.

At the same time, the mismatch between workers’ skills and their tasks at work can adversely affect economic and social outcomes. Over-skilling or the underuse of skills in specific jobs in the short- to medium-term can be a problem as it may lead to skills loss and a waste of the resources that were used to acquire these skills. Workers whose skills are underused in their current jobs earn less than workers who are well matched to their jobs and are often less satisfied at work (Quintini, 2011a). This situation tends to generate more employee turnover, which is likely to affect a firm’s productivity. Under-skilling is also likely to affect productivity and, as with skills shortages, slows the rate at which more efficient technologies and approaches to work can be adopted. This negative impact of mismatch (here over-qualification and over-skilling) is reflected in workers’ earnings as shown in Figure 3.2 below. While there is evidence of skills imbalances, it is difficult to interpret for policy purposes, primarily because of the complexity of the underlying causes. What is known, however, suggests that there is scope for public policy interventions.

Mismatch also has a gender dimension, with women being more likely than men to graduate from certain fields of study, such as the humanities, that are associated with a higher incidence of over-qualification. Moreover, young women who pursue science, technology, engineering and mathematics (STEM) studies are less likely than their male counterparts to end up working in that field. There is no evidence of gender differences in the likelihood of over-qualification, however, women are more likely than men to be under-qualified, and the likelihood increases with part-time work and children in the household (Quintini, 2011b). This higher likelihood of under-qualification may also be partly driven by women’s perceptions of their own abilities, for example, women self-report that they are under-qualified for their job more frequently than men.
Currently, the evidence necessary for a detailed analysis of skills mismatches is lacking in the United Arab Emirates. Much of the empirical research in this area is several years out of date and a considerable amount of the available information is anecdotal. However, a recent study (Saeed Al-Qubaisi, 2012) finds that the labour market mismatch between supply and demand in terms of skills and expectations is the main barrier to the government’s policy goal of Emiratisation. According to this study, many Emirati graduates do not enter the labour market because they have high job and salary expectations and mainly focus on the public sector, whereas employers surveyed believe that the types of skills and qualifications they need are in short supply among UAE nationals and adequately skilled non-nationals are willing to carry out the work at a lower pay. The study further suggests that language barriers are another drawback in employing UAE nationals, as most private companies, especially international businesses, require fluency in English as a working language.

**Enhance the on-the-job use of skills through better management and innovation**

The introduction of new technologies that accomplish the tasks previously performed by workers can lead to the underuse of available skills in the labour market. In other cases, workers may not have been well matched to their jobs, or there may be a lack of high-skilled jobs in a preferred sector or geographical location, such as the MENA region and many African economies (OECD/AfDB/UNDP/UNECA, 2012). The expansion of tertiary education can also lead to a “qualification inflation”, whereby minimum job requirements are inflated, prompting still more individuals to enrol in tertiary education. As a result, the value of tertiary education as a signal of high productivity to prospective employers may be undermined, simply because more people hold tertiary degrees; and the quality of that education may suffer if larger numbers of students have to be accommodated.
Whatever the reason behind a skills surplus, skills policies should support employers in making better use of the skills available to them. Mechanisms that help managers, particularly in small and medium-sized enterprises (SMEs), to identify effective work and organisational practices, should be emphasised. These include promoting innovation and adopting technologies and practices that complement the existing skills base, such as through brokerage services. A study of 4 000 firms in Europe, the United States and Asia (Bloom, et al., 2007) concluded that firms applying effective management practices perform significantly better than those that do not. According to research by McKinsey (2009), when management practices are rated on a scale from 1 to 5, a one-point improvement in management practices is associated with an increase in industrial output equivalent to that produced by a 25% increase in labour or a 65% increase in capital. Successful practices (OECD, 2011a) include employee engagement and high-performance organisation of working and learning, which involves job flexibility, delegation of authority, and incentives for innovation (Box 3.2).

**Box 3.2 Innovative workplaces**

The Nordic countries have ambitious initiatives to promote workplace change and innovation. The main aim of these initiatives is to make the workplace a place for learning. **Norway** has a long tradition in implementing such policies, which are based on the principles of social partnership and workplace civics. In 1982 a key agreement between the LO (Confederation of Trade Unions) and the NHO (Confederation of Business and Industry) was signed to support local initiatives for workplace co-operation and organisational change. This was the basis for the Enterprise Development Programme (1994-2001) and the following Value Creation (VC) Programme (2001-2010). VC is implemented at the regional level through the creation of networks or partnerships between local firms and local organisations, such as universities, colleges, and research institutes.

**Sweden** also has a long history of job design and the re-organisation of factories. The major national programmes in Sweden started with the LOM Programme (1985-1990), which emphasised civic dialogue to promote workplace change. It was followed by the Work Life Fund Programme (1990-1995), with more than 25 000 projects. Two new agencies, FAS (Swedish Council for Working Life and Social research) and VINNOVA (Swedish Agency for Innovation Systems), were created in 2001. FAS’s objective is to support applied research relevant for working life, while VINNOVA concentrates on research activities and enterprise- or network-development projects.

**Finland**’s first national development programme, TEKE, began in 1996 and ran for three years. Other programmes followed. TEKE programmes provided funding for more than 670 projects, involving 135 000 people and about 1 600 firms. At the beginning, most projects, conducted in single enterprises, aimed to improve work processes, personnel management, team-based work and external networking. Research and development projects were later incorporated, and projects were implemented on the basis of firms’ and organisations’ networks, with special focus on SMEs. These first programmes focused on identifying best practices carried out in progressive enterprises. Nevertheless, more ambitious and recent policy approaches involve a relatively large number of firms, including less-progressive ones, to encourage them to undertake organisational change with the aim of improving the workplace. The OECD supports this more ambitious policy approach, since countries implementing it are among the leaders in adopting new forms of work organisation.

Some observers point out that the increased rate of innovation across economies requires employees to have both technical competence and generic or transferable/trans-occupational skills, such as problem solving, creativity, team work and communication skills (Toner, 2011). While these skills can be taught, employers can also encourage their employees to make better use of the skills they already possess by granting workers some autonomy to develop their own working methods. As workers assume more responsibility for identifying and tackling problems, they are more likely to “learn by doing”, which can also spark innovation. The OECD Innovation Strategy (OECD, 2010b) found that such incremental changes can lead to greater innovations in products and services, and therefore to growth and productivity in OECD economies as a whole.

In some cases, employers may have no choice but to hire under-skilled workers, as those with the appropriate skills may not be available, either in the geographical area or for the given working conditions. Alternatively, workers may have had the required skills at one point,
but those skills atrophied due to a lack of use, or the skills requirements changed because of innovations in the workplace.

Offering relevant adult education and employer provided training can address this problem, and employers need to align their business strategies with human resource practices and skills development in their workforce. The incentives for employers to invest in their employees, however, may be insufficient, even if they may ultimately benefit from such investments. Government support schemes, especially for individuals with low levels of skills, may be necessary to solve the problem of under-skilling in the labour force and to achieve an optimal match between workers’ skills and job requirements (see policy lever 1: developing skills).

**Improve transparency and information**

Skills mismatch can arise because of a lack of information and transparency in skills systems. The underuse of skills is often related to field-of-study mismatch (Quintini, 2011a), whereby individuals work in an area that is unrelated to their field of study and in which their qualifications or diplomas are not fully valued. The likelihood of field-of-study mismatch varies significantly across occupations, underscoring the importance of up to date and quality information on labour market outcomes across fields. In Abu Dhabi, for example, there is a surplus in student enrolment and graduation in some fields, such as humanities, law, administration and sciences, which the labour market does not need, whereas enrolment in the field of medicine is very low, although demand is high (Figure 3.3).

**FIGURE 3.3 HIGHER EDUCATION SPECIALISATION SUPPLY VS. LABOUR MARKET DEMAND**

To raise awareness among UAE nationals of the need to study different disciplines more suited to the needs of the labour market, the government can improve guidance systems. Career guidance services should be available to all groups throughout education and into working life, and take a lifelong approach to decisions concerning investment in skills (OECD, 2004). Competent personnel who have the latest labour market information can provide tailored guidance to individuals on the connections between their education and their prospective careers. Public employment services, and other institutions responsible for matching people to jobs, can pool relevant information and act as intermediaries, linking supply with demand for skills and providing guidance based on the latest information to all concerned stakeholders (Box 3.3).
Box 3.3 Barcelona Activa’s Porta22 web portal: Supporting a better match of skills to local employers’ demands

Barcelona’s Local Development Agency, Barcelona Activa, is seeking to “foster the transformation of Barcelona through entrepreneurship, business growth, innovation, human capital, professional opportunities and quality employment”. As part of this process, the agency aims to improve the match between the skills demanded by the labour market and the skills available among local jobseekers. As well as investing heavily in physical infrastructure to support jobseekers, Barcelona Activa has also recently created a unique online service for professional guidance – Porta22.

Launched in 2010, Porta22 is a municipal web portal that contains tools for all types of users who want help defining and putting into practice their own professional paths and for professional guidance counsellors. It is divided into three main sections: person, tools and the market, and provides functions that allow users to explore the local labour market and learn more about job opportunities in Barcelona.

One of its most advanced tools is a bank of 932 professional profile descriptions that gives information on all aspects of a given career. This includes the range of tasks associated with different jobs, and requirements in terms of training, education, experience and soft skills. Profile descriptions are linked to a search engine that has over 7,000 job offers. The professional interest test is an additional interactive feature that allows users to identify their work interests and match their own profile with job profiles. The key skills dictionary allows users to better understand the importance of key competencies in the current labour market.

By providing clear, up-to-date information on local employment sectors and the skills required to enter these, jobseekers can build up their knowledge, assess which career paths are open to them, and what is needed to get there. It also helps to ensure greater transparency in career pathways. The online service is seen as a critical component of Barcelona Activa’s skills related work.

Under-skilling can also be addressed through more transparent national skills and qualification systems (Backes-Gellner and Veen, 2008; Woessmann, et al., 2007). Skills are often measured by comparing the qualifications held by workers against the average qualification of workers in the same occupation, which means that some workers may appear to be under-qualified for their jobs because the skills they have acquired through work experience are not reflected in their formal qualifications or diplomas. In all of these cases, developing and disseminating better information for all actors in the labour market could reduce skills mismatch. Coherent, clear and easy to interpret qualifications can help employers understand which skills potential employees hold, thereby facilitating recruitment and matching. Competency-based qualifications or diplomas can provide employers with a clearer sense of what a future employee can perform on the job, and enable individuals who have work experience to secure credentials that reflect the skills they may have learned on the job. Continued certification that incorporates non-formal and informal learning over the working life is key to improving the frameworks now in use, as most are based exclusively on initial and formal education (Werquin, 2010).

The United Arab Emirates recognises the importance of a national qualifications framework for effective skills policies and has established a National Qualifications Authority (NQA) responsible for developing a national framework based on international best practice. To make this framework fully actionable, it is important that all stakeholders: students and families, education institutions and particularly employers, are familiar with it, to ensure that qualifications on paper are transformed into an effective tool for matching skills to jobs in the labour market.

Immigrants face specific challenges in making their qualifications marketable, as their credentials/diplomas and work experience obtained abroad are often discounted in the host country labour market. As a result, their skills are not adequately used and, in the United Arab Emirates, they are more likely than nationals to hold jobs for which they are over-qualified (Quintini, 2011a). Other countries experiencing this issue have put in place policies that aim to make better use of resident migrants in the labour market (Box 3.4).
**Box 3.4 Tackling underuse of immigrants’ skills**

Some states in **Australia** have established programmes to overcome the problem of over-qualification among recent immigrants. In Victoria, for example, the Overseas Qualified Professionals Programme provides recently arrived professionals who acquired their skills abroad with a work experience placement to enhance their opportunities for employment in their field of study. The participants must be either unemployed or employed in low-skilled jobs. The programme consists of an initial six-week training period to develop job search skills, followed by a four-to-six-week work experience placement in the participant’s field or in a closely related occupation. The work placement component is generally not remunerated. The programme includes mentoring and industry-specific networking sessions with employers and professional associations to provide further orientation and networking opportunities. Six months after completing the programme, more than 60% of participants were in paid employment in a field corresponding to their qualifications and experience.

In 2004, **Denmark** established regional knowledge centres to assess the skills and qualifications of immigrants. The project is run jointly by the Ministry of Employment and its social partners. The assessment is generally conducted in the workplace and participants obtain “competence cards” that link immigrants’ skills to labour market needs. The centres also help migrants to find employment that matches their skills.

Programmes in other countries have focused on over-qualification in specific occupations. In **Portugal**, two non-governmental organisations (the Gulbenkian Foundation and the Jesuit Refugee Service), working with universities and the health, interior and foreign affairs ministries, developed a programme for foreign-trained doctors who were found to be working in low-skilled occupations. The programme provides translation services for documentation, bridging courses at medical faculties, and comprehensive preparation material, including internships in teaching hospitals and vocation-specific language training. Participants have to pass a final examination. At the end of the pilot project, about 90% of the participants were employed as doctors. Participants were followed for one year after completion of the programme to ensure that integration is sustainable. The programme has since been mainstreamed.

The government of **Sweden** has recently assigned a number of universities and colleges to arrange supplementary courses for immigrants with a foreign degree in law, education, health or public administration. The programme aims to adjust foreign credentials to meet the requirements of the Swedish labour market, thereby helping highly skilled immigrants to find work in their field of study.

Refugees are often highly qualified, but their primary reason for migration is not employment. To assist this special group of workers, the **Netherlands** has set up several training programmes for highly qualified refugees.

In light of growing skills shortages and a high incidence of over-qualification among immigrants, **Austria** has launched a number of important initiatives to train unemployed or overqualified persons for shortage occupations, and immigrants have been an important group among these. The measures include targeted language and vocational training for shortage occupations, in co-operation with employers.


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**Support efficient recruitment processes**

Recruitment processes function smoothly if the relevant information is transparent and available to all. In the United Arab Emirates’ labour market, however, personal networks of relatives and other contacts are very important in recruitment and job procurement among UAE locals, according to empirical research by Pawan and Mellahi (2006). This research found that information about job vacancies in the United Arab Emirates is most frequently communicated in religious and social gatherings and that many jobs are never advertised formally. As a result, jobseekers with the most appropriate experience and qualifications for particular jobs may never find out about the vacancies. There is also literature about the practice of nepotism, known as “Wasta”, in which employers are persuaded by their relatives or other personal contacts to offer a job to someone regardless of their suitability for the post (Saeed Al-Qubaisi, 2012). Since better qualified candidates may well have been available, this practice is unlikely to result in the most positive outcomes for productivity or matching efficiency.

A parallel system of social networks operates among the United Arab Emirates’ migrant labour communities. These types of networks have been demonstrated to be of great importance in determining international labour migrant patterns, as they provide channels of information about employment opportunities overseas and connect migrants of common local or national origins within their host countries (Suter, 2005). As in many other countries with large populations of migrant workers, within the United Arab Emirates this has resulted in a high concentration of particular nationalities or ethnic groups in specific sectors of the economy.
To counter these trends, the UAE government can foster the development and dissemination of better information regarding labour market opportunities among students, parents, workers, employers, education providers and policy makers. Good quality and up-to-date information is essential for avoiding imbalances in the supply and demand of skills. Several countries have established effective information dissemination routes for example in the form of school/labour market guidance agencies (Box 3.5).

**Box 3.5 Disseminating information on skills needs**

**New Zealand**

Career Services (CS), a body independent of the education system, is the main provider of career information in New Zealand. CS provides services directly to individuals to help them make informed decisions about work and training. These services include providing labour market information (e.g. job profiles and industry outlooks) and information on tertiary education and vocational training. In addition to providing this information and advice, CS also develops guidance modules for schools. The Creating Pathways and Building Lives programme, for example, assists schools in developing effective career advice.

Career guidance consists of wide-ranging information on career paths and training opportunities. The New Zealand Qualification Authority provides information about qualifications and diplomas, and the quality of learning institutions. The New Zealand Register of Quality-Assured Qualifications provides a comprehensive list of all quality-assured qualifications in New Zealand. In addition, most tertiary education institutions conduct surveys of graduates to structure their programmes. The Department of Labour collects and analyses information about the skills needed in the labour market and about how the tertiary education system interacts with the labour market. Merging this information with that from other sources, the Tertiary Education Commission, which supervises the country’s education system, produces annual “portraits” of tertiary education and training in New Zealand, including indicators of possible under- and over-supply.

**Australia**

Australia has a wealth of data on skills requirements, including data collections by the Australian Bureau of Statistics and surveys administered by the Department of Education, Employment and Workplace Relations. The Household, Income and Labour Dynamics in Australia Survey, which began in 2001, captures the employment experiences of working-age individuals as they relate to labour market forces, household consumption and social interactions. The Longitudinal Survey of Australian Youth (LSAY), which began in 1995, follows a cohort completing post-compulsory schooling at age 15 through their transitions to tertiary education and training and into the labour market up to age 25, providing insights into how and where these young people acquire skills. The government has also set up a Skills Info Portal (www.skillsinfo.gov.au/) and a Labour-Market Information Portal (www.deewr.gov.au/lmp) that allows policy makers, industry (employers) and the community (workers, students, etc.) to make informed decisions on policy, workforce planning and current and future training and job prospects.

**United States**

The US Department of Labor has developed two online portals, “My Skills, My Future” and “My Next Move” to help students and workers identify their skills and needs for new or upgraded skills so that they can succeed in the labour market. My Skills, My Future allows workers to register their previous job information with the aim of finding an appropriate job that is currently available. Users can also search the job database for job-training seminars and local job opportunities. My Next Move allows users to search for jobs by occupation, by industry and by using the ‘O*NET Interest Profiler’, which matches an individual’s interests with suitable occupations through the user’s response to some 60 questions.

The department’s Occupational Information Network, (O*NET), had previously used a 180-question version of the profiler that could be printed out or downloaded to a personal computer. The new, streamlined version is available online for the first time as part of My Next Move. Users can search for jobs in three categories: careers with a “bright outlook” in growing industries, jobs that are part of the “green” economy, and occupations that have a Registered Apprenticeship programme. Each occupation that a user selects has an easy-to-read, one-page profile, including information about what knowledge, skills and abilities are needed; the occupation’s outlook; the level of education required; technologies used within the occupation; and a list of similar jobs. In addition, each occupation page includes direct links to local salary information, training opportunities and relevant job openings.

A STRATEGIC APPROACH TO EDUCATION AND SKILLS POLICIES FOR THE UNITED ARAB EMIRATES © OECD 2015 – 85
Increase the demand for high-level skills

As already identified, a good match between available skills and job tasks is not always a positive indicator, for example, people can be matched with their jobs, but at a very low level (often referred to as low-skills equilibrium). These individuals tend to earn the least and be the least productive (Desjardins and Rubenson, 2011). The United Arab Emirates’ economic development strategy aims to achieve a knowledge-based economy. To reach this objective, it will be important, over time, to upgrade poor skills rather than try to match these skills with a job that only requires a low level of skill.

Low-skills equilibria can adversely affect the economic development of a local economy, region or sector, or indeed an entire country. For example, employers pursuing price-based competition strategies that rely on low-quality and standardised production require only a limited range of low-level skills from the bulk of the workforce (Lloyd and Payne, 2006; Froy, Giguère and Meghnagi, 2011). Even if such price-based strategies leave the local workforce vulnerable to displacement because of innovation and competition in global markets, workers have few incentives to remain in education because local employers are neither seeking, nor are they willing to reward, high levels of skills. For their part, employers have little incentive to upgrade production processes or workers’ skills as this can undermine their price-based competition strategy. Even if employers eventually do want to upgrade their strategy or innovate, managers may be hindered from doing so because the local skills base would be inadequate for the task due to the lack of investment in skills by individuals, employers, national and local authorities.

In the long term, investing in the skills supply can help to transform the kinds of employment on offer in such economies, as employers can more easily recruit skilled workers who improve the quality of the work that they do. However, some management practices discourage this kind of transformation, and in the meantime, a “skills surplus” may develop, where skilled people either carry out work for which they are over-qualified, remain unemployed, or move to other regions or out of the country to find more appropriate employment. In such situations, economies often find themselves with labour shortages, as local people are unwilling to take up the low-skilled and low-income jobs that are on offer. This can lead to a reliance on low-skilled immigrants (Froy, Giguère and Hofer, 2009). While these workers may meet employer demand in the short term, as has been the case in the United Arab Emirates, they will do little to support the medium- or long-term economic development of the region.

In order to support long-term economic development, the United Arab Emirates could focus on increasing the demand for skills; and the need to “shape” demand, as opposed to merely respond to it, as already prioritised in national skills strategies. In many countries governments are helping local economies or sectors to move production up the value-added chain and enhance economic performance (OECD, 2010a; Scottish Government, 2007; Froy, Giguère and Meghnagi, 2011). This can be done by encouraging employers to take more “ownership” in the area of skills development, while also supporting improvements to work organisation, and by generating growth and productivity gains through special innovation funds (Box 3.6).
Box 3.6 Shaping demand in the United Kingdom

In the United Kingdom, concerns about a “long tail of low skills” have meant that skills policies have focused primarily on boosting the supply of skills through publicly funded investments, and through social inclusion and mobility. More recently the UK Commission for Employment and Skills (UKCES), led by a team of commissioners including large and small employers across a wide range of sectors, and representatives from trade unions and the government, has argued that “the future employment and skills system will need to invest as much effort on raising employer ambition, on stimulating demand, as it does on enhancing skills supply”. As the Commission points out, there is little value to an organisation having a skilled workforce if the skills are not used well. The United Kingdom is implementing a number of different initiatives to this end:

**Investors in People:** Investors in People, first introduced in 1991, specialises in transforming business performance by aligning business planning and goals with people management. In April 2010, responsibility for Investors in People passed to the UK Commission. Investors in People helps organisations to grow, improve their performance and business impact, and ensure that the skills of their employees are fully used. Working with Investors in People demonstrates a business’s commitment to developing people. Some 16% of all workplaces in the United Kingdom are recognised as Investors in People.

**Employer Ownership of Skills:** The Employer Ownership pilot offers all employers in England direct access to up to GBP 250 million of public investment over two years to design and deliver their own training solutions, including apprenticeships, training courses and pre-employment opportunities. The pilot is jointly overseen by UKCES, the Department for Business, Innovation and Skills and the Department for Education, and will test new employer-led delivery models. The prospectus invites employers to work with employees, trade unions, colleges and training providers, and other partners to develop proposals that establish how they will invest in skills to drive enterprise, jobs and growth within a sector, supply chain or locality.

**Growth and Innovation Fund:** The Growth and Innovation Fund (GIF) is open to all employer representative organisations, including Sector Skills Councils, and is an England-only fund. GIF helps employers to develop their own innovative, sustainable skills solutions that have the potential to transform growth in their sector, region or supply chain by raising the capacity of employers to collectively upgrade the skills of their workforce. Successful bids have included proposals to set up new employer-training networks and group-training associations, and to develop new industry standards and talent-development programmes. GIF will co-invest up to GBP 34 million in 2012-13, with comparable levels of investment planned for the following two years.

**The Employer Investment Fund:** The Employer Investment Fund is a UK-wide fund targeted only at Sector Skills Councils to incentivise innovative and self-sustaining skills solutions that strengthen employer leadership, drive up skills levels and ensure better use of those skills. Some GBP 66 million has been committed so far to leverage greater co-investment in a range of activities, including: projects to improve skills development in key areas; enhancing industry standards; strengthening career pathways, progression routes and employment opportunities so that talent is effectively developed, managed and retained; and building stronger employer networks within sectors.

The Scottish Government has also made a strong commitment to improving the use of skills. Among initiatives to boost demand for, and improve the use of skills, a Skills Utilisation Leadership Group was established, and a series of action-research projects were initiated, aimed at exploring the potential for universities to help to improve the use of skills in the workplace.

Support the creation of more high-level skill and high value-added jobs

There are a number of ways for the UAE government to increase demand for skills, for example, the development of economic-diversification strategies and supporting inward investment would increase the number of knowledge-intensive jobs in a region. While such policies are primarily implemented by economic development actors; educational institutions can also play an important role in stimulating these activities. If various factors work well together, both radical and incremental innovations in the economy, and a related increase in the demand for high-level skills, can occur (Box 3.7).
Box 3.7 Silicon Valley: The creation of a high-skills ecosystem

Economist David Finegold suggests that there are four elements required to create and sustain high-skills ecosystems (HSEs): a catalyst, nourishment, a supportive host environment, and a high level of mutual interdependence.

He argues that in Silicon Valley, a surge in government spending on military research and hardware provided the catalyst for the aerospace industry to take off. Another critical factor for both the aerospace and biomedical clusters was the interaction between researchers and industry, with regional universities acting as catalysts and sources of nourishment, establishing well-trodden pathways between universities, including their management schools, and high-tech local firms. Once established, the HSEs began to attract overseas-born workers, often bringing family and personal networks that further strengthen global reach and viability.

Features of the supportive environment that made it attractive to “knowledge workers” include:

- Infrastructure, including transportation, telecommunications and serviced business parks.
- A regulatory environment that makes it easy to start a business and take it public, and also go bankrupt without severe penalties if the business does not succeed.
- Flexible work arrangements.

A key element was the frequent partnering among complementary businesses within the HSEs, which made them “knowledge-sharing networks” rather than just companies located in the same region. In addition, the employment system – high pay, short-term contracts – encouraged the circulation of people across organisations, as did the “wealth of intermediate institutions that provide a forum for people to meet and exchange learning”.

Firms came together through intermediaries to pursue initiatives such as improved technical training that benefitted all. However, professionals and technicians mainly developed their skills informally. The organisation of the HSEs facilitated this form of knowledge creation and diffusion.


Investment in research and development (R&D) is low in the United Arab Emirates by international standards, with current R&D expenditure at 0.01% of GDP compared to 2.6% in the United States, 2.5% in Germany or 3.3% in Japan (UNESCO, 2008). Supporting research and development is another way the UAE government can increase the country’s knowledge base.

The majority of universities in the United Arab Emirates focus on academic instruction, with few institutions supporting research initiatives. To implement the United Arab Emirates’ ambitious knowledge economy development strategy, an integrated effort promoting skills development and R&D, and how they link to each other and the strategy, will be necessary. Research infrastructure, state-of-the-art laboratories and facilities are limited in the United Arab Emirates, and there is modest collaboration between the research community and the private sector to make R&D results marketable. Actively supporting the links between the research community and businesses can be an important way to make innovations marketable and to help shift the economy towards a high-level skill and high value-added production.

To support the creation of high-level skills, the government could develop systems to reward employer ambition, measured by how they demand and use skills. It could also develop occupational standards, for both the public and private sectors, which set a minimum level of skills content within any given job. Sector councils have been active in helping to define such standards in several Anglo-Saxon countries, including Canada and the United Kingdom. For example, the UK Sector Skills council for health (“Skills for Health”) has developed occupational standards that define the skills, knowledge and understanding needed to undertake a particular task or job to a nationally recognised level of competence.

The government could also look more broadly at the way in which it designs public services to understand whether they create quality jobs that engage a skilled workforce. For example, within the care sector, which is a growth area of low-skilled employment that falls under public sector control, early childhood education and care services can be defined in two different ways: as day care, which is concerned with keeping children safe while parents work; or as pre-schools and kindergartens, which are primarily concerned with the educational development of children (Buchanan, et al., 2010). If governments choose to provide day care, the set of skills required will be different than that demanded if governments choose to prioritise early childhood education. Governments can also consider ensuring that public-funded contracts specifically detail skills requirements and job quality.

Help local economies move production up the value chain

The UAE government and employers can work together to move towards forms of production that maximise the use of their employees’ skills. In order to increase the demand
for skills, government programmes can influence both competitiveness strategies (how a company organises its work to gain competitive advantage in the markets in which it is operating) and product-market strategies, which determine in what markets the company competes (Ashton and Sung, 2011). Whereas a company’s competitiveness strategy may or may not be affected by how available skills are used, as companies move into higher value-added product and service markets, the levels of skills that they require, and the extent to which they use these skills, tend to increase.

Recent work by the UK Commission for Employment and Skills highlights the strong link between product-market strategies and skills use in the private sector. An analysis of data from the 2001 and 2009 National Employers Survey shows that UK firms varied greatly in the extent to which they sought to engage in “high-end” or high value-added production, and that this variation persisted throughout the period between 2001 and 2009 (Mason, 2011). The research shows that product-market strategies and the level of workforce skills in an establishment are strongly and positively correlated. This means that those with high product-market strategy scores were also likely to register higher levels of workforce skills, whereas those with lower product-market strategy scores were more likely to register lower workforce skills.

However, many companies, particularly in emerging economies, continue to compete by producing low-cost products, and in recent years there has been a growing trend towards the mass production of simple and effective products and services aimed at customers in emerging economies who do not have great purchasing power. This has been dubbed “frugal innovation” and is exemplified by the low-cost Nano car produced by Tata Motors in India. When companies deliver standardised products to markets and attract customers mainly on the basis of cost, they are likely to use technical means of production that are task- and routine-based (Ashton and Sung, 2011). They therefore have limited incentive to attract skilled staff or to train new staff. However, as firms move into higher-quality product markets, they are more likely to require both technical and generic skills across the workforce in order to innovate and to develop products that are unique and differentiated to meet customer needs (Box 3.8).

### Box 3.8 Moving towards new product-market strategies in the food-processing sector, Niagara in Canada

Research among small firms in the food-processing sector in the region of Niagara, Ontario, Canada, found that these firms were pursuing a variety of strategies to improve quality and innovation, each of which had an impact on skills use. The four main ways through which they added value to their products were:

- **Being local**: Using local products, local personnel, and selling locally (as a primary market) enabled the firms to develop customer loyalty despite having higher prices for similar products available from ‘non-local’ providers.
- **Maintaining consistently high quality**: An insistence on quality also generated customer loyalty and long-term profitability.
- **Producing unique goods**: The majority of the companies produce unique items that allow them to capture a particular segment of the market since there is no direct competition. Although they require specialised production processes, each of these lines of items generates profits by providing something that cannot be found elsewhere.
- **Responsiveness/Flexibility**: The ability to respond quickly to consumer demands enables the companies to provide a value-added product. For these smaller firms, adapting the production line or changing an aspect of their products involves changes that can be implemented relatively quickly as they have one shift of workers, direct communication lines, and hands-on owners who can train and oversee the new process directly.

**How does this translate into skills needs?**

The firms surveyed all sought employees with a food-science background or education, which is supplied in local, specialised training colleges, such as Niagara College and Brock University. One firm is using an apprenticeship approach to develop its skilled labour force, as there are no educational institutions that provide the requisite courses specific to its particular product line. Firms also use premium wages to retain personnel once they have been trained. Having an adaptable workforce is a necessity for those firms that want to remain responsive to their customers. This means that employees remain open to learning about new products and processes.

Adopting new technologies is important for developing new product-market strategies. For example, in the province of Ontario in Canada, Canadian manufacturers and exporters created the SMArt programme to help manufacturers improve their productivity by transferring technology and training people in how to use this technology (Verma, 2012). Experience has shown that it can be beneficial to work with clusters of enterprises and supply chains, in addition to individual firms. This reflects the fact that enterprises often share knowledge, innovation and skilled workers at the local level. In the Rivera del Brenta region of Italy, for example, local cooperation among firms, unions and the public sector has helped to raise both the demand for and the supply of skills (Box 3.9).

**Box 3.9 A joined-up strategy to move to higher value-added production in the Riviera del Brenta, Italy**

In the Riviera del Brenta industrial district in northern Italy, firms in the footwear sector have pooled their investment in training, while also collectively upgrading product-market strategies in order to compete in high-quality international markets. Not far from Venice, the region traditionally hosted cottage-based industries that mainly employed low-skilled, blue-collar workers. However, the area has now become a global centre for the production of high-quality ladies’ footwear (supplying to Giorgio Armani, Louis Vuitton, Chanel, Prada, and Christian Dior) by developing an international brand through the local employers association, ACRIB.

The population of high-skilled workers in design, R&D, management and marketing has been steadily growing in the region over the past two decades. Before the 1993-1994 repositioning, almost all workers in shoe manufacturing were blue-collar workers; today, 40% of workers are blue-collar, while 50% are designers and 10% are commercial staff. Close co-operation with local unions ensured that improvements in productivity were accompanied by wage increases and improved working conditions, particularly in health and safety.

The privately run local polytechnic, Politecnico Calzaturiero, employs firm managers to train local workers and jobseekers after hours, while also offering management training, and investing in research, innovation and technology transfer. The polytechnic thus invests in skills supply while also optimising skills use by developing new products and improving human resource management. The fact that firms are members of ACRIB means that they are less concerned about pooling training, technology and new innovations, and more aware that investment in local human capital will not only improve prospects for individual firms, but also for the global brand as a whole.


While many forms of local employer collaboration develop independently of public support, the UAE government can help to foster and maintain these kinds of arrangements by:

- Helping to generate regional brands, which enables firms to collaborate and gain access to higher value and foreign markets.
- Supporting the development of employers’ associations and sector networks, which bring employers together to share training resources and co-operate on the development of new product innovations.
- Providing management training and technical assistance to firms, particularly SMEs.
- Supporting R&D and new product testing while supporting technology transfer.

**Foster entrepreneurship**

Countries can foster the creation of new jobs and increase the demand for skills by encouraging entrepreneurship. Especially in the United Arab Emirates, a country that aims to move away from its dependence on the traditional oil business towards more diverse economic activity, fostering the bottom-up development of new business branches can be a highly attractive approach.

Recent government initiatives in the United Arab Emirates, such as those by the Khalifa Fund for Enterprise Development, already aim to encourage entrepreneurship among Emiratis, and the country has made considerable progress over time in improving its regulatory environment. It has also advanced steadily in the World Bank’s Doing Business report, where it now ranks 22, maintaining its lead in the Arab Region and beating some advanced European and Asian economies (World Bank,
A recent OECD study on high performance entrepreneurship in the MENA region (OECD/IDRC, 2013) confirms the role model position of the United Arab Emirates in the region. However, some framework conditions and regulations within the country can still be improved, for example, the fact that bankruptcy remains a crime might act as a deterrent to business creation. The study also recommends fostering the university-business interface, as well as technology cooperation among firms.

Entrepreneurship has an essential skills dimension, and education and training institutions can be indirectly involved in helping their students to develop the skills necessary to become entrepreneurs (Potter, 2008). To be successful, young people need to know how to identify opportunities, turn them into successful ventures, and recognise and respond to difficulties and obstacles that may emerge. Teaching entrepreneurship in schools, universities and vocational training institutions can help instil these skills and competences in young people (Box 3.10).

In Tunisia, entrepreneurship education has increased during the last decade and is now an important feature of activities in all of the country’s higher education institutions (OECD, 2012). Each university offers a teaching module in entrepreneurial culture, providing opportunities to a much larger proportion of students than is commonly found in other countries. Tunisian higher education institutions also offer start-up support activities, for example through university incubators, and the external support structure for entrepreneurship is well developed.

In Turkey, entrepreneurship is promoted amongst secondary school and undergraduate students by organising entrepreneurship contests and offering entrepreneurship certificate programmes and courses in universities (Potter, 2008). In addition, the Turkish SME Development Organisation has developed an entrepreneur support programme that includes training and the creation of business improvement centres that aim to support start-ups in their critical first years in business. The centres offer services such as consultations on how to improve business, affordable workshop sites, and shared office equipment.
The potential of women in business and as entrepreneurs is still largely underused in MENA countries, including the United Arab Emirates (OECD, 2014). Among those who receive tertiary education, women pre-dominate in many countries, including Algeria, Bahrain, Kuwait, Qatar and the United Arab Emirates. By contrast, female employment rates are around 40%, about half of the male rate. In MENA economies, around 12% of adult women are entrepreneurs, compared to 31% of men, which is the largest gender gap across the different regions of the world. The share of women-owned and women-managed registered businesses is also lowest in the MENA region, at 17.9% and 4.4% respectively, compared to 55.2% and 29.3% in the top performing East Asia and Pacific regions (Figure 3.7).

In the United Arab Emirates, many municipalities require proof of a leased business location before granting a business licence. This prevents women from starting a home-based enterprise, which according to evidence would be the choice of many traditional Emirati women. For example, operating any kind of food production business from a domestic kitchen is not allowed in the United Arab Emirates, so this deters many potential women entrepreneurs from pursuing a business idea in this area of activity (OECD, 2014). There are, however, several countries in the MENA region that have developed specific programmes to foster entrepreneurship among the female population (Box 3.11).

### Box 3.10 Skills for entrepreneurship

Teaching entrepreneurship and providing “hands-on support” are still new to many universities. Successful implementation of these types of programmes requires not only closer links between the “research” and “education” missions of a university, but also partnerships with entrepreneurship support providers and (global) sources of financing. Public policy can facilitate this process. The main policy priorities are:

- **Anchoring entrepreneurship support at top university-management level.** In promoting entrepreneurship, universities themselves need to be entrepreneurial and innovative. In the United States and Malaysia, recruitment and career-development procedures for academic staff in many private and public universities now take into account entrepreneurial attitudes and prior experience as well as work in mentoring entrepreneurs.

- **Facilitating networking and exchange.** Information on entrepreneurship needs to be easily accessible to students. In Germany, more than half of all universities are engaged in entrepreneurship support and many have established dedicated centres that offer information, training and access to networks. A new federal government programme, EXIST IV, awards universities that do particularly well with an excellence status and supporting funding. Networking and exchange of universities is also promoted. Inter-university collaboration can increase the spread and use of innovative pedagogies and teaching materials in entrepreneurship education. In France, the Observatoire des pratiques pédagogiques en entrepreneuriat (Observatory of Pedagogical Practices in Entrepreneurship) is an online resource centre for innovative and pertinent teaching material that also organises regular networking events for teachers and staff from entrepreneurship support organisations.

- **Finding a balance between public and private financing.** Public kick-off funding for university entrepreneurship support is provided in many OECD countries. Yet, while some public funding is important for the long-term financing of staff and overhead costs, universities should also be open to accepting financing from the private sector to fund, for example, entrepreneurship support centres and incubation facilities. Early exposure of would-be entrepreneurs to the management and organisational characteristics of the private sector have a positive impact on entrepreneurship skills and competences. Universities can also seek revenues from the sale of shares in spin-off companies (a common practice in the United States) and by offering business consultancies (common in the United Kingdom). In Germany and Italy, private co-financing is less frequent, but there are signs of increasing private sector involvement.

- **Increase across-campus participation in entrepreneurship activities.** Students need access to entrepreneurial learning opportunities inside and outside their courses of study. However, these activities have traditionally been available mainly to students in business and engineering rather than to the student population as a whole. Lately, however, students studying other subjects are receiving such support. Although in countries like Australia, the Czech Republic, Italy and Poland, entrepreneurship support is still primarily aimed at generating start-ups, there are signs of a shift towards stimulating growth-oriented and technology-intensive ventures, which is the main objective of this kind of support in the United States. The focus in Denmark and the United Kingdom is on creating “entrepreneurial mindsets”, and equipping students with the skills and competences that are useful for running their own business and for being an entrepreneurial employee.

### FIGURE 3.7 SHARE OF WOMEN-OWNED AND WOMEN-MANAGED REGISTERED BUSINESSES

Selected regions, firms with 5+ employees, latest available year, %

<table>
<thead>
<tr>
<th>Region</th>
<th>Percent of firms with female participation in ownership</th>
<th>Percent of firms with a female top manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Countries</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>East Asia &amp; Pacific</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Eastern Europe &amp; Central Asia</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>High income Non-OECD</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>High income OECD</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>30%</td>
<td>10%</td>
</tr>
<tr>
<td>Middle East &amp; North Africa</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>South Asia</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>20%</td>
<td>0%</td>
</tr>
</tbody>
</table>


### Box 3.11 Selected women entrepreneurship programmes in the MENA region

The **Palestinian ICT Incubator (PICTI)**, the first incubator for technological firms in the Palestinian Authority was established in 2004 as an initiative of the Palestinian Information and Technology Association to support Palestinian entrepreneurs in developing innovative business ideas and establishing start-ups. It makes special efforts to support and motivate women entrepreneurs to apply to the incubator programme. In 2012, it launched a special awareness, training and capacity building campaign, through partnerships with universities in the Palestinian Authority, to support and motivate women entrepreneurs to apply to the incubator to develop their project ideas.

**El Mobadara in Egypt** promotes tailored business development services to women (e.g. vocational training, entrepreneurship training and exhibitions) through the Regional Enterprises Development Centers (REDECs) in six governorates. It also adjusts its training materials to accommodate the lower educational levels of women in rural areas, organises transportation to and from training locations and charges lower training fees to women because of their lower ability to pay the full costs. In Mobadara’s experience, special business development service efforts are needed to respond to the needs of women entrepreneurs in Egypt. Due to mobility restrictions (especially in rural areas), women have less access to mainstream services, so the services need to be offered in close proximity to the woman’s enterprise. They also have more demands on their time than male clients because of their family responsibilities, which means that entrepreneurship (and other) training has to be delivered in shorter modules.

The **“EntreElles in Regions” project in Morocco** offers special programmes for women entrepreneurs that help to develop the performance and competitiveness of women’s enterprises by meeting their post-creation training and business support. Delivered through the National Agency for SME promotion (Agence nationale pour la promotion de la petite et moyenne entreprise, ANPME) it offers an eight-month programme of training workshops and individual coaching. Once women entrepreneurs have completed the preliminary EntreElles programme they are more likely to be eligible for ANPME’s mainstream support programmes and thus able to further improve the performance of their enterprises. ANPME has been able to increase the share of women among its SME clients from 2% in 2008 to closer to 12% in 2013. This illustrates the impact of preparatory efforts to scale up the management skills and enterprise performance of women-owned enterprises to enable them to meet the criteria for other government-supported programmes.

Immigrants can also be entrepreneurs (OECD, 2010e), and between 1998 and 2008 the number of jobs created by migrant entrepreneurs in OECD countries increased steadily. This is particularly relevant for the United Arab Emirates where the non-national population is much larger than the native population and keeps rising. Targeted measures to foster entrepreneurship among populations with an immigrant background generally focus on the entrepreneurs’ skills rather than on the economic environment. Usually these “knowledge-based” measures provide information on: business regulations and mainstream business-support services; educational services and training in language, managerial and marketing skills; and advice and counselling. Measures to build social capital include mentoring and services tailored to improve the network-building capacity of migrant entrepreneurs and facilitate their access to mainstream business networks and markets (Box 3.12).

**Box 3.12 Selected entrepreneurship programmes for migrants**

The Zentrum für Existenzgründungen und Betriebe von Migrantinnen und Migranten, a semi-public organisation funded by the City of Hamburg and the European Social Fund, has run the Unternehmer ohne Grenzen (Entrepreneurs without Borders) programme in Germany since 2000. The programme offers counselling services as well as seminars and briefings on legal and fiscal issues intended to improve migrant entrepreneurs’ knowledge of local labour laws, income and corporate tax, and social-security legislation. More general knowledge-based services – such as training courses in financing, production, investment and marketing, and assistance in business planning and accounting – are also delivered. The programme also facilitates migrant entrepreneurs’ access to mainstream business organisations and their integration into local business structures.

The United Kingdom’s Ethnic Minority Business Service (EMBS), targeted to entrepreneurs with immigrant backgrounds, covers all aspects of business development, from help with start-up finance to ongoing support for more mature businesses. The EMBS was launched in 1987 as a one-stop shop for business advice and support to black and minority communities in the city of Bolton. Business-support activities under the EMBS are carried out in three stages, with community outreach and individual needs-assessments conducted prior to the actual delivery of business support services. Services are offered in various languages and consist of training, counselling and financing for both nascent and established entrepreneurs. Start-up assistance includes raising capital, training in business skills, business planning, locating premises and bookkeeping. Seminars on tax and employment legislation, patenting and trade marking, promotion, marketing, entering international markets, and IT services are also provided. Immigrant businesses assisted by the programme between 2001 and 2006 showed a two-year business survival rate of 90% compared with the national benchmark of 62%.

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FURTHER READING


The Way Forward

This chapter explores how OECD tools can help the United Arab Emirates design an effective skills strategy, and provides examples of structures other countries have used to co-ordinate skills policies.
The Way Forward

ENHANCING THE EVIDENCE BASE TO HELP DESIGN EFFECTIVE SKILLS POLICIES

As an essential milestone towards developing a national skills strategy, the United Arab Emirates needs to build “skills intelligence” in order to situate its strengths and weaknesses in relation to different dimensions of the strategy, and to design and evaluate policy alternatives.

One tool that can help with this is the OECD’s Skills Strategy, published in 2012. This strategy made an important step by shifting the focus from a quantitative notion of human capital, measured in years of formal education, to the skills people actually acquire, enhance and lose over their lifetimes. As an empirical foundation for this strategy, the OECD Survey of Adult Skills provides a first-of-its kind assessment of the skills individuals have, how these are used on the job, and the resulting economic and social outcomes (Box 4.1). In addition, the OECD has developed an interactive online portal for skills, skills.oecd.org, which allows governments, researchers and other users to access the OECD’s rich stock of data and analysis on skills at a glance and in the most up-to-date form.

Box 4.1 The analytical potential of the OECD Survey of Adult Skills

The OECD Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), is the most comprehensive international survey of adult skills ever conducted. It gathers information from some 5 000 people aged 16 to 65 in each participating country.

Directly assessing adult skills has significant advantages over previous measures of human capital, such as those based on educational qualifications. A diploma does not certify a precise skill, even on the day it is awarded; one that was awarded many years prior to an assessment says even less about a person’s current skills. The Survey of Adult Skills not only measures the level of skills, it also tries to assess how skills are associated with the success of individuals and countries. In addition, it examines how well education and training systems succeed in instilling these competencies, and how public policy might improve their effectiveness. The data gathered through the Survey of Adult Skills, which also includes information on participants’ demographic characteristics (age, gender, immigrant status, etc.), education and training, job history, and the social aspects of their lives, are broad and deep enough to offer insights into many different aspects of skills, including:

- **The influence of skills on social and economic outcomes.** The survey allows for in-depth analysis of the relationship between skills and labour market outcomes as well as between skills, trust, political engagement, volunteering, and health. Information from the survey, combined with advanced econometric modelling, can provide insights into how the supply of skills and the quality of those skills affect economic growth.

- **The use of skills in the workplace.** The data from the survey can be compared against other measures of skills, such as occupations and qualifications or diplomas, while differences and similarities in how skills are used in the workplace can be examined and compared among countries, industries and enterprises. The data also offer a unique opportunity to develop a direct measure of mismatch by comparing observed individual skills levels to skills requirements at work. In addition to shedding light on the underuse of skills, its causes and consequences, the data will also allow for an examination of the reasons behind skills deficits.

- **Developing skills over a lifetime.** The survey allows for a study of some of the factors that are important for acquiring and maintaining skills, and how the acquisition of skills changes over time. These aspects of skills development can be studied at both the cohort and country levels. The comparative data on adult learning can also be used to identify international patterns of who is and who is not participating in adult learning, whether and where the opportunity to participate is not available to all, and the factors that motivate people to participate. The data can also help identify adults with poor skills and be used on the job, and the resulting economic and social outcomes (Box 4.1). In addition, the OECD has developed an interactive online portal for skills, skills.oecd.org, which allows governments, researchers and other users to access the OECD’s rich stock of data and analysis on skills at a glance and in the most up-to-date form.

- **Immigrant skills and qualifications.** The data from the survey can be used to examine differences in skills levels between immigrants who acquired their skills in the host country and those who acquired their skills elsewhere, and between first- and second-generation immigrants. This information sheds light on issues such as whether returns to skills depend on where the qualifications, diplomas and work experience were acquired; the relationship between outcomes and measured skills, as opposed to formal qualifications; and the role of language proficiency in immigrants’ labour market outcomes and occupational choices.

- **Digital literacy, problem solving in technology-rich environments, and using information and communication technologies.** The survey will help build a better understanding of how well adults cope with an increasingly hi-tech environment, both in and outside the workplace. They can be used to examine inequalities in cognitive foundation skills, particularly among young people, and the factors that drive those differences, including parental background, educational attainment, tracking, the quality of education and ICT-related practices.

An online version of the Adult Skills Survey is being developed in partnership with the European Commission. This tool allows individuals, firms, regions and other sub-national entities to assess their foundation skills (literacy, numeracy and problem solving in technology-rich environments) and to benchmark them against the national and international results available for the participating countries.
For the United Arab Emirates, engaging in a large-scale measurement exercise like the OECD Survey of Adult Skills is more likely to be a mid-term goal, and the primary challenge is to establish the statistical infrastructure that can regularly collect a wide range of data needed for policy purposes. The international evidence used in the report, however, provides many examples of the kind of data necessary to carry out a comprehensive analysis of a country’s skills system, and can guide the United Arab Emirates’ future efforts in developing such data-gathering infrastructure.

Since skills policies need to tackle local imbalances to be effective, it is necessary that data on skills supply and demand can be disaggregated at the level of local labour markets. However, many countries do not have the right instruments to assess, or the capacity to analyse, their skills problems at the sub-national level (Box 4.2). In the United Arab Emirates, some Emirates are more advanced in the development of their skills intelligence than others; for example, Dubai and Abu Dhabi have started to take part in international data gathering exercises. The experience of these Emirates can help other Emirates to establish a similar infrastructure and build up, over time, a United Arab Emirates-wide diverse and comparable set of data.

Box 4.2 Internationally comparable skills indicators for low-income countries

One of the main actions is the creation of a set of internationally comparable indicators of skills for least developed countries. The initial framework and approach to construct this set of skills indicators is divided into five main areas:

1. **Contextual factors.** Required to capture the main drivers of skills acquisition and skills requirements, contextual indicators aim to picture the economic and demographic situation of a country, as well as its labour market and technological development. As an example, some indicators included in this area are gross national income per capita, employment shares by sector, pupil-student ratio or access to the Internet.

2. **Skills acquisition.** Focusing on the stock of human capital and the on-going investments in skills formation in a country, some of the indicators suggested are educational attainment, literacy, school enrolment or participation in apprenticeships.

3. **Skills requirement.** Assessing the demand for and use of skills is one of the main challenges in determining each country’s productivity and growth potential. Employment shares by level of education and by occupation or job-task measures of skills use at work are some of the indicators to be included in this section.

4. **Matching.** Achieving a good match between skills acquired and those used in the labour market is important to maximise the benefits of costly investments in education and training. The proportion of workers who are over-qualified or under-qualified, the proportion of qualified workers working in the informal sector or hard-to-fill vacancies are some direct and indirect measures of skills (mis-)match.

5. **Outcomes.** The final objective is to enrich the links between skills and economic performance, employment and health outcomes. Growth in GDP, labour productivity, unemployment rate by education or earnings by occupation and education are some of the indicators that can guide policy makers to evaluate their policies.

Indicators are constructed so that they provide relevant information, so that it is economically and technically feasible for all countries to construct them, and so that they are comparable and can be used to accurately represent the current and future situation in a country. Labour force and health surveys are two key data sources potentially available. Employers’ surveys are also required, although availability and comparability issues will have to be addressed.


**SUPPORTING THE DEVELOPMENT OF A NATIONAL SKILLS STRATEGY IN THE UNITED ARAB EMIRATES**

Many countries have already published or are developing national skills strategies. The key challenge, however, is putting such strategies into practice and adopting a holistic, coordinated approach that uses policy development mechanisms to combine a central steering and oversight structure (where all the relevant information is gathered and monitored) with effective consultation mechanisms that involve relevant stakeholders as part of a “bottom-up” approach. Some countries are already advanced in establishing institutions specifically concerned with skills policies that can analyse the current situation, design a strategy, and support its implementation (Box 4.3). Establishing a national skills centre where all the relevant skills intelligence is gathered and analysed would greatly support the development of skills policies in the United Arab Emirates.
Box 4.3 Specialised agencies for co-ordinating national skills policies

Skills Australia is an independent, statutory body that provides advice to the Minister for Education, Employment and Workplace Relations on Australia’s current and future workforce skills needs. It analyses current and emerging skills needs across industry sectors, assesses evidence from commissioned research and industry stakeholders, and provides the government with recommendations to help inform decisions related to skills formation and to drive ongoing reforms to the education and training sector. In 2012, Skills Australia was be replaced by the national Workforce and Productivity Agency, which oversees co-ordination. An implementation steering committee, with representatives from all responsible agencies, reports to government as a whole.

The UK Commission for Employment and Skills (UKCES) was established in 2008, following the recommendations of the Leitch Review assessing the UK’s skills needs, which also set skills targets for the United Kingdom for 2020. The UKCES assesses the UK’s progress towards skills targets, advises ministers on strategy, targets and policies, monitors the VET system, and oversees the Sector Skills Councils. It is mainly composed of business leaders, but also includes trade union, third-sector and provider representatives. The remit of UKCES was modified in 2011 to have a greater emphasis on driving employer investment and ambition, and using public investments competitively to increase employer investment in skills.

The Expert Group on Future Skills Needs in Ireland advises the Irish Government on current and future skills needs of the economy and on other labour market issues that affect Ireland’s enterprise and employment growth. Composed of experts from industry, education and training, and unions, it has a central role in ensuring that labour market needs for skilled workers are anticipated and met. Established in 1997, the EGFSN reports to the Minister for Jobs, Enterprise and Innovation and the Minister for Education and Skills. Forfás, Ireland’s policy advisory board for enterprise, trade, science, technology and innovation in conjunction with FÁS, the National Training Authority, provides the EGFSN with research and analysis support. The FÁS Skills and Labour Market Research Unit provides the Group with data, analysis and research and manages the National Skills Database. The Expert Group on Future Skills Needs provides advice to the government on skills issues that affect enterprise through skills foresight and benchmarking, strategic advice on building skills through education and training, and data collection and analysis on the demand and supply of skilled labour.

As this document has identified, skills policies span a wide range of subject areas. To be successful, skills policy formulation needs to be inclusive, engaging all relevant players; and consultative, considering the experience of all stakeholders involved, including at the local level. The United Arab Emirates has greatly benefited from international expertise in the past, and although learning from best practice is strongly encouraged and supported by the OECD, over time the aim should be an “Emiratisation” of the United Arab Emirates’ skills policies. Building up national capacities, supporting national research programmes, and developing expertise to gather, analyse and use skills intelligence will be crucial to sustain successful skills policies in the future. Developing an Emirati way of managing skills policies might also aim to reduce the number of parallel reform initiatives and approaches, to simplify structures, avoid duplication, and put in place lean, efficient, transparent and flexible structures that all stakeholders can easily engage with.

Developing skills policies is an on-going process of learning and adjustment to changing circumstances. Education reforms in particular can take time. The United Arab Emirates has made impressive progress over recent decades in developing their skills system. Countries engaged in rapid catching-up processes, however, can run the risk of shifting too much focus to projects with fast, impressive results and, as a result, neglect more modest areas where change happens slowly over many years, although these areas are no less important. Putting in place a solid system to monitor and evaluate reforms and their immediate and longer term impact on the economy and society will help the United Arab Emirates to develop more effective skills policies.
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation’s statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.
OECD Skills Strategy

Better skills policies help build economic resilience, boost employment and reinforce social cohesion. The OECD Skills Strategy provides countries with a framework to analyse their skills strengths and challenges. Each OECD Skills Strategy diagnostic report reflects a set of skills challenges identified by broad stakeholder engagement and OECD comparative evidence while offering concrete examples of how other countries have tackled similar skills challenges.

These reports tackle questions such as: How can countries maximise their skills potential? How can they improve their performance in developing relevant skills, activating skills supply and using skills effectively? What is the benefit of a whole-of-government approach to skills? How can governments build stronger partnerships with employers, trade unions, teachers and students to deliver better skills outcomes? OECD Skills Strategy reports provide new insights into these questions and help identify the core components of successful skills strategies.

This report is part of the OECD’s ongoing work on building effective national and local skills strategies.

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