

The Allen Consulting Group

A Comparable Country Scan

Skills Gaps Research Study: Report 1

March 2009

Report to Tamkeen, Kingdom of Bahrain

Disclaimer

INFORMATION ON WHICH THE SURVEY RESULTS ARE BASED IS REPRESENTATIVE OF THE BEST INFORMATION AVAILABLE AT THE TIME OF THE STUDY'S FIELDWORK, CONSULTATIONS AND PUBLICATION. ALTHOUGH GREAT CARE WAS TAKEN TO ENSURE DATA QUALITY, LABOUR FUND (TAMKEEN) DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY OR OF ANY INFORMATION PRESENTED HERE.

NEITHER THE LABOUR FUND (TAMKEEN) NOR ANY AGENCY THEREOF, NOR ANY OF THEIR EMPLOYEES NOR ANY OF THEIR CONTRACTORS, MAKES ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUMES LEGAL LIABILITY OR RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS OR ANY THIRD PARTY'S USE OF THE INFORMATION CONTAINED IN THIS DOCUMENT.

The Allen Consulting Group

The Allen Consulting Group Pty Ltd
ACN 007 061 930, ABN 52 007 061 930

Melbourne

Level 9, 60 Collins St
Melbourne VIC 3000
Telephone: (61-3) 8650 6000
Facsimile: (61-3) 9654 6363

Sydney

Level 12, 210 George St
Sydney NSW 2000
Telephone: (61-2) 8272 5100
Facsimile: (61-2) 9247 2455

Canberra

Empire Chambers, Level 2, 1-13 University Ave
Canberra ACT 2600
GPO Box 418, Canberra ACT 2601
Telephone: (61-2) 6204 6500
Facsimile: (61-2) 6230 0149

Perth

Level 21, 44 St George's Tce
Perth WA 6000
Telephone: (61-8) 6211 0900
Facsimile: (61-8) 9221 9922

Online

Email: info@allenconsult.com.au
Website: www.allenconsult.com.au

Suggested citation for this report:

Allen Consulting Group 2009, *Skills Gaps Research Study: Report 1 — A Comparable Country Scan*, Canberra, Australia.

Disclaimer:

While the Allen Consulting Group endeavours to provide reliable analysis and believes the material it presents is accurate, it will not be liable for any claim by any party acting on such information.

© The Allen Consulting Group 2009

Contents

<i>Glossary</i>	<i>1</i>
<hr/>	
Chapter 1	
<i>Introduction</i>	<i>2</i>
1.1 Background to the study	<i>2</i>
1.2 Skills Gaps Research Study	<i>4</i>
1.3 Methodology for this report	<i>6</i>
<hr/>	
Chapter 2	
<i>Determining national competitiveness</i>	<i>9</i>
2.1 What is national competitiveness?	<i>9</i>
2.2 Measuring national competitiveness	<i>9</i>
2.3 A focus on skills development	<i>12</i>
<hr/>	
Chapter 3	
<i>Global trends in labour markets and skills — implications for Bahrain</i>	<i>15</i>
3.1 Current leading edge thinking on skills	<i>15</i>
3.2 The global competition for labour	<i>17</i>
3.3 Implications for Bahrain	<i>22</i>
<hr/>	
Chapter 4	
<i>Comparable country scan: emerging challenges and key issues for Bahrain within a regional context</i>	<i>23</i>
4.1 Current economic environment of the GCC	<i>23</i>
4.2 Demographic profiles	<i>29</i>
4.3 Labour markets	<i>31</i>
4.4 Emerging issues and challenges in labour markets	<i>36</i>
4.5 Conclusion	<i>37</i>
<hr/>	
Chapter 5	
<i>Comparable country scan: lessons from selected relevant nations</i>	<i>38</i>
5.1 Economic overview	<i>38</i>
5.2 Demographic profiles	<i>40</i>
5.3 Labour markets	<i>41</i>
5.4 Lessons from comparable nations	<i>44</i>
5.5 Implications for Bahrain	<i>52</i>

Chapter 6	
<i>Future policy directions for Bahrain</i>	54
6.1 Global trends in labour markets and skills — implications for Bahrain	54
6.2 What type of skills strategy is required for Bahrain?	55
6.3 Next steps	56
Appendix A	58
<i>References</i>	58

Glossary

ALMP	Active Labour Market Policy
CREST	Singapore Government's Critical Skills Training Scheme
EDB	Economic Development Board
EU	European Union
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ILO	International Labour Organization
IMF	International Monetary Fund
KSA	Kingdom of Saudi Arabia
LMP	Labour Market Policy
LMRA	Labour Market Regulatory Authority
NBK	National Bank of Kuwait
NESC	National Economic and Social Council
NGO	Non-Government Organisation
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of Petroleum Exporting Countries
R&D	Research and Development
SEDB	Singapore Economic Development Board
SME	Small Medium Enterprises
UAE	United Arab Emirates UGC
	University Grants Council
WHO	World Health Organization

Chapter 1

Introduction

It should be noted by the reader that the data for the Skills Gaps Research Study was collected during 2008 with the conclusions being finalised in June 2009. This data is relevant to each of the four reports in the series of the Skills Gaps Research Study.

1.1 Background to the study

Tamkeen

Tamkeen (formerly, Labour Fund) was founded in 2006 with the primary objectives of developing the private sector and making Bahrainis the preferred choice for employers. Tamkeen's goal is to create high-value added jobs for Bahrainis.

Tamkeen's strategy focuses on:

- capitalising and developing value added Bahraini talents and skills in rewarding careers
- supporting the development and attraction of new and emerging industries
- enhancing and leveraging existing industries.

More recently Bahrain has taken vital steps towards comprehensive labour reform aimed to develop its human capital, support the private sector and liberalise and improve inherent market systems, standards or policies.

The successful reform of Bahrain's labour market will affect the whole economy. In particular, it will raise Bahraini living standards by challenging private and public sector establishments to improve employment services, policies and standards and the working conditions within Bahrain.

Economy in brief

Bahrain has a long history as a regional centre for trade and commerce. In more recent times, since the 1930s when oil was discovered, the country's economic prosperity has been based largely on oil revenues. These have been the main contributors to national income over the past half-century. Oil revenues have enabled development of extensive, high quality national infrastructure, and allowed the government to provide Bahraini citizens with services such as free education and free or very low cost health care, with minimal taxation. More recently, other industry sectors - notably banking and finance - have become increasingly important.

Bahrain's policy makers have identified the need for longer-term investment outside the oil sector, for two main reasons.

Firstly, there are the dangers of natural resource income distorting patterns of economic development. Secondly, Bahrain's oil resources are limited, and the government has prudently sought to develop a strategy for a future where the country will not be able to rely on oil as the major source of national income. Current economic development strategies and initiatives aim to mitigate the potentially significant impacts of this situation. Prominent among these to date has been the successful effort to develop Bahrain as a regional provider of financial services and establish its position as a leader in Islamic banking and financial services.

Bahrain's economic diversification strategy, shifting focus to non-oil sectors and industrial and commercial success, has been making notable progress over the last two decades. As a result, 75 per cent of Bahrain's Gross Domestic Product (GDP) in 2007 was attributable to non-oil sectors (Central Informatics Organization 2008).

Among the economic successes of the nation, there remain some key issues that have the potential to act as barriers to future economic diversification. An example: is that income inequality is high compared to other developed nations with few middle-income households and many low income households.

In addition, the labour market is expected to change significantly over the coming decade.

- new Bahrainis will enter the labour market, many of whom will be recent graduates (from either high-school or post-secondary studies)
- an increasing number of Bahraini women will enter the labour market
- those currently unemployed and lacking skills to enter the labour market will improve their skill base in order to participate in the workforce (Economic Development Board 2004).

Continuing the aim of economic diversification, Bahrain's Economic Development Board (EDB) has been focussed on a sustainable future for Bahrain. In 2004, the EDB launched a comprehensive *National Strategy for Bahrain* to ensure future sustainability. This strategy aims to:

- re-capture Bahrain's leadership position as the pre-eminent economy in the region
- become the preferred country within the region to create and grow a business, by both nationals and foreigners
- achieve a more than two fold increase in income per capita by 2015 (Economic Development Board 2005).

The strategy is made up of three components, which are outlined in Box 1.1.

Box 1.1

COMPONENTS OF THE NATIONAL STRATEGY FOR BAHRAIN**Enabling the private sector:**

- the removal of barriers to growth such as access to capital, land, judicial and legal infrastructures
- specific sector initiatives to accelerate growth in strategic sectors
- dedicated Small Medium Enterprise (SME) initiative and investment promotion.

Transforming government:

- reducing red tape
- moving from owner-operator to facilitator
- creating a modern civil service.

Investing in people:

- labour market reform
- education system reform.

Source: (Economic Development Board 2005).

The reforms aim to ensure that the private sector is the driver of future growth in Bahrain and that Bahrainis are the employees of choice for this growing private sector (Economic Development Board 2005).

Bahrain has made a strong investment in education, skills and diversification. There has been a rapid increase in educational standards since the 1980s, and at the same time a strong increase in the size and value of the services sector. However, the reliance on foreign workers to address the shortage of skilled labour during a period of rapid growth, perpetuated by mismatches between the profile of skills possessed by Bahraini nationals and those required in the labour market, is a significant issue to be addressed.

Economic observers (including the United Nations, the IMF and others) have commented on the importance of resource rich nations investing in human capital. Bahrain has adopted a far-sighted program to do exactly this. This Skills Gaps Research Study is one element of that broader strategy.

1.2 Skills Gaps Research Study

Tamkeen has commissioned the Allen Consulting Group to conduct a comprehensive study to analyse current skills in Bahrain's labour market, as well as future and emerging skills requirements, and to assess any current or projected gaps and needs.

The study aims to build on reforms in place and improve the quality and quantity of skills being developed, in order to ensure that Bahrain maintains a strong competitive economy and high quality of life.

The project will provide an information base to underpin strategies to improve labour force participation, and responsiveness to the demand for skills using a flexible, market based approach. The objectives of this project are outlined in Box 1.2.

Box 1.2

OBJECTIVES FOR THE SKILLS GAPS RESEARCH STUDY

1. To establish a detailed understanding of the current composition of the Bahraini workforce — the deliverable at this stage will be a set of data on current labour market conditions, skills and components.
2. To provide analysis of the gaps in the current skills makeup in light of projected future demands. This will be identified on the basis of in depth analysis of the likely demands from both current employers and prospective new industry sectors.
3. To develop a strategy for overcoming such gaps. The strategy will be based on the most contemporary thinking in economics and labour market analysis.
4. Provide action plans that give clear guidance for identified priority sectors on how to implement the strategic directions proposed.

These objectives will be addressed in a series of four reports (see Box 1.3).

Box 1.3

SKILLS GAPS RESEARCH STUDY — REPORTS

Report 1: Skills Gaps Research Study: A Comparable Country Scan:

This report will develop a clear understanding of the international environment in which Bahrain operates and determine Bahrain's points of national advantage. It will also consider how other countries have aided skill development in the past.

Report 2: Skills Gaps Research Study: Sectoral and Skills Gaps Analysis:

This report will outline a baseline for the labour market and associated skills in eleven selected sectors, forecast the labour and skills needs for each sector into the future (assuming no predicted changes to the status quo) and identify skills gaps within each sector. It will also identify the strengths, weaknesses, opportunities and threats in terms of the labour market in each sector and associated skills gaps.

Report 3: Skills Gaps Research Study: Future Skills and Workforce Needs:

This report will summarise the key discussions drawn from the scenario planning exercise and the Regional Conference on Skills Gaps, conducted in Bahrain in November 2008. The report will highlight key findings that will contribute to the outcomes of the future strategy.

Report 4: Skills Gaps Research Study: Final Report

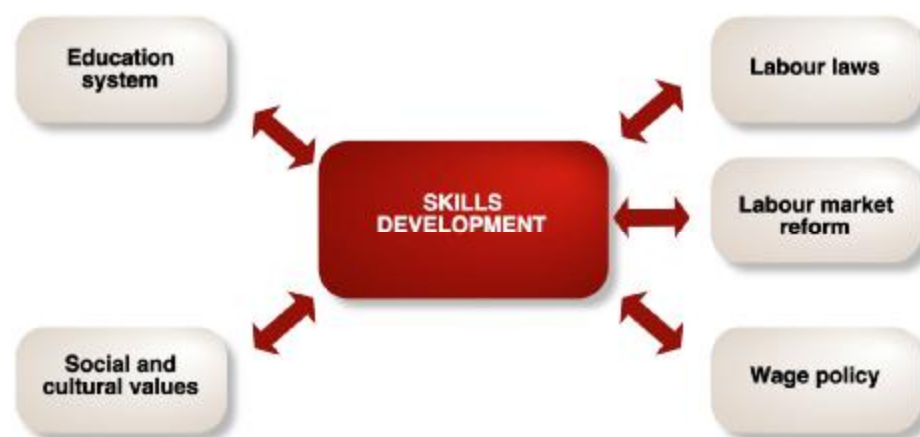
This report will identify the future needs of the Bahraini labour market and associated skills gaps using the information collected in each of the previous reports and incorporating economic modelling of this information. From these projections, this report will highlight a series of future scenarios that will form the base of the study's strategy.

The report will consist of a strategic skills plan for the next ten to fifteen years and will include action plans that will address the future strategy.

The Skills Gaps Research Study is one piece of a broader forum of issues that relate to the labour market and skill development. For example, there are key issues on labour market reform (including skill development concessions such as the current training levy scheme), wage policy, labour laws, the education system structure and Bahrain's inherent cultural and social values that are not addressed within the scope of this study (see Figure 1.1).

This study has been specifically targeted to identify and create strategies to address future skills gaps in Bahrain. Specifically, Allen Consulting Group are using a definition of skill as ‘a proficiency or facility that is acquired or developed through education, training or experience’ to ensure that the study meets its objectives (see Box 1.2).

Figure 1.1

THE MANY FACETS OF THE LABOUR MARKET

Source: (Allen Consulting Group and Eidos).

Further, the Skills Gaps Research Study considers previous work undertaken in Bahrain on skills development, such as previous skills development analysis by McKinsey & Company for Tamkeen, and Skills Gaps & Competency Requirements for the Financial Services Industry by Ernst & Young Bahrain for the Human Resources Development Fund. Although the Skills Gaps Research Study is based on a unique methodology, key findings and lessons from other research programs are considered to improve the study as a whole.

1.3 Methodology for this report

Comparative country studies often face methodological difficulties. A standard approach in economic analysis is to isolate a variable for study and apply a rule of *ceteris paribus* (other things being equal) to factors outside the one under scrutiny. In the study of government, this approach can be misleading not only because other things never remain equal, but the isolation of one variable is an unrealistic assumption when examining a closely linked system. There are usually a large number of independent variables which affect the way an outcome in one country differs from that in another.

The political science approach to comparative studies between governments involves equally difficult methodological problems. As noted by the Canadian comparative government scholar Professor Peter Aucoin (2005) in a comparative study of other governments and Canada:

There is a danger that the best practices of other countries may look better than our own simply because they are so different or novel to our own experience. Moreover in assessing foreign experiences, one may too readily accept the assumed merits of foreign systems especially if they are described or interpreted by the very people who have designed them.

In a modern economy, the choices available to governments are highly dependent on national income in two dimensions: size of economy, and per capita national income. Neither variable is sufficient on its own as a basis for comparison. Countries with a similar size of total economic production will vary considerably if they have very divergent population sizes.

To illustrate: were we to consider GDP alone, we would note that Bahrain in mid-2008 had a total GDP roughly the equal to that of Turkmenistan or — on a purchasing power parity adjusted basis — Cambodia. Bahrain's GDP per capita however is five and ten times greater than each of those countries respectively. As such, at their stages of economic development, the capacity of governments in these developing countries to intervene to assist in skills formation or labour market development is very much constrained.

Similarly, were we to consider only GDP per capita, we would note that Bahrain had a GDP per capita very similar to that of France. It would not be reasonable however to compare skills and labour market policies in France with those in Bahrain — the total size of the economy of France makes a huge difference to the programs the government can undertake, as does its vastly different social and cultural background.

This means that the choice of countries for comparison where the results will be meaningful from a policymaker's perspective are in fact more limited than what might first appear. The countries that have been chosen for comparison are therefore:

- the other countries of the region that face very similar challenges and economic pressures. For this reason, the Gulf Cooperation Council (GCC) countries are important comparison points
- other countries which have had to invest heavily in skills as an economic growth strategy — including Singapore, Taiwan, Ireland, Hong Kong¹, and Sweden.

The comparison methodology has drawn out key demographic, labour market and (where available) skills data in order to allow a comparison against the key variables to be addressed in the later stages of this project.

Structure of Report 1

The remainder of this report is structured as follows:

- *Chapter 2* outlines how skills development leads to improvements in human capital and in turn strengthens country competitive advantage. It also considers the different factors affecting a nation's competitive advantage and how countries can be compared
- *Chapter 3* provides an overview of leading edge global thinking on emerging issues and challenges in labour markets. This overview also draws on the impacts of technological change across job categories and describes the implications for Bahrain in competing for and retaining its labour force

¹ Strictly speaking Hong Kong is a Special Administrative Region of the Peoples' Republic of China. Since the handover of sovereignty in 1997 the Hong Kong economy has been gradually becoming more integrated with that of China overall, and its usefulness as a country comparison will be more limited in future years.

- *Chapter 4* provides a comparable country analysis between GCC member States. This analysis includes a comparison of economic success, demographic profiles, labour markets and education systems to draw together emerging issues and challenges for Bahrain in terms of national competitiveness within the GCC
- *Chapter 5* summarises how other countries have built economic success from skills formation and development. The chapter considers the coordinating role that other governments have taken regarding skills development and how this has assisted or hindered growth. It also outlines the key themes that emerge from the investment in skills formation
- *Chapter 6* draws on the information detailed in previous chapters to outline the next steps including the development of sector-based skills strategies within the project and the development of a conceptual framework to assess how strategies in future reports will assist skill development.

Chapter 2

Determining national competitiveness

2.1 What is national competitiveness?

The concept of national competitiveness is an important aspect of the Skills Gaps Research Study as it enables an understanding of how skills development leads to improvements in human capital, labour productivity, and in turn strengthens Bahrain's competitive advantage.

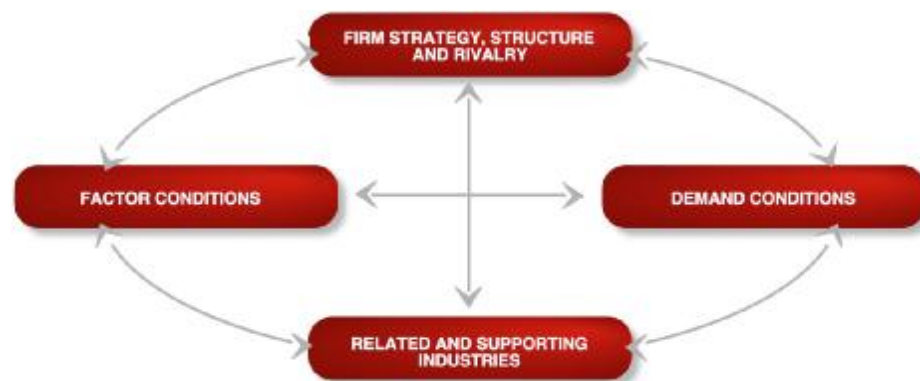
National competitiveness as a concept is difficult to define — there is a clear understanding that assessing a nation's competitiveness is important, but the complexity of measuring competitiveness draws out different definitions of the concept. For this study we have used the World Economic Forum's definition of national competitiveness — that is, the productivity of a nation that leads to the world market's demand for its products (World Economic Forum 2008).

In the last twenty years significant progress has been made in better understanding national competitiveness and productivity growth. The *new growth theory* that was established predominantly in the late 1980s seeks to provide an explanation as to how productivity growth and technological change occur and the factors and settings which influence it. As such, productivity growth is endogenous — forming part of the production decisions that govern a nation. This theory proposes that the key to productivity growth and technological change is the accumulation of knowledge, which lies in human capital and in the technology embodied in equipment. The accumulation of knowledge is credited with speeding up the rate at which technologies are developed, spread and adapted.

2.2 Measuring national competitiveness

A national competitive advantage is difficult to maintain, as the promise of economic rents invites competitors to duplicate the advantage held by any one nation. Therefore, to develop a sustainable competitive advantage, nations must be constantly innovative. The World Economic Forum uses the *Porter Diamond* to assess national competitiveness (see Figure 2.1).

Figure 2.1

THE DETERMINANTS OF NATIONAL ADVANTAGE (PORTER'S DIAMOND)

Source: (Porter 1990; World Economic Forum 2008).

Porter identifies four broad attributes that reflect the capacity of nations to improve their business environment and remain innovative:

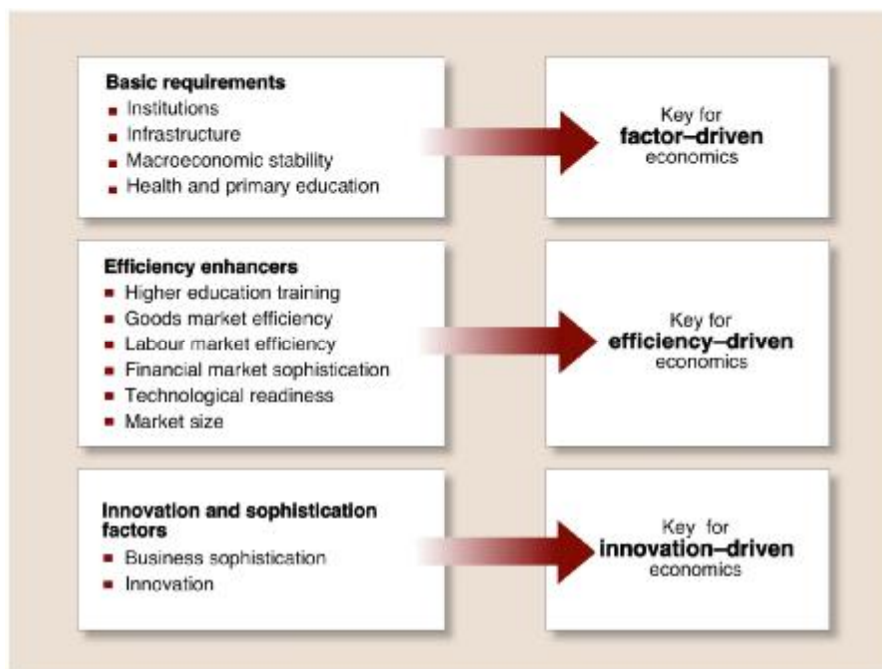
- *factor conditions* — the efficiency, quality and specialisation of inputs, including human, capital and national resources, physical infrastructure, information infrastructure (such as economic data, freedom of information) and scientific and technological infrastructure. Human capital and skills development are concepts that feed into the improved efficiency and quality of human factor conditions
- *demand conditions* — the presence of demanding and sophisticated local customers, with high customer expectations and local customer needs that anticipate those needs more globally
- *firm strategy and rivalry* — a local environment that encourages investment and productivity (such as incentives for capital investments, intellectual property protection) and a context of open local competition
- *related and supporting industries* — the presence of capable, locally based suppliers and firms in related fields to those with a competitive advantage and the presence of clusters of related industries rather than isolated industries (World Economic Forum 2008).

Many different factors affect a nation's competitive advantage. To distil all of these factors, Porter created the twelve pillars of competitiveness, by which all countries can be compared. Figure 2.2 illustrates these pillars and categorises them further into:

- *basic requirements* — that are key for factor-driven economies that compete on their factor endowments, primarily unskilled labour and natural resources
- *efficiency enhancers* — that are key for economies that are developing more efficient production processes and increasing product quality
- *innovation and sophistication factors* — that are key for innovation-driven economies that are able to sustain higher wages and associated standards of living by competing with new and unique products and processes.

Figure 2.2

TWELVE PILLARS OF COMPETITIVENESS



Source: (World Economic Forum 2008).

Porter’s work on national competitiveness is still considered leading edge thinking in this area of economics. His frameworks are used in a number of global instances, some of which include:

- the World Economic Forum’s annual Global Competitiveness Report, which ranks over 140 nations in terms of national competitiveness (World Economic Forum 2008)
- a major report on the competitiveness of the United Kingdom (UK) in 2003 and a subsequent report on the role of employment relations in growing the UK’s economy (Economic and Social Research Council 2003; Smith Institute 2006).

Furthermore, Porter’s principles were used as an input and guide into the European Union’s revised Lisbon Strategy in 2005, which aims to improve the competitiveness of the European Union in terms of economic growth and employment (World Economic Forum 2004).

No nation can or will be competitive in every, or even most industries. Ultimately, nations succeed in particular industries because their home environment is the most forward-looking, dynamic, and innovative. Using GDP as a determining factor, the World Economic Forum categorises GCC States into each of the economic stages and the two transition points (see Table 2.1). Bahrain’s economy sits in the transition from an efficiency-driven economy to an innovation-driven economy.

Table 2.1

BAHRAIN IN TRANSITION TO AN INNOVATION-DRIVEN ECONOMY

Economic stage	GDP per capita in \$US	GCC State
Factor-driven economy	Less than 2000	—
Transition to efficiency-driven economy	2000 to 3000	• Oman
Efficiency-driven economy	3000 to 9000	—
Transition to innovation-driven economy	9000 to 17 000	• Bahrain
Innovation-driven economy	Greater than 17 000	• Qatar • United Arab Emirates • Kuwait

Source: (World Economic Forum 2007).

Note: Data excludes Kingdom of Saudi Arabia (KSA).

Why consider national competitiveness?

For this study, the national competitiveness of Bahrain must be considered so that its competitive advantages and disadvantages can be identified at a high level. In order to assess the future skills needs in the Bahraini labour market, it is important to consider the link from the labour market across economic sectors to how those sectors relate to Bahrain's national competitiveness.

Furthermore, the strategy will be more effective if there is a focus on skills gaps in economic sectors that will aid Bahrain's national competitiveness, not hinder it. As described in Chapter 1, there is a range of other economic reforms being undertaken by the EDB and this study does not intend to duplicate that work. Therefore, our depth of analysis in terms of national competitiveness is bound by the scope of the study — that is to assist in identifying skills gaps in the Bahraini labour market.

2.3 A focus on skills development

When considering the components of Bahrain's national competitiveness as highlighted above, some factors require Bahrain's focus to transition into an innovation-based economy. In order to make this transition, the Bahraini economy will require a solid efficiency driven base, including:

- higher education and training
- goods market efficiency
- labour market efficiency
- financial market sophistication
- technological readiness
- market size.

In addition to these efficiency factors, Bahrain also aims to move towards business sophistication and innovation. A number of these factors may require economic or regulatory reforms to improve efficiency. They are out of scope here: the focus of this project is how skills development can improve efficiency in relevant areas.

So, how does Bahrain make this transition from an efficiency-driven economy to one driven by innovation? One of the most critical components of this change is to focus on human capital and skills development. A focus on human capital will improve the efficiency of higher education and training and as a result will also improve labour market efficiency and the capacity for innovation.

Human capital is the health, strength, education, training, and skills embodied in a society. Gary Becker laid down the foundations of modern human capital theory in his work *Human Capital: A Theoretical and Empirical Analysis* (Becker 1964). Becker conceived human capital to be analogous with physical capital. Thus investment in human capital through education, training and health and wellbeing is comparable to purchasing more efficient machinery (Becker 1964). Becker's human capital theory is still insightful today with recent research by the Organisation of Economic Cooperation and Development (OECD), basing its definition of human capital on similar lines to those of Beckers:

The OECD defines human capital as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (Organisation for Economic Co-operation and Development 2007).

A review of skills in the UK in 2006 highlighted the importance of skills and human capital:

...skills are an ever more important determinant of productivity, prosperity and business competitiveness. As the global economy integrates and technology breaks down the barriers between what can and cannot be traded, activities will increasingly be located according to comparative advantage (Leitch 2007; Organisation for Economic Co-operation and Development 2007).

New growth theories (discussed above) propose that the accumulation of human capital has a direct and tangible link to competitive advantage.

The skills of a population are developed in a number of ways, primarily in various parts of the education system (in schools, the vocational education and training sector and universities), through on-the-job learning which may occur informally (through experience) or more formally (for example, via vendor-supplied training), and through skilled migration.

An interesting and useful distinction can be made between specific and general human capital, which has a material bearing on the way these skills are acquired. General human capital is useful to many if not all employers. It can include basic skills, such as literacy and numeracy, and generic skills, such as communication, managing competing demands and problem solving. Specific human capital refers to the skills or knowledge that is useful to only a single employer. The development of an individual's general human capital rewards both employers and employees from an increase in the overall skill level of the workforce. The development of an individual's specific human capital rewards the employer through improved productivity (Tether et al. 2005).

Accumulation of human capital is a key driver of labour productivity (and in turn labour market efficiency) and is strongly influenced by labour force demand. Skills are closely linked to technological change and innovation. However, the relationship between a skilled workforce and innovation is far from simple. It is difficult to separate skills that drive innovation from those that are demanded as a result of change brought about by innovation. Ultimately, the relationship between skills and innovation is circular (Tether et al. 2005).

The Skills Gap Research Study contributes to the development of the competitiveness by identifying those economic activities that provide comparative advantage and identifying the gaps in human capital that need further investment.

Chapter 3

Global trends in labour markets and skills — implications for Bahrain

3.1 Current leading edge thinking on skills

Over the past five years, business and education groups throughout the world have issued a series of reports indicating that the skill demands of work are rising, due to rapid technological change and increasing global competition. The reports universally call for rapid improvements in secondary and higher education to prepare young people and re-equip the existing workforce with the higher skills required in the 21st Century (Business Higher Education Roundtable 2003; Partnership for 21st Century Skills 2005; United Kingdom Treasury 2006).

For example, in the US, the National Academies report *Rising Above the Gathering Storm* (National Research Council 2008) argued that, to meet growing global competition for high-skill, high-wage jobs, the government should increase funding for research and development and strengthen the science and mathematics education of the nation's future workforce. So seriously did the US Government take this issue that the *America Competes Act* was signed into law in August 2007 and is designed to carry out the recommendations of that report (National Research Council 2008).

Despite the emphasis on skills, economists have been divided over the source of future jobs, the role that skills will play and the best means of skill enhancement. The majority argue that technological change is 'skill-biased', increasing demand for highly skilled workers and contributing to the growing gap in wages between college-educated workers and those with less education (Acemoglu 2003).

For example, recent research has found that computerisation and globalisation are driving increased demand for skills in solving non-routine problems and effectively communicating complex information, along with basic reading, writing, and mathematics skills (Autor et al. 2003a). Extending this analysis, further research calls for a re-orienting of secondary and vocational education to develop problem-solving and communication skills among the present school generation (Levy and Murnane 2004). It is argued that the underlying 'drivers' of skill demand are changing in an unpredictable way, with the implication that researchers cannot simply look at patterns of occupational growth from the recent past and project them into the future. Rather, they argue for the development of a set of general competencies to allow the workforce to adapt to changing labour market environments.

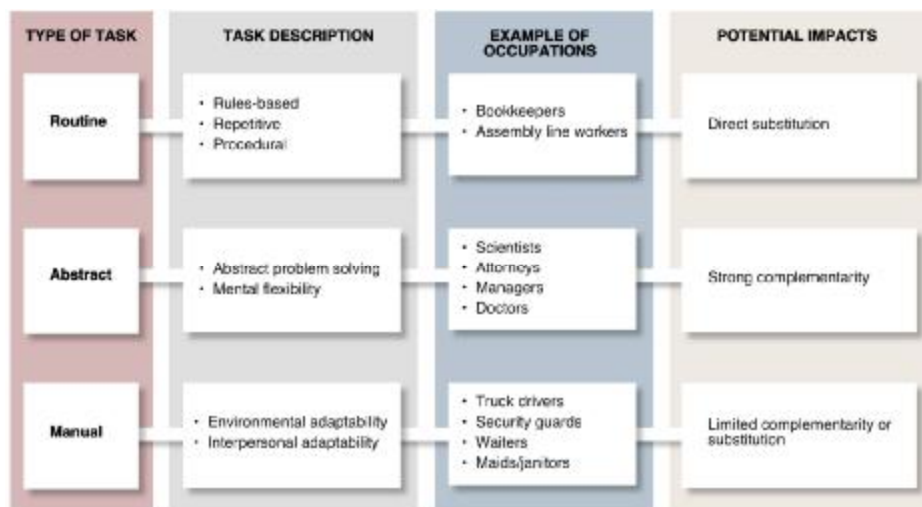
Labour market dichotomy

Leading edge thinking on labour markets predicts that future labour markets will be increasingly polarised (Autor et al. 2003b) and as such, labour market needs will need to adapt to this situation. To illustrate this argument, we draw on research that examined job changes in the US between 1960 and 2002 (Autor 2007). This research showed that compared with 1960, jobs requiring high levels of abstract tasks have increased, jobs comprised mostly of routine tasks have decreased and jobs including many manual tasks initially decreased but then levelled off.

In the future there will be many high-education professional and managerial jobs (involving abstract tasks) and low-education service jobs (involving manual tasks), with fewer jobs involving routine tasks. This is defined as three future labour market needs — routine, abstract and manual jobs (depicted in Figure 3.1). Both abstract (a combination of technological and knowledge industry jobs) and manual jobs (including most services) will expand to produce a polarized labour market, with routine jobs (middle management and supervisory jobs) declining as a proportion of total jobs.

Figure 3.1

IMPACTS OF TECHNOLOGICAL CHANGE ON THREE MAJOR JOB CATEGORIES



Source: (Autor 2007).

The same pattern of rapid growth in occupations at the high and low ends of the labour market is apparent in the UK (Goos and Manning 2007) and Germany (Dustmann et al. 2007).

A more elaborate understanding of labour market dichotomy is provided in recent research undertaken by Houston (2007) in the US. He used the results of a random sample of findings from both job analysis and job competency modelling in several large firms (including American Express, IBM, Boeing, and many large telecommunications and life insurance companies) to compile the following list of competencies that would determine domestic and international demand for labour over the next decade:

- creative problem solving
- complex communication skills, including knowing ‘the appropriate channels for getting things done’, negotiating, influencing without authority and team-building skills
- adaptability
- self-management with increased remote work, self-management and complex communication skills are more important, including knowing ‘when it is appropriate to make a phone call instead of an e-mail’
- self-development
- systems thinking (Houston 2007).

The implications of the growing dichotomy in future labour demand is that while high skills will be in increasingly short supply, service occupations will play an increasingly important part in the domestic labour markets for the less qualified because they are difficult to automate and difficult to move offshore.

These occupations do not require high levels of formal schooling but involve ‘natural’ human skills — such as locomotion, visual recognition and spoken language. This is likely to lead (in most advanced economies) to development of a ‘barbell-shaped’ economy in which abstract analytical and problem-solving skills will be crucial, but not everyone in the future labour market will have an analytical job. The future economy will be not only be a *knowledge* economy, but also a *service* economy (Autor 2007).

3.2 The global competition for labour

The dichotomy in employment opportunities identified in domestic labour markets is being mirrored across the globe (Salt 2004). The last two decades have seen the emergence of a global migration market in which competition for workers is occurring at both ends of the labour market spectrum.

At the low end, foreign workers are imported to undertake jobs that local workers are reluctant to take (McKinsey Global Institute 2005) and at the skilled and high skilled end, the ability of nations to attract skilled workers has significantly influenced their immigration policies. For example, in 2002 the UK introduced the ‘Highly Skilled Migrant Program’ that was quickly followed by a similar scheme in Germany, whereby foreign nationals studying in a German University with an appropriate degree can obtain a German Green Card for a five year period (DW-World 2007). Similar programs of skilled migrant attraction exist in Australia, Canada and South Africa (Salt 2004). The race for international skilled migrants began in the fields of Information and Communication Technology (ICT) and skilled health, but has intensified to cover a range of skill areas including biotechnology, engineering, business and scientific applications (Hardill and MacDonald 2000).

A number of interrelated factors are driving the international competition for skilled workers. On the demand side, a long period of economic growth has strained the capability of most economies to produce sufficient supplies of skilled workers. This is intensified in Europe and Japan by the ageing of the population and the subsequent shortage of new entrants into the labour market. Secondly, the process of globalisation itself has produced increasingly homogeneous product markets, which has made skills more generic and less country-specific and made resettlement far easier (Molle 2002).

In general many countries face three specific skills related problems:

- skills gaps
- short-term skills shortages
- strategic skills shortages.

Migration offers solutions to the first two of these options but has less ability to cope with strategic skills shortages. On the demand side, migration or the use of foreign workers offers a means of coping with growth spurts and of shoring up gaps in low wage jobs that are difficult to fill from the domestic labour force. On the supply side, labour is increasingly mobile and willing to move.

Countries will continue to chase brains and brains will continue to chase both the dollar and the lifestyle (Salt 2004).

However, migration, particularly of the short-term or foreign worker variety, may not be appropriate for solving strategic skills shortages. Almost invariably, strategic skills shortage can only be solved by the integration of a nation's education system and its strategic economic plan (Acemoglu 2003).

Underlying economic and demographic forces mean these trends in labour markets and skills are likely to continue over the longer term. However the impact of the global financial crisis that began in 2008 will mean that in the immediate future there will be disruption to established patterns of migration. As a case in point for Bahrain, the global financial crisis is already being seen in a contraction in the construction sector. The preponderance of expatriate workers in that sector (which is shown later in this report is one of the sectors most dominated by non-Bahrainis) means that the impact of slower growth on this sector is less of a concern for Bahraini employment, but it does suggest a likely outflow of expatriates (counter to the trend in previous years).

Economic growth

Strong growth in GDP has been a constant feature of the global economy over the past decade up until 2008. Between 2000 and 2008, estimates of global growth in annual GDP have ranged between 3 and 5.5 per cent (World Bank 2007). Much of this growth has been attributed to the exceptionally strong economic performance experienced in the developing world, with average annual growth rates above 5.9 per cent for the last decade.² Sustained global growth (particularly in the least developed and poorest countries) has been a key factor in the convergence of the world's economies (United Nations 2008).³

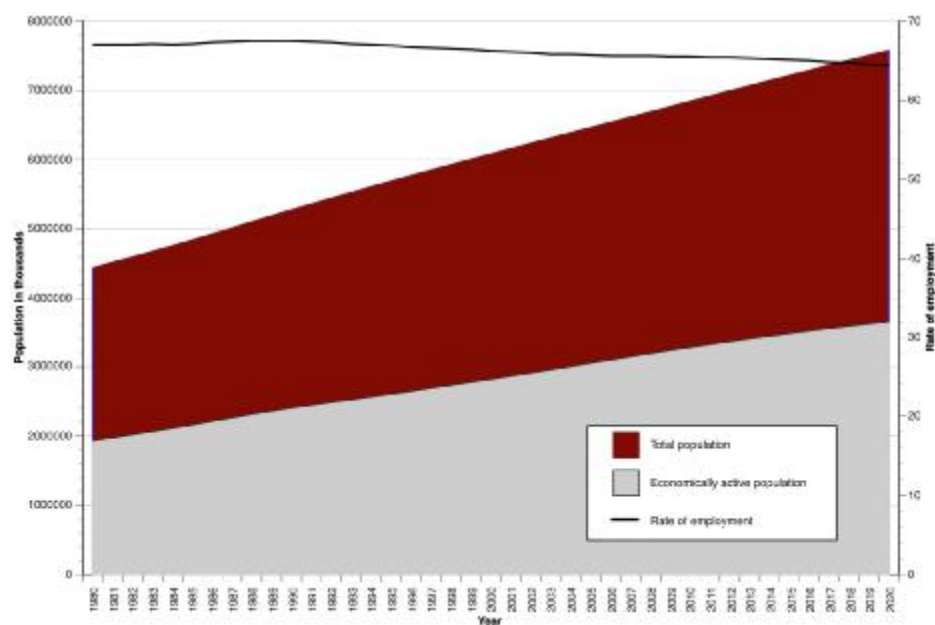
Global growth has been driven mainly by sustained high-growth in China and India. These countries have been instrumental in driving the growth in global output, in facilitating trade linkages between all parts of the world and in generating strong demand for, and higher prices of, energy and primary commodities.

Strong levels of recorded growth in this period have helped global employment (the economically active population) to increase from approximately 2.50 billion to 2.98 billion for the period 1996 to 2007 (see Figure 3.2). This has placed increased demand on national economies to generate employment for skilled and non-skilled sources of labour.

² Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2000 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. (World Bank national accounts data, and OECD National Accounts data files).

³ The emergence of the current international financial crisis is not included in historic data. Recent events have reinforced the importance of planning for possible future negative as well as positive developments.

Figure 3.2

POPULATION TOTAL EMPLOYMENT AND EMPLOYMENT-TO-POPULATION RATIO

Source: (International Labour Organization 2007).

Some optimistic predictions towards the end of this period suggested that total global employment was likely to grow steadily over the coming decade, and hence facilitate the continuation of these pressures until at least 2020 (International Labour Organization 2007).

Today, in light of the global financial crisis, the outlook is much less optimistic. The International Monetary Fund (IMF) in its World Economic Outlook Update now says that global growth is 'projected to fall to 0.5 per cent in 2009, its lowest rate since World War II' (IMF 2009). The Middle East remains one of the global regions with a positive growth projection, at 3.9 per cent (International Labour Organization 2007), but this is still a considerable downgrade of previous projections.

The potential impacts on Bahrain of the global financial crisis and associated fall in world economic growth are outside the scope of this report; and the full implications globally are still unfolding. There are some possible implications for labour markets, however, that reinforce the importance of addressing skills gaps. To the extent that unemployment increases globally, the gap between high skilled and low skilled workers (discussed above) is likely to grow larger. For Bahrain, this places an even higher premium on the need to develop higher levels of skill.

This observation is reinforced by the outcomes of a scenario planning exercise conducted in Bahrain prior to recent downgrades of economic forecasts for global growth. In that exercise, a key finding was that in a negative scenario — that is, in the face of a downturn — skills in Bahrain would become more, not less, important than in a high growth scenario.

Population growth

Population growth will place pressure on the global labour market. To date growth in employment has not kept pace with the growth in population and this trend is also predicted to continue over the coming decades (International Labour Organization 2008b). Figure 3.2 suggests there has been a gradual decline in the employment-to-population ratio since the mid-1990s. This means that despite higher output growth, in many parts of the developing world, employment growth has not been strong enough to substantially reduce global unemployment rates (that have ranged between 5 and 6.5 per cent for the period 1996-2007).

The situation is considered by the ILO to be of particular concern in transitional economies, where unemployment rates generally remain high, despite solid economic growth for several consecutive years. For example, the ILO recently noted that in the Middle East the total number of unemployed was one third higher in 2007 than ten years ago. It went on to comment that for women, unemployment has increased by 50 per cent in this same period (International Labour Organization 2007).

Mobility of labour

The increasing internationalisation of the world's labour force will also exert significant pressures on countries seeking to compete for their share of skilled, semi-skilled and un-skilled labour. While there is limited comparable data on outflows of employed migrants from the ILO, there is sufficient data to give an indication of the inflow of employed migrants into selected countries (see Table 3.1). For a population of its size, Bahrain's inflow of migrant workers is significant, and this inflow has increased substantially over the last decade, with an increase of 180 per cent in the eight years to 2007.

Table 3.1

INFLOWS OF EMPLOYMENT MIGRANTS

Country	Inflows (earliest data recorded by ILO)	Inflows (latest data recorded by ILO)
Bahrain	35 811 new work permits (1999)	100 351 new work permits (2007)
Korea	114 052 (1997)	118 303 (2002)
US	90 600 (1997)	159 081 (2006)
Canada	75 452 (1997)	87 910 (2002)
France	11 004 (1997)	8556 (2005)
Norway	4276 (1997)	12 138 (2006)

Source: (International Labour Organization 2007; Ministry of Labour 2007).

Note: In the period shown in this table France experienced a considerable increase in inflows of migrants in total — many of whom found informal employment. As such, it may not be the exception to the general trend that it at first appears.

3.3 Implications for Bahrain

Bahrain is a heavy importer of labour. Most of this labour is in the low skill, service related area for which demands are still relatively plentiful for foreign workers. Global population growth projections suggest that this situation is unlikely to change in respect of low skill labour.

However, increasingly the focus on demand is turning towards the high skill area, particularly in the hard sciences and more abstract conceptual occupations. Bahrain will find growing competition in attracting skilled labour in such fields. This competition will come from other GCC States, the United States (US) and Western Europe and the emerging economic super powers of India and China.

The increasing mobility of labour will also exert influence and add pressure on those regions or economies that rely on imported foreign labour. In addition, improved labour market conditions are anticipated to occur in a large number of economies (such as China and India) and will continue to exert pressure on Bahrain to attract skilled and semi-skilled workers.

Faced with growing international competition for labour and the dangers of entering an increasingly expensive bidding war, it is inevitable that Bahrain will need to rely on its own labour force strengths to produce workers (or build strength within its labour force), not only for domestic consumption but also for potential export.

Skills development as a means of improving human capital will be key to undertaking the transition that the current and future labour market presents. Improvements in skills development will not only increase the human capital in Bahrain, but also play to Bahrain's economic strengths, maintaining or growing the nation's competitive advantages.

Chapter 4

Comparable country scan: emerging challenges and key issues for Bahrain within a regional context

This chapter compares Bahrain to its most economically, politically and culturally alike neighbours, the GCC States, to better understand the defining labour market characteristics of the region. By drawing on a broad range of quantitative and qualitative data, the chapter scans four key areas that have important implications for Bahrain's labour market and future skills needs. These four areas have been specifically chosen for analysis because they most clearly identify and explain the key issues and emerging challenges facing Bahrain's labour market over the coming decades. They are:

- the current economic environment of Bahrain and other GCC States
- the current and projected demographic profiles of Bahrain and other GCC States
- Bahrain's labour market relative to other GCC States
- Bahrain's education system, within the context of the broader GCC, especially insofar as how that system contributes to skills development.

This discussion identifies the emerging challenges and key issues facing Bahrain, with the aim of developing conceptually sound policy solutions that actually work.

4.1 Current economic environment of the GCC

The GCC is an oil-based region with the largest proven oil reserves in the world (approximately 40.5 per cent of the world's total oil reserves). This region ranks as the largest producer, as well as exporter of petroleum, and through OPEC, plays a leading role in shaping the world's oil market. Four GCC States, which are members of OPEC — KSA, UAE, Kuwait and Qatar — account for 51.9 per cent of the total OPEC oil reserves and 47.5 per cent of total OPEC crude oil production. For the GCC region, oil and gas represents approximately 73 per cent of total export earnings. In 2007, the oil and gas sector accounted for roughly 63 per cent of government revenues and 41 per cent of GDP for GCC States (Samba Financial Group 2008).

The economies of the GCC have experienced a boom during the past decade on the back of high oil prices and increased confidence in the region's future. One of the largest sustained oil price rallies in history (especially since 2002) has provided the region with a windfall that has helped national governments stimulate unprecedented levels of investment in all economic sectors.

Recent falls in oil prices as a result of the global economic downturn will reduce the capacity of GCC governments to invest in their economies in the short term. However, the overall differential between GCC and other countries is expected to continue, and the underlying trends discussed in this chapter are likely to be maintained over the longer-term timeframe within which skills formation occurs.

Although the economic benefits of the boom have been experienced by all GCC economies, growth has occurred at different paces. The fastest growth has occurred in those four states that are most heavily dependent on the oil sector — Kuwait, KSA, Qatar and UAE. Oman and Bahrain, both with relatively smaller and more mature oil fields, have witnessed more modest, yet still significant, growth by world standards (see Table 4.1) (National Bank of Kuwait 2007).

Table 4.1

GCC ECONOMIC INDICATORS FOR 2007

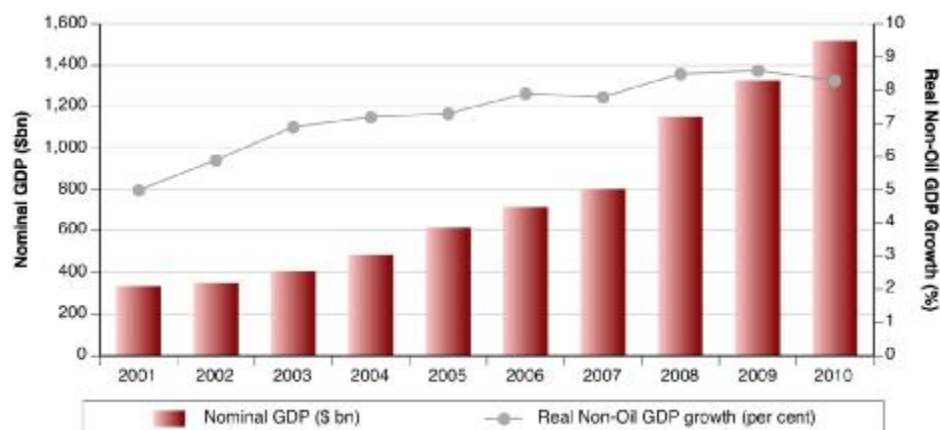
Indicator	Bahrain	KSA	UAE	Qatar	Kuwait	Oman
Nominal GDP (\$US billion)	16.6	381.7	198.7	71.0	112.1	37.1
Share of total GCC GDP (%)	2.1	46.7	24.3	8.7	13.7	4.5
Population 2007 (million)	1.0	24.3	5.3	1.3	3.4	2.7
Share of total GCC population (%)	2.7	63.9	13.9	3.5	8.9	7.1
GDP real growth rate (%)	6.1	3.4	7.6	11.5	4.7	5.8
Oil production (million barrels of oil equivalent per day)	0.2	8.7	2.5	0.8	2.6	0.7
Share of total GCC oil production (%)	1.2	56.5	16.2	5.3	16.6	4.2
Oil and gas production per capita (barrel of oil equivalent per day)	0.5	0.4	0.7	1.9	0.8	0.4

Source: (Central Bank of Bahrain 2008; Economist Intelligence Unit 2008b; Samba Financial Group 2008).

Economic growth remains above the long-term average

The GCC economies continue to benefit from the sustained rally in oil prices that began in 2002. Since 2002, global oil prices have reached record highs (US\$135 per barrel) and have more than doubled between May 2007 and July 2008. Robust oil prices supported by steady growth in the non-oil economic sectors, have seen the GDP of all GCC economies rise from US\$349 billion in 2002 to US\$803 billion in 2007 (see Table 4.1). Such gains can be translated into an average annual growth rate of 19 per cent (over the four-year period ending 2008) for the entire region (National Bank of Kuwait 2007; Samba Financial Group 2008). These figures stand well above the historical trend rate of 2.3 per cent for the GCC (1981 to 2007) (National Bank of Kuwait 2008). More recently, the slump in the price of oil is likely to see growth rates return to trend levels: however, up to date estimates are (at the time of writing) not yet available.

Figure 4.1

HISTORICAL AND EXPECTED ECONOMIC GROWTH IN THE GCC


Source: (Samba Financial Group 2008).

A longer-term view, based on relative population size, highlights considerable convergence in the growth experienced by individual countries over the past decade. A shorter-term perspective, however, highlights more variation in the growth rates recorded amongst GCC States. Table 4.2 shows that in 2007 real GDP growth was highest in Qatar (15.9 per cent), followed by UAE (7.4 per cent), Oman (6.4 per cent) and Bahrain (6.0 per cent). The International Monetary Fund (IMF) predicts that by 2010 Qatar will continue to lead regional growth, however, other GCC States will experience similar growth rates, with Bahrain's growth in 2010 (5.8 per cent) higher than that of the UAE and KSA. As with other statistics, global conditions are likely to see a reduction in the size of all of these numbers. The relative position of GCC economies will depend, among other things, on the flexibility of their economic adaptation strategies (not covered in this report) and the extent to which they have diversified through a skills strategy.

Table 4.2

GCC ECONOMIC GROWTH — REAL GDP GROWTH 2007 TO 2010

Country	2007	2008	2009	2010
Bahrain	6.0	6.3	6.0	5.8
KSA	3.5	5.9	4.3	4.6
UAE	7.4	7.0	6.0	5.6
Kuwait	4.6	5.9	5.8	5.8
Qatar	15.9	16.8	21.4	19.4
Oman	6.4	7.5	6.0	5.9

Source: (International Monetary Fund 2008).

Openness to trade

The private sectors of the GCC States have also experienced considerable growth due to key reforms in the areas of labour, education, trade and banking and finance. Increasingly, GCC governments view the private sector as their natural partner in the development of national economies — especially in the provision of national infrastructure.

Efforts to reshape the business environment (through promoting transparency, reducing regulatory impediments to business operations and improving corporate governance) are assisting GCC States to develop non-oil related private sector activity. Figure 4.1 shows that for the period between 2002 and 2007, GCC nations successfully achieved non-oil growth rates of between 6 and 8 per cent. To this end, recent global rankings of ‘business competitiveness’ and ‘ease of doing business’ (see Figure 4.3) show that while the GCC is not leading these rankings it is considered to be relatively easy for domestic and foreign firms to operate in the region. This is just one of many measures which indicates an economy’s openness to trade.

Table 4.3

OPENNESS TO TRADE (2008 RANKINGS)

Country	Ease of doing business ranking (1=best; 178=worst)	Global competitiveness ranking (1=best; 131=worst)
Bahrain	18	43
KSA	16	35
Kuwait	52	30
Oman	57	42
UAE	46	37

Source: (World Bank 2008; World Economic Forum 2008).

The development of infrastructure

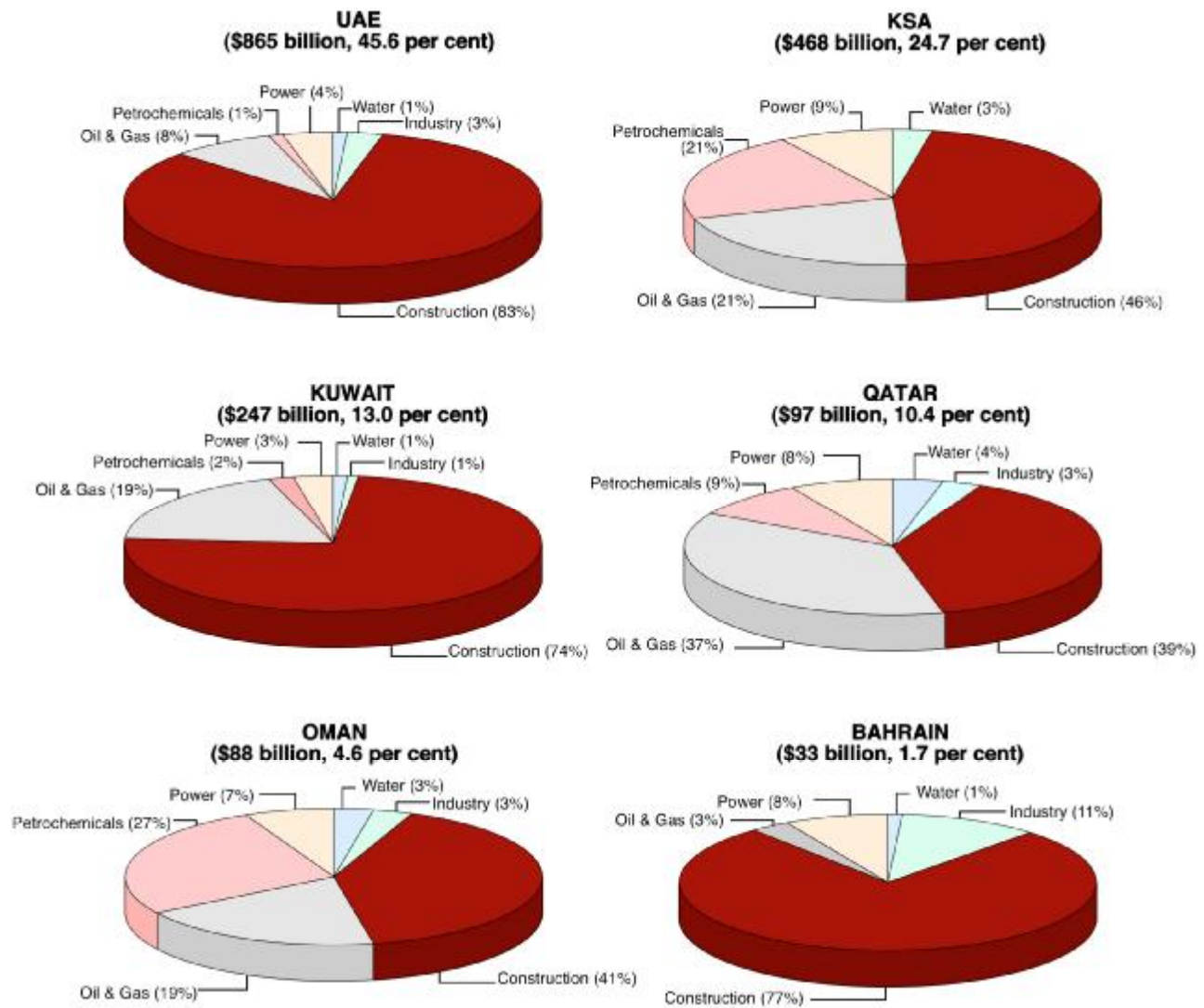
The surging price of oil and improvements in the conditions in which business operates and competes has combined (along with a more prudent approach to public expenditure) to produce an infrastructure boom across the GCC (National Bank of Kuwait 2007). In May 2008 there was nearly US\$2.3 trillion worth of GCC projects announced, planned or underway (Middle East Business Intelligence 2008). While these projects create employment and stimulate economic growth, they also place pressure on the skills-base of all GCC States.

Construction projects are the dominant infrastructure component in all GCC States (with the exception of Qatar and KSA, where construction accounts for approximately 39 per cent and 46 per cent of infrastructure projects respectively; see Figure 4.2). These projects range from the construction of entire cities (for example, Sudair Industrial City, UAE), through to individual real estate and tourism projects (for example, Jeddah Mile High Tower, KSA), and basic public infrastructure (for example, Al Maktoum International Airport, UAE). Oil and gas is the next largest sector in terms of infrastructure projects, with projects worth US\$266 billion planned or underway across the region (most notably in KSA and Qatar).

While the global economic crisis is likely to affect both the quantum and the composition of future infrastructure investment, these figures provide a useful snapshot in time of the relative position of Bahrain in the Gulf. This information indicates that while there are similar patterns among Gulf States, Bahrain is one of the least exposed to infrastructure project, and has a higher proportion of that investment directed to industry than any of the other countries in the sample.

Figure 4.2

CURRENT INFRASTRUCTURE PROJECTS (BY COUNTRY AND SECTOR)



Source: (Middle East Business Intelligence 2008).

With 1.7 per cent and 4.6 per cent of the total project value, Bahrain and Oman (respectively) are the smallest participants in the region’s infrastructure boom. By comparison, the UAE and KSA together account for almost 70 per cent of the total value of GCC projects in the pipeline. As noted, construction remains the dominant sector for most GCC States, though Qatar and Oman demonstrate the most diversity in the region. The relatively low exposure of Bahrain to the infrastructure boom may in the immediate term prove a positive attribute; but as with other sectors affected by the global economic downturn, it is as yet too early to make a definitive assessment of the impacts.

Bahrain stands as a regional anomaly with only 3 per cent of its infrastructure projects occurring in the oil and gas sectors, with the UAE at 8 per cent its closest neighbour in this respect. This is largely due to geological patterns of remaining reserves of oil fields in the region, rather than any disparities in skills or labour markets.

The dominant role of the construction sector within the Bahraini economy will be a matter for more detailed discussion in the sectoral analyses of this project.

4.2 Demographic profiles

The population of the GCC States is relatively small. The total recorded population, including registered expatriate workers, is currently estimated at 38.0 million in 2007-08 (see Table 4.1). KSA has the largest population 24.3 million, while Qatar and Bahrain have the lowest at approximately 1.3 million and 1.0 million respectively.

Further, fertility rates have declined over the past decade and the 2006 rates in each of the countries remain relatively low by international standards (see Table 4.4), with only KSA consistent with the average of 3.5 births per woman for the Middle East and North Africa (MENA) region. KSA and Oman respectively were the countries with the highest fertility rates in 2006, while Kuwait, Bahrain and UAE have the lowest recorded rates. Oman experienced the greatest decrease in the fertility rate in the time period of 41.9 per cent.

In addition to this, GCC State populations are living longer. Recorded life expectancy for each country highlights positive growth between the years 2000 and 2006, with the exception of KSA, where life expectancy remained constant over the time period.

Table 4.4

DEMOGRAPHIC INDICATORS 2000 AND 2006

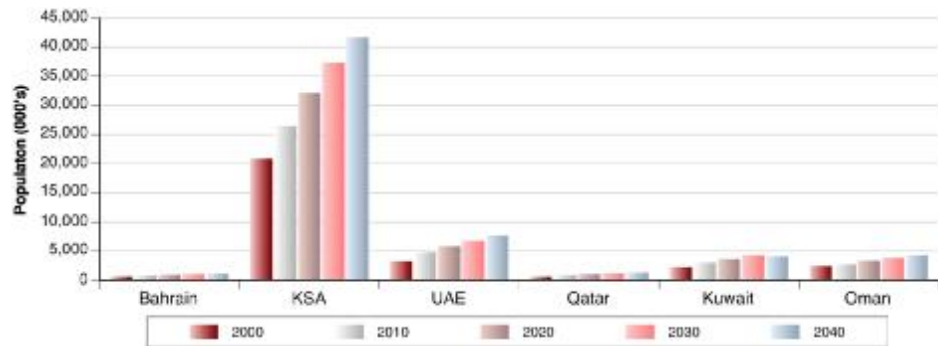
Country	Total fertility rate (children born/ woman)			Life expectancy at birth (years)		
	2000	2006	Percentage change (+/-)	2000	2006	Percentage change (+/-)
Bahrain	2.6	2.4	-8.3%	73.0	75.0	2.6%
KSA	4.2	3.5	-20.0%	70.0	70.0	Nil
UAE	2.7	2.3	-17.4%	76.0	78.0	2.5%
Qatar	3.1	2.7	-14.8%	76.0	77.0	1.3%
Kuwait	2.4	2.2	-9.1%	76.0	78.0	2.6%
Oman	4.4	3.1	-41.9%	73.0	74.0	1.3%

Source: (World Health Organization 2008).

As a result of these trends, the GCC’s population is anticipated to grow between 3 and 4 per cent a year over the coming years (International Monetary Fund 2004). Beyond this, Figure 4.3 suggests that KSA is anticipated to experience the largest growth in population between 2010 and 2040. It also suggests that both Bahrain and Qatar are anticipated to experience much flatter population growth over the coming decades.

Figure 4.3

POPULATION PROJECTIONS FOR THE GCC



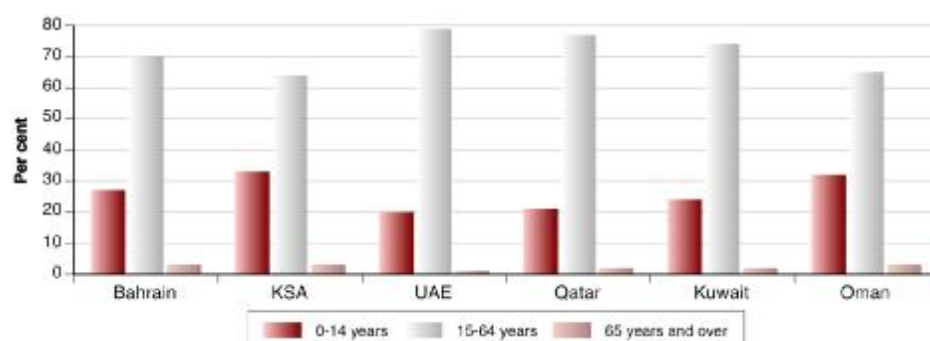
Source: (United Nations 2006).

Ideally, a country will have a sufficiently large percentage of the population of working age (15 to 65 years), to support a diverse and multi-segmented economy — even when the total pool of labour is small. This means that a sufficient proportion of the population must be between the ages of 15 and 64 years to sustain productivity growth and support those citizens who are unable to work and have little or no means of subsistence.

The large numbers of young people entering the education system and labour market is depicted in Figure 4.4, with all GCC States having more than 64 per cent of the population between 15 and 64 years of age. While GCC States have each experienced high levels of economic growth over the past decade, they are likely to also experience a large proportion of young people entering the labour market over the coming decades, which will potentially place pressures on employment.

Specifically, these profiles are likely to place pressure on the existing labour market segments to provide high-yield employment opportunities for the region. The World Bank (2003) estimated that 40 per cent of the GCC’s population is aged under 14 years. One commentator has anecdotally noted that GCC States will need to create 5 per cent more jobs each year until 2020 in order to deal with younger workers (Harry 2007). The implications for Bahrain of a young labour force are matters for further discussion in the following sections.

Figure 4.4

AGE PROFILES OF THE GCC STATES (COHORTS) — 2007


Source: (International Labour Organization 2008a).

Note: Data for Bahrain is from 2006.

4.3 Labour markets

The total size of the labour force and its percentage of the total population (including registered foreign nationals) has implications for the types of economic activity that can be undertaken in a nation and its capacity to achieve sustained economic growth. Nations with small pools of labour from which to draw workers, generally require a high level of participation in order to achieve economic growth. The GCC is generally characterised by small populations and a small labour market.

Table 4.5 summaries the total labour force size for each of the GCC States. It highlights that KSA and the UAE have the largest labour forces with approximately 60 per cent and 18 per cent of the region's workers respectively. By contrast, Bahrain currently has only 2.4 per cent of the total workforce, making Bahrain the smallest source of labour in the region.

The UAE and Kuwait have a share of the total workforce that exceeds their share of the region's population (see Table 4.5).

Table 4.5

POPULATION AND TOTAL LABOUR FORCE SIZE OF GCC STATES

Country	Bahrain	KSA	UAE	Qatar	Kuwait	Oman
Population 2007 (million)	1.0	24.3	5.3	1.3	3.4	2.7
Share of total GCC population (%)	2.7	63.9	13.9	8.9	3.5	7.1
Total labour force size 2007 (million)	0.36	8.92	2.7	0.51	1.46	0.97
Share of total labour force for GCC (%)	2.41	59.78	18.09	3.42	9.79	6.50
Total labour force size 2007 (%)	36.00	36.70	50.94	39.23	42.94	34.07

Source: (International Labour Organization 2008a).

Note: Figures include national and expatriate labour. Figures for labour force size 2007 for Bahrain are from 2006.

Employment in the GCC

Employment of foreign workers

A distinguishing feature of labour markets in GCC States is the high proportion of expatriate workers. Estimates of the actual numbers of these workers range from, from over 85 per cent in UAE (2006) and Qatar to approximately 30 per cent in Oman and KSA (Gulf News 2008). The number of foreign workers in the GCC rose by nearly 500 per cent from 1.1 million in 1971 to 5.2 million in 2000, and is currently estimated to be approaching 6 million (approximately 19 per cent of GCC's total population) (Gulf News 2008).

The rapid rise in the numbers of these workers is stimulated by several factors, both supply and demand. On the demand side, a sharp increase in labour demand to satisfy oil-fuelled growth and subsequent growth in the non-oil sectors has meant an increase in the number of expatriate workers in the GCC has risen. The dependence on expatriate workers also relates to supply side issues connected with the local population. Bahrain is characterised by a relatively small domestic labour market that experiences skill shortages, and relatively low participation rates for Bahraini citizens compared to OECD standards.

Foreign workers are employed across a range of industries and occupations and range from professional and skilled to unskilled. There is also a sizeable group performing domestic and other work not favoured by national populations. Expatriate workers are primarily from the Indian sub-continent, South Asia and other Middle East Countries.

There is an extensive discussion of the numbers and role of Bahraini and non-Bahraini employees in the sector by sector analysis contained in Report 2.

Unemployment amongst the GCC

In general, the convention adopted by the ILO and adopted by most countries, is to define the unemployed as those without any form of employment, who are actively seeking work and who are able to take up employment within a relatively short period of time. For example, in Bahrain the unemployed comprise all persons above 15 years and below 65 years who were:

- 'without work', i.e. were not in paid employment or self-employment
- currently 'available for work', i.e. were available for paid employment
- 'seeking work', i.e. had taken specific steps in a specified reference period to seek paid employment or self-employment⁴
- persons without work and currently available for work who had made arrangements to take up paid employment or undertake self-employment activity at a date subsequent to the reference period, as well as persons temporarily absent from their jobs with no formal job attachment who were currently available for work and seeking it (Labour Market Regulatory Authority 2007).

⁴ The specific steps referred to above may include registration at a public or private employment exchange; application to employers; checking at worksites, farms, factory gates, market or other assembly places; placing or answering newspaper advertisements; seeking assistance of friends or relatives; looking for land, building, machinery or equipment to establish own enterprise; arranging for financial resources; applying for permits and licences.

This definition does not cover under-employment and instances where persons are working in jobs for which they are over qualified. Further, this definition does not consider whether a worker is ‘market ready’ (has the generic and technical skills required to complete the specific tasks that a job entails).

Examining the incidence of unemployment across GCC States is problematic. Labour statistics are often scant and vary significantly across countries in terms of coverage, quality, measurement, timeliness and year of collection. In addition, the data are often incomplete because information on military and security personnel are excluded in many official statistics.

The unemployment statistics that are available suggest that among nationals, especially the young, unemployment is a consistent and continuing problem in the GCC. This is despite impressive economic growth in the region, averaging 4 to 5 per cent over the period between 2000 and 2006.

The unemployment problem is being aggravated by several factors. From the supply side, unemployment is driven by high domestic birth rates and the rising participation of women in the workforce. The GCC has one of the world’s youngest and fastest-growing populations with approximately one third of the domestic population of the GCC as a whole aged less than 15 years (Middle East Media Research Institute 2006). This all points to an emerging supply shock. Khalaf (2007) estimates the size of the demographic bulge — nearly 40 million more people who will join the GCC labour force this decade, a 40 per cent increase. Further, Boer and Turner (2008) comment that:

A young labour force is normally an asset, since it replenishes the private sector and drives economic growth. But young GCC nationals face a future of underemployment or no employment at all; the educational system has failed to prepare them for the rigors of working in the private sector.

(Boer and Turner 2008)

On the demand side, GCC economies have succeeded in improving job creation in recent years. However, a large share of new jobs has gone to foreign workers. In particular, the infrastructure and real estate boom are drawing in hundreds of thousands of new workers from South-East Asia (Khalaf 2007). This outcome is exacerbated by an apparent reluctance from locals to take up low-skilled work and the fact that many young people emerge from education systems and are not yet seen to be ‘market ready’ (Economic Development Board 2006).

However, it is important to note that although the above factors may contribute to unemployment, the definition of unemployment means that many of these factors may have an impact on the labour market more broadly. For example, an increase in expatriate employment and a decrease in Bahraini participation does not necessarily result in increased Bahraini unemployment — Bahraini’s may have chosen to leave the labour market, or work fewer hours.

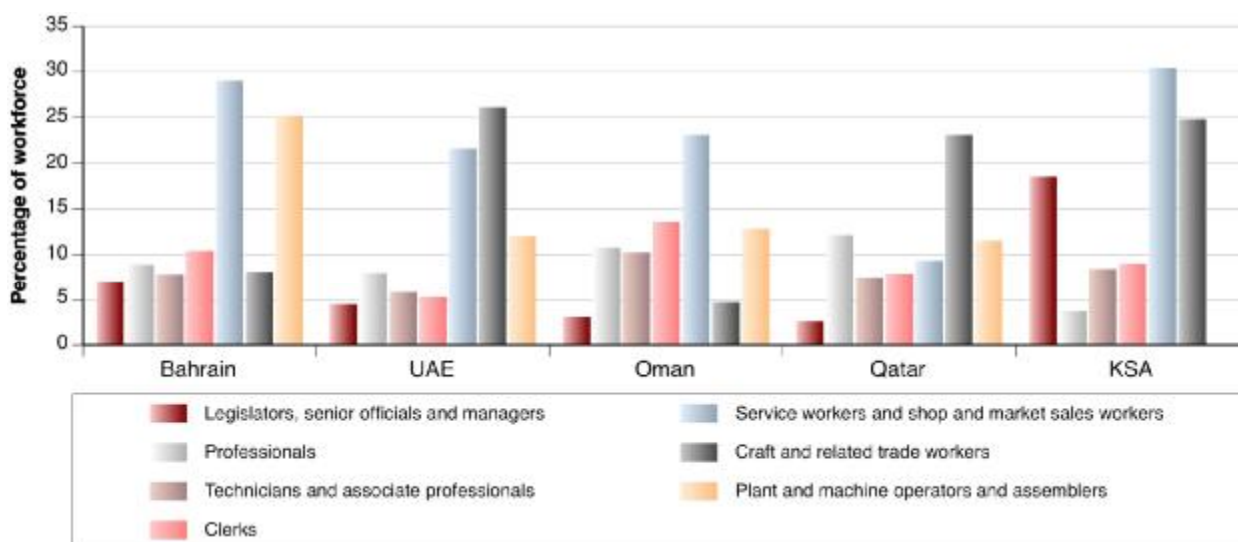
Key occupational groupings in the GCC

The main occupational groupings within five of the GCC States are outlined in Figure 4.5, indicating that ‘service workers, shop and market sales workers’ are the most commonly identified occupational grouping in Bahrain, Oman and KSA comprising of approximately 29 per cent, 33 per cent and 31 per cent of the workforce respectively. UAE and Qatar, estimated to have 26 and 23 per cent of their workforces are employed in the ‘craft and related trade workers’ categories respectively, are the exceptions. The next significant category includes ‘plant machine operators and assemblers’. This category employs between 12 per cent and 25 per cent of the workforce in Bahrain, UAE Oman and Qatar.

These occupational groupings figures are also important for highlighting the relatively low levels of professional, associate professional and technical workers across the region. There is a common complaint across the GCC that the region’s workforce often lacks the professional (i.e. soft) skills necessary to compete in non-oil based international markets (Tamkeen 2008).

Figure 4.5

KEY OCCUPATIONAL GROUPINGS FOR THE GCC 2008



Source: (International Labour Organization 2008a).

Note: High quality and comparable data is unavailable for Kuwait, hence it has not been included in the figure.

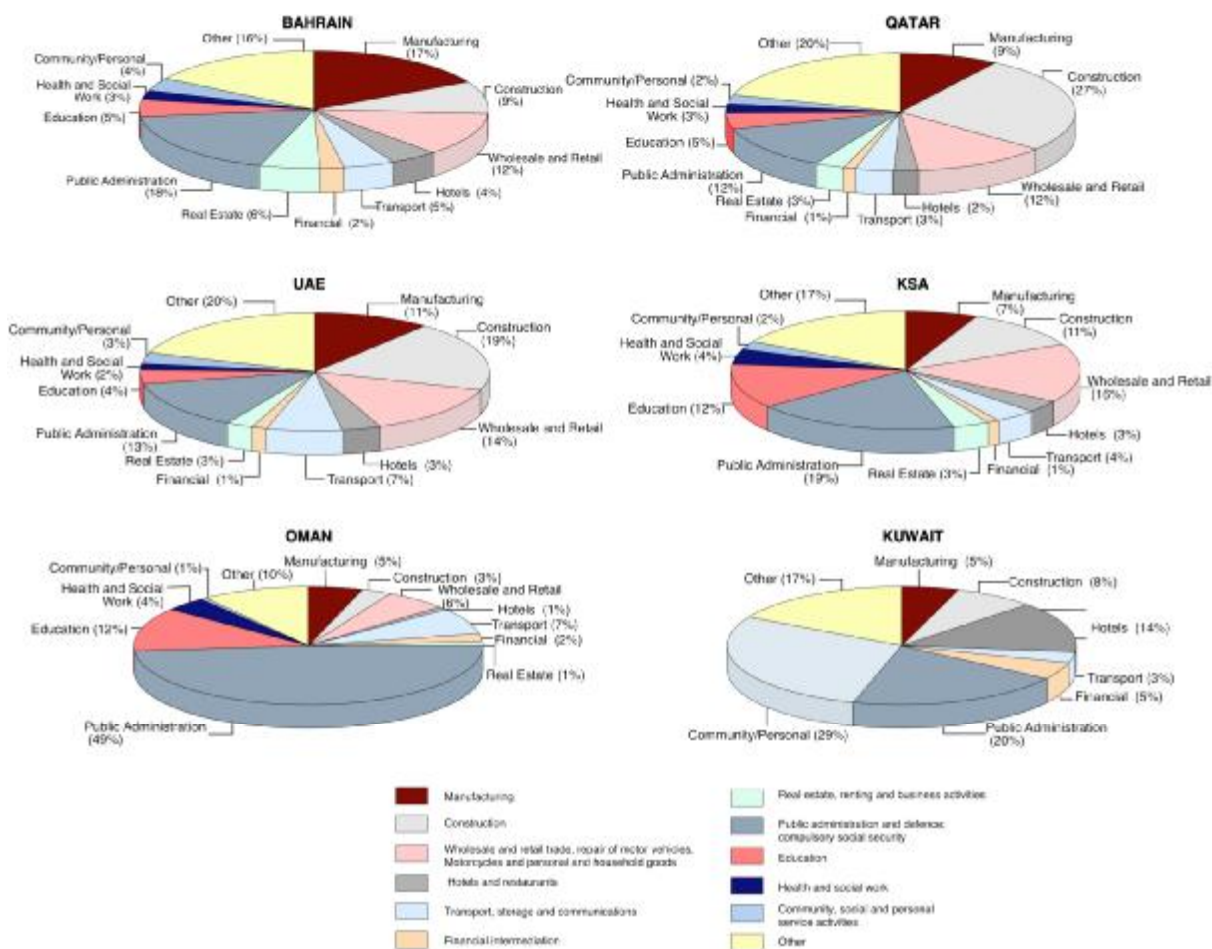
Note: Data relating to the ‘plant and machine operators and assemblers’ are unavailable for KSA.

Labour market by economic activity

The economic sectors in which the workforce is employed are important to understanding the future skills needs of Bahrain. Figure 4.6 highlights the dominant role of both government employment and construction throughout the GCC. In each of the GCC States the public sector and the construction sectors account for more than 40 per cent of total employment — except for Bahrain, which exhibits more diversity in its labour market. In many cases, construction is publicly financed, suggesting that the public sector is actually more dominant than official statistics indicate.

Figure 4.6

DISTRIBUTION OF LABOUR FORCE BY ECONOMIC SECTOR - PERCENTAGE OF THE TOTAL WORKFORCE



Source: (International Labour Organization 2008a).

Note: Figures for Kuwait are taken from (National Bank of Kuwait 2008) and are not strictly comparable to other countries. They have been provided for indicative purposes only.

Other important sectors include:

- manufacturing in Bahrain, UAE and Qatar
- wholesale and retail trade in Bahrain, KSA and Qatar
- hotels and restaurants in Bahrain and UAE
- education in Oman and KSA.

A dominant public sector is often criticised for crowding out private sector activity and impeding the development of non-oil related sectors (such as real-estate, tourism and the financial services sectors) (Harry 2007). The sectoral reports that will follow in Report 2 will highlight the degree to which this has negative implications for the development of Bahrain’s labour market.

The positive indication from the GCC comparison is that Bahrain has a more diverse labour market, and also has a higher technically trained workforce as a percentage of total employment. These provide a solid foundation from which to build future skills, which will be the focus of Report 4.

4.4 Emerging issues and challenges in labour markets

Bahrain currently finds itself in a conflicting environment. On one hand, it is a member of an economic community (the GCC) that has been at the centre of rapid growth. On the other hand, it is only a small member of that community, without the financial influence of its larger neighbours when it comes to bidding for resources, infrastructure projects or skilled labour.

In many aspects Bahrain has performed well in terms of economic and labour market diversity. Over the last decade Bahrain has enjoyed economic growth in excess of most other GCC States, developed a more diverse economy and through its government organisations, such as the EDB, developed economic strategies to manage the economy in an era where its oil resources are moving into a mature phase. Bahrain is both dependent on its current oil reserves but prudent enough to be mindful of the need for a more diverse and robust economy in the future. To this end, it can be seen as having a number of economic advantages over its neighbours whose economies remain more highly reliant on oil production and exports.

Being situated in a rapidly growing and dynamic region has given Bahrain the opportunity to leverage the information, technical knowledge and development expertise currently focussed upon in the region. To take advantage of these opportunities, Bahrain will need to make better regional use of scarce resources such as skilled labour.

In an increasingly labour supply constrained world, Bahrain has the luxury of an expanding youth cohort in its labour force. It also has the promise of an increasingly participatory and educated female workforce. Given this base, it is likely that in future years Bahrain could become a net exporter of skilled and semi-skilled labour to the region and to the world. Further, the existing diversity in the Bahrain economy also offers up scope for the country to play a larger role in servicing the goods and service needs of both GCC and the wider MENA region.

However, Bahrain faces a number of challenges that need to be addressed before its true potential can be realised.

Firstly, the current labour force management/education mix needs to be addressed. The 2007 Bahrain Labour Force Survey provided evidence of:

- falling participation rates among Bahraini men and stalled participation growth among Bahraini women
- increased use of foreign workers and the stalling of the Bahrainisation process
- unemployment statistics which show that 59 per cent of the unemployed were young and had secondary school qualifications or better
- increased indications of labour force mismatch with unemployed workers lacking in the required technical skills (Ministry of Labour 2007).

Secondly, the management of issues relating to increased female participation needs to be considered. Already females have a higher propensity to undertake tertiary studies than males. The failure to translate this human capital into meaningful employment would represent a serious misallocation of resources as well as a potential source of social discontent.

Thirdly, a labour market that coexists with, and is connected to the education system is another major challenge for Bahrain. Leading groups such as the EDB have expressed the view that the current system is not sufficiently adaptive to the current needs of the economy. Throughout the education spectrum there is evidence of poorly trained and under-remunerated staff, inappropriate curricula and an uneven balance between technical and non-technical subjects. There are also issues relating to the lack of private capital in education and insufficient consultation with the private sector regarding the skills they expect from educated Bahrainis. These are outside the scope of this report, but being addressed through separate processes.

Finally, the collection of economic data to both inform policy and evaluate the success or failure of policy is another issue in Bahrain's skills and labour market development. In compiling this report it was noted that information gaps on important economic variables, particularly in the labour and education market exist. The best performing economies are invariably the best informed. Bahrain's future labour and skills policies will be enhanced by maintaining a comprehensive set of economic statistics in this area on a consistent time series basis, to complement the valuable work currently being done by such organisations as Tamkeen and the LMRA.

4.5 Conclusion

In many respects Bahrain faces similar challenges to its GCC neighbours — it is very similar in terms of the age profile of the labour force, expatriate workforce composition and unemployment trends. Where the difference is most marked is in the makeup of employment: Bahrain has a more diverse workforce than its neighbours, which provides it with an opportunity to carve out a distinctive competitive position. The implication for development of future skills plans for the country is that these should aim to enhance rather than constrain diversity.

Chapter 5

Comparable country scan: lessons from selected relevant nations

This chapter examines how those countries without significant stocks of natural resources have managed to deliver sustained economic growth over the past two decades or more. The objective is to draw lessons for Bahrain from these human capital rich nations.

Hong Kong, Singapore, Taiwan and Ireland have delivered strong economic returns with limited natural resources. In each case, economic development and transformation has been achieved by repositioning the economy toward investment in the productive capacity of human resources. In addition, Sweden provides a good example of a nation that, although not demographically similar to Bahrain, has gone through considerable labour market and skills development reform in the last two decades.

The following sections summarise the economic performance of these comparison countries with Bahrain. Those indicators examined are similar to those outlined in Chapter 4 — with a focus on economic indicators, demographic profiles and labour markets.

5.1 Economic overview

Gross Domestic Product

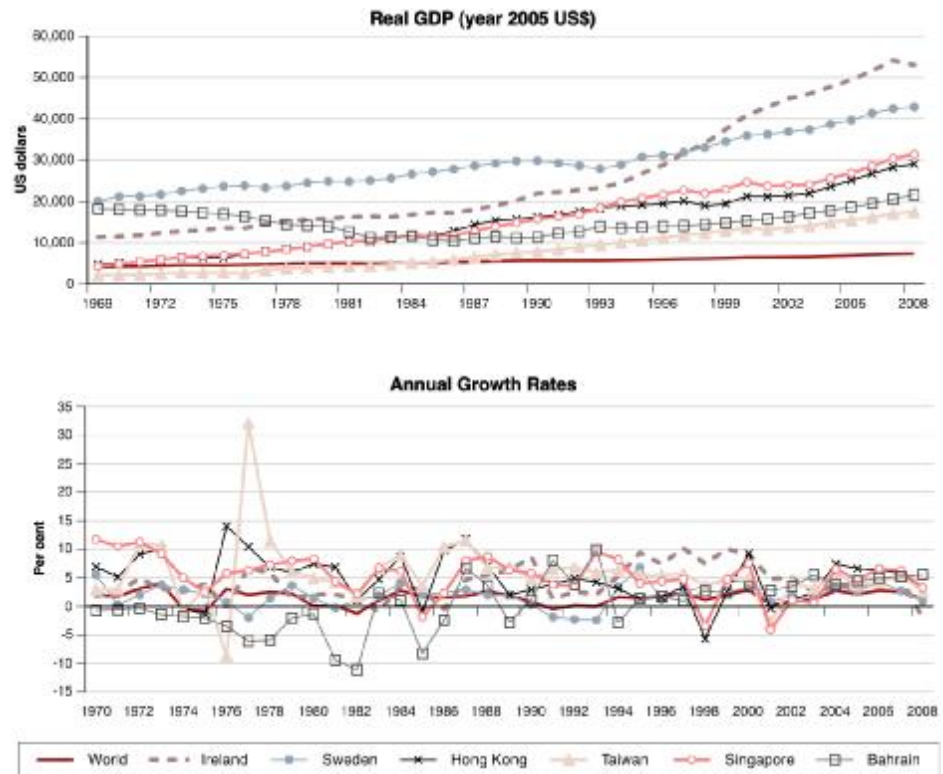
Figure 5.1 shows the sustained growth, which is aligned with human capital investment and economic development. Taiwan's growth increased rapidly following intensive investment in technical vocational skill development in the mid 1970s. Hong Kong's growth accelerated after the opening of China's economy in the late 1970s. Ireland's growth is shown to accelerate from the mid 1990s. Singapore's growth is steady, increasing at a faster rate from the early 1990s.

The Asian human capital rich nations recovered from the Asian financial crisis of 1997-98. The recovery from this major economic shock indicates that human capital rich economies are capable of resilience and adaptability in the face of challenging external conditions.

Ireland's growth has been impressive since the mid 1990s. Whilst GDP growth in Ireland has stabilised at around 4 per cent, it achieved annual growth of 8 to 10 per cent in the late 1990s, which is exceptional for a developed European economy.

Figure 5.1

COMPARISON COUNTRIES — GDP PER CAPITA AND GROWTH



Source: (Economic Research Service 2008).

Openness to trade

A high ranking on the ease of doing business index means the regulatory environment is conducive to the operation of business. Hong Kong and Singapore have actively sought to provide an environment that encourages business (see Table 5.1) and are ranked number four and number one on this measure respectively. Ireland followed this example, and was consequently successful in attracting multinationals to establish major operations in Dublin and is ranked 8th in this measure globally.

In addition, considering the global competitiveness index metric, Sweden is the most globally competitive nation considered in this comparison (ranked 4th). All of these nations perform better than Bahrain on this indicator.

Table 5.1

OPENNESS TO TRADE (2008 RANKINGS)

Country	Ease of doing business ranking (1=best; 178=worst)	Global competitiveness ranking (1=best; 131=worst)
Bahrain	18	37
Hong Kong	4	11
Singapore	1	5
Taiwan	50	17
Ireland	8	22
Sweden	17	4

Source: (World Bank 2008; World Economic Forum 2008).

5.2 Demographic profiles

Population

Table 5.2 shows that statistics on population, fertility and life expectancy in 2008. The relationship between population growth and economic development is complex. Very low birth rates, as presently experienced in Hong Kong, Singapore and Taiwan hasten population ageing. Consequently, the working population supports more people who are no longer working, but who live longer. Conversely, high birth rates, such as those experienced by Ireland until the 1970s, can also have a negative impact on economic growth and labour force participation by women. The table shows that Bahrain's fertility rate is significantly higher than all other comparison countries. However, the trend projected for Bahrain is one of reducing fertility, as described in Chapter 3.

Table 5.2

DEMOGRAPHIC INDICATORS 2006

Country	Population (million)	Total fertility rate (children born/woman)	Life expectancy at birth (years)
Bahrain (2007)	1.039	2.4	75.0
Hong Kong	6.787	1.7	73.0
Singapore	4.382	1.3	80.0
Taiwan	22.690	1.7	73.0
Ireland	4.235	2.0	80.0
Sweden	9.078	1.8	81.0

Source: (Central Bank of Bahrain 2008; International Labour Organization 2008a; World Health Organization 2008).

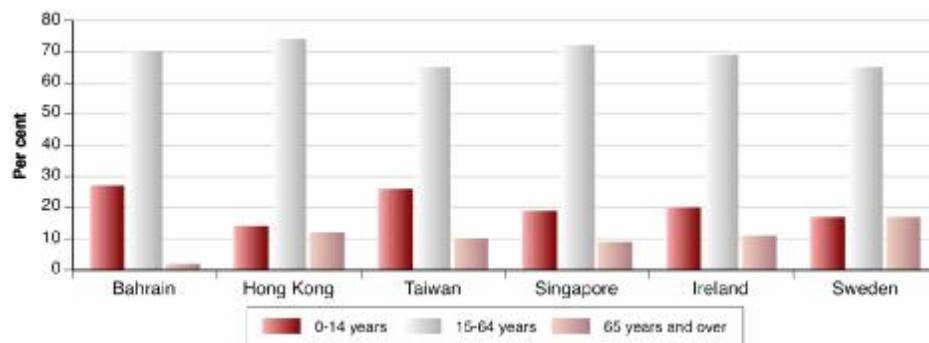
Note: Statistics for Hong Kong and Taiwan (fertility and life expectancy) are based on those for the Republic of China.

Age profiles

The age profile of the comparison countries confirms the younger age of Bahrain's population, reflected in a larger cohort of individuals aged 0 to 14 years, and a smaller cohort of persons aged 65 years and over (see Figure 5.2). Whilst government policy does have a direct influence, social attitudes change over time in ways that are largely independent of direct government intervention in the economy.

Figure 5.2

AGE PROFILES OF COMPARISON COUNTRIES 2007



Source: (Economist Intelligence Unit 2008b).

5.3 Labour markets

Bahrain has a smaller population and labour force than the comparison countries examined (see Table 5.3). However, the other populations are each of a small to medium size. Bahrain's share of population engaged in the labour force is lower than each of the other countries except for Taiwan. The share of the population in the labour force is a function of numerous factors, including:

- the age distribution of the population — populations with large numbers in young and old cohorts combined have a lower share of the population in the labour force
- employment conditions — the share of the population in the labour force would be expected to increase during periods of strong employment growth, and decrease during periods when employment contracts
- cultural factors — including the desire to participate in employment.

Table 5.3

SIZE OF THE LABOUR FORCE 2006-07

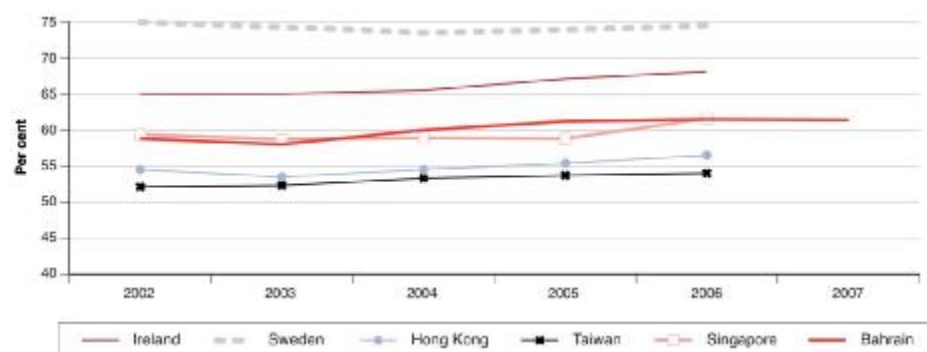
Country	Population (million)	Size of the labour force (million)	Share of population (%)
Bahrain	0.743	0.360	48.5
Hong Kong	6.787	3.581	52.8
Singapore	4.382	2.323	53.0
Taiwan	22.690	10.522	46.4
Ireland	4.235	2.221	52.4
Sweden	9.078	4.875	53.7

Source: (Economist Intelligence Unit 2008b; International Labour Organization 2008a).

Employment

Figure 5.3 highlights Ireland's rapid growth in employment during this period, and its corresponding reduction in unemployment. Hong Kong, Taiwan and Singapore have grown steadily during this period, having recovered from a dip in employment growth in the late 1990s, which corresponded with the Asian financial crisis and its aftermath. This reflects the resilience of these Asian nations, both in their ability to generate rapid employment growth, and to recover from periods of slowing or negative economic growth caused by changed external conditions.

Figure 5.3

EMPLOYMENT


Source: (Asian Development Bank 2007; Labour Market Regulatory Authority 2008; Organisation for Economic Co-operation and Development 2008b).

Note: Employment is defined as the share of persons of working age (15-64 years) in employment for all countries apart from Bahrain. Data for Bahrain defines persons of working age as above 15 years.

Unemployment data has not been included as a graph because a comparable historical trend of Bahraini unemployment statistics with that of other countries is not available. The official unemployment statistics in Bahrain are problematic because numbers of unemployed persons as reported by the ILO count the number of work applicants. Already the literature on unemployment suggests that the number of work applicants may not be an accurate representation of the number of people unemployed such that it does not include, for example, those that have been discouraged from seeking jobs.

A more concerning issue specific to Bahrain, however, is that comparing official and unofficial unemployment rate data reveals a large disparity – for example, the official unemployment rate for 2000 was 3 per cent while the unofficial estimate was 17 per cent (Winckler 2005). As such, it is difficult to constructing a picture of unemployment in Bahrain. It has also been noted that no official unemployment data are published in Bahrain (Economist Intelligence Unit 2008a).

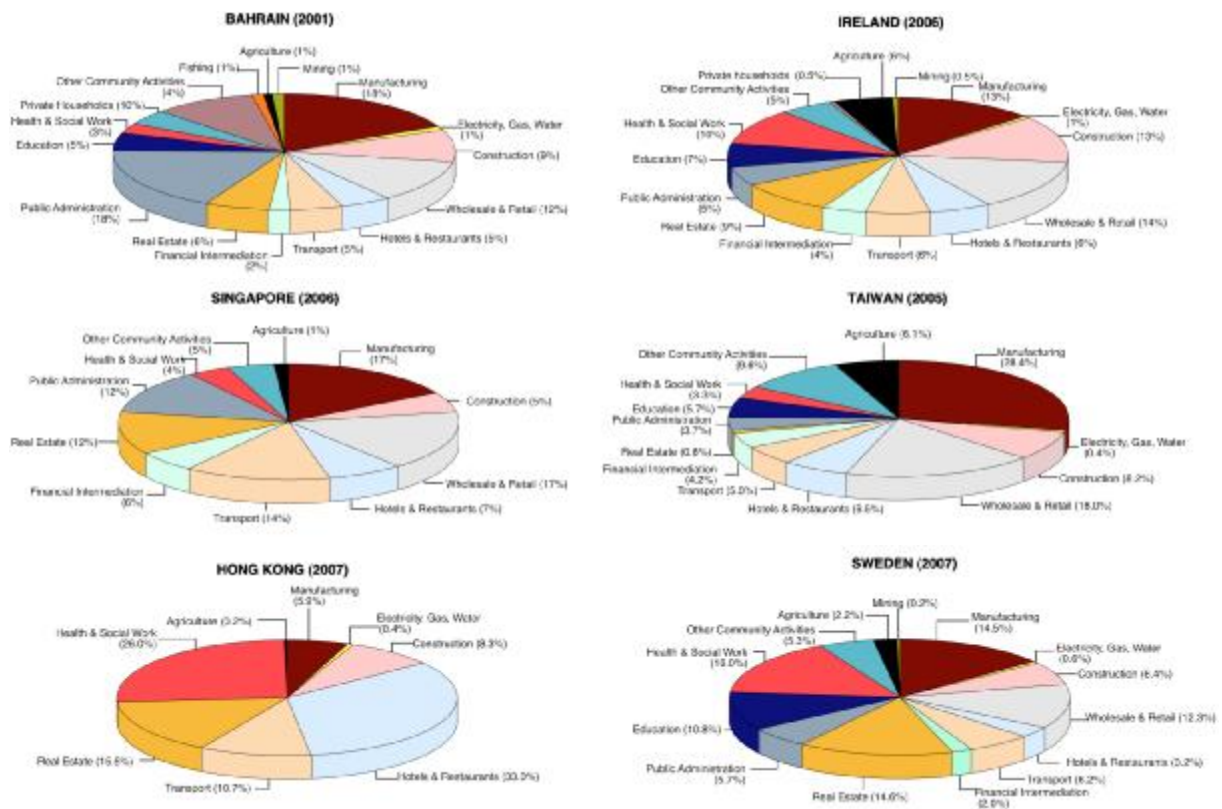
Labour market by economic activity

Figure 5.4 shows the labour market in each of the comparison countries by economic activity. This figure shows that:

- Bahrain has the largest proportion of employees in public administration, at 18 per cent
- Bahrain has a high level of employment in private households, at 10 per cent, whilst this is a negligible sector in the other nations
- Bahrain’s employment in the education sector is comparable to Ireland and Taiwan. However, significantly lower than education-related employment in Sweden.

Figure 5.4

COMPARISON NATIONS — LABOUR MARKET BY ECONOMIC ACTIVITY



Source: (International Labour Organization 2008a).

5.4 Lessons from comparable nations

Considering the importance of improved human capital through skills development, Bahrain can learn from the lessons of a number of countries that in the last four decades have completed or are completing the transition to an innovation-driven economy. For the purposes of this study, six comparable countries are considered:

- Hong Kong (Special Administrative Region)
- Singapore
- Taiwan
- Ireland
- Sweden.

These nations have either delivered strong economic returns with limited natural resources or have implemented significant reforms aimed at enhancing human capital. In each case, economic development and transformation has been achieved by repositioning the economy toward investment in the productive capacity of human resources.

Hong Kong, Singapore and Taiwan are the most successful examples of rapid transition from underdeveloped, low-income nations to reaching living standards comparable or superior to prosperous democracies (Wade 2004). Whilst Ireland has, in two decades, changed from being among Europe's poorer performers, into a highly productive, low unemployment economy, which has gained international attention and now serves as a model for other countries to try and emulate.

In addition, Sweden provides a good example of a nation that, although not demographically similar to Bahrain, has gone through considerable labour market and skills development reform in the last two decades.

Together, these countries indicate that there is a cluster of government roles and policies which are effective in developing human capital through skill development, which is in turn central to economic growth driven by: increased productivity; and an increased ability to facilitate and develop technology (Bergin and Kearney 2007).

The experience of skills development in each of these comparison countries is summarised below.

Skills development in Hong Kong

Hong Kong has experienced high economic growth rates in the past three decades. This can be explained in part by growth in total factor productivity in Hong Kong — incorporating government education expenditure, foreign direct investment, domestic manufacturing production, and import volume (Lin C. W. and Wong 1997). Estimates of total factor productivity in the 1990's range from 2.1 per cent to 2.5 per cent and estimates of its contribution to the economy have ranged from 28.2 per cent to 35 per cent over the last two decades (Lin C. W. and Wong 1997).

The sectoral structure of Hong Kong's economy has changed dramatically since its initial industrialisation in the 1950's when labour intensive manufactured goods such as textile and apparel dominated the export base and light industrial products also became an important export component (Imai 2002). Chinese economic reform in 1979–80 opened China's market to foreign investors allowing firms from Hong Kong to move their manufacturing section to China. Firms from Hong Kong capitalised on this development and many moved their manufacturing components to China allowing a cross-regional division of labour (Imai 2002).

Prior to China's policy change, Hong Kong witnessed rapid expansion in manufacturing during the 1960's followed by industrial diversification in the 1970's (Chan and Kwok 1998). A series of government implementation strategies across the economy reduced living costs and assisted Hong Kong in maintaining its economic competitiveness. The government controlled labour importation, education and training policies. At this time, Hong Kong was known in its own right as one of the most capitalist economies in the world, with one of the world's most competitive labour markets (Heywood and Wei 2004).

China's policy change allowed Hong Kong to change its focus from manufacturing, toward services. Initially services were related to trade and outsourcing services but other services were developed within the economy such that by the mid 1990's Hong Kong was considered a service economy (International Labour Organization 2008a). Correspondingly, the manufacturing industry had declined significantly. Hong Kong's change towards a service economy was coupled with high productivity growth in the late 1980's to the mid 1990's (Ministry of Labour and Employment 2002). Productivity growth continued to 2005 where Hong Kong displayed the highest labour productivity as a percentage of the US level and an increasing trend since 1980 (International Labour Organization 2007).

The consequence of the shift towards a services dominated economy was the increased demand for skilled workers. As such, the skill premium in Hong Kong increased dramatically after 1981. Between 1981 and 1996 the returns to schooling increased by 5 percentage points in the total economy and by more than 6 percentage points in the manufacturing sector (Hseih and Woo 2005). After 1981 the relative employment of skilled workers as compared with non-skilled workers increased, as did their wages (Hseih and Woo 2005).

Research has shown that the growth in human capital, through education, as well as learning by doing have been factors that have made a significant contribution to economic growth in Hong Kong. To cater for the increasing demand for skilled workers and a growing economy, Hong Kong strives to become a regional education hub in the Asia Pacific region. During the 1990's, education policy dictated increases in university places. There are eight government universities funded by the University Grant Committee (UGC) in Hong Kong. In 2005, there were 14 500 available first year places comprising 18 per cent of the 17 to 20 years age group (Lee 2005). A further 24 per cent of this cohort has the opportunity for further study via a sub-degree, an associate degree in vocational training or by studying abroad. This shows significant growth in education capacity compared with 1970, when university places only covered 2 per cent of 17 to 20 year olds (Lee 2005).

The university sector has played a vital role in the continued growth of the economy and skills development in Hong Kong. The UGC is committed to ensuring that this role is delivered. Recognising that human capital is a vital asset to Hong Kong, the UGC delegates collaborative and complementary roles for each of the eight institutions it funds because ‘Hong Kong is too small a place to afford excessive overlapping in higher education’ (University Grants Committee 2004). The clearly defined role statements of the UGC funded institutions include:

- emphasising application-oriented teaching
- maintaining strong links with business, industry, professional sectors, employers as well as the community
- encouraging staff to engage in the public service, consultancy and collaborative work with the private sector in areas where they have special expertise
- offering a number of postgraduate programs and research postgraduate programs in selected subject areas particularly in professional and applied fields (specific to the Hong Kong Polytechnic University)
- assisting the economic and social development of Hong Kong by nurturing the scientific, technological, and entrepreneurial talent who will lead the transformation of traditional industries and fuel the growth of new high-value-added industries for the region (specific to the Hong Kong University of Science and Technology) (University Grants Committee 2004).

Skills development in Singapore

The experience in Hong Kong is in contrast with Singapore, where purposeful government direction towards skills development was a feature.

Singapore attracted foreign investment through heavy government intervention in the labour market (Lam and Newman 2000). The National Wage Council was established in 1971 to consolidate government control over labour relations. The Singaporean government’s intervention produced high levels of economic growth and employment during the 1970s. Economic emphasis was then realigned to broadening Singapore’s economic base through venturing into high technology, capital-intensive industries and value-added services (Tan 1996). Supporting these measures, there was major investment in public infrastructure (for example, housing and education) and services.

In the 1980s, the Singaporean government encouraged industrial diversification from manufacturing into financial and professional services. In the last two decades, the government has switched emphasis to managing the economy through partnership with business and labour. The government did invest heavily in the private sector, through the Government of Singapore Investment Corporation (Lam and Newman 2000), which provided an important foundation for subsequent development and growth.

Singapore offered generous incentives to attract foreign investors. Free trade was encouraged. Whilst the overall influence of government intervention in Singapore is a matter of some debate, the economic interventions were generally market-facilitating rather than market distorting (Fong and Low 1996).

The Singapore Government's Critical Skills Training (CREST) Scheme, launched in 1998, is an example of a training initiative that aims to prepare the workforce for a knowledge-based economy. It emphasises seven core skills:

- learning to listen
- literacy
- listening and oral communication
- problem solving and creativity
- personal effectiveness
- group effectiveness

organisational effectiveness and leadership.

Another example of skill development in Singapore was the identification of biomedicine as a potential competitive advantage. During the 1990s Singapore identified biomedicine as an important sector for its future. Singapore's focus on life sciences includes medicine, biochemistry, biotechnology, human genetics, and pharmacology. The government's approach was to develop Singapore's R&D base in the life sciences for the study of diseases perceived as more prevalent in Asia, and for a range of related activities – clinical trials and drug development, services ranging from basic research to manufacturing. Singapore sought to attract world-class life science companies to establish research facilities and train human resources. Singapore also had good medical treatment and care facilities — all essential elements for the development of the life sciences industry.

To persuade world-class bioscience companies to locate R&D facilities in Singapore, the Government established a fund equivalent to BD285 million to assist such companies in setting up their facilities, with a similar amount to assist smaller start-ups and to support joint ventures between local and foreign bioscience companies.

In conjunction with this focus, the school curriculum has been developed to provide more depth in the study of biology and chemistry so that students will be able to develop a better understanding of these subjects and, for those interested, there is scope to pursue further studies at tertiary level.

Skills development in Taiwan

Taiwan is a major trading economy, which has sustained high levels of GDP growth, high employment and low inflation. Taiwan's success has been built on the strength of its exports, carried in large part by SMEs. Consequently, the economy is heavily dependent on external trade. Taiwan's national strategy is based on:

- *a strong push into capital, skill and technology intensive industry* — Taiwan has an extended history of selecting strategic industries, and even strategic products, and encouraging their development through government coordination and incentives
- *encouraging R&D investment, including direct investment by government* — the share of government R&D investment is comparatively high, and government has also encouraged private sector R&D investment

- *tax incentives and financial assistance to high-tech industries* — the government has actively targeted investment attraction in areas which complement Taiwan's economy, this has encouraged selective foreign direct investment, with local firms being encouraged in areas of strength
- *technology support for local research and development and upgrading by SMEs* — Taiwan's economy is based upon specialised SMEs which operate in clusters, this has enabled SMEs to add value by being exceptionally good at their part of the production
- *export* — Taiwan's success was based upon the dismantling of protectionist trade policies, as a prerequisite for the transition from an agricultural to an industrial/trade economy, specialising in high technology goods (Asian Development Bank 2007; Little 2005).

Manufacturing production accounted for 84 per cent of industrial production in 2001. Manufacturing expanded, in real terms, by 130 per cent in the period 1986 to 2002 (Lin 2003).

Taiwan's industrial development occurred in two major stages. The first stage was import substitution, based on barriers intended to protect the domestic market and promote import-substituting industries. The economy was characterised by labour-intensive traditional industries, such as agriculture. The second stage took place after 1960, when Taiwan altered its trade policies, and began to adopt export-oriented strategies (Lin 2003).

In 1962, industrial production began to exceed that of agriculture. During the 1960s, macroeconomic reforms that supported export promotion resulted in rapid economic growth. The 1970s and 1980s witnessed a shift from light to heavy industry and the movement of more labour-intensive industries to mainland China. In the most recent two decades, Taiwan developed high technology industries. By the 1990s, the electronics and information industry had become the most export-oriented segment, with 74 per cent of production for export by 2000.

The Taiwan government played a central role in economic development and skills development. The government has implemented a series of economic plans since the 1950s (Tien and Flora 1996). The Ministry of Economic Affairs selected core industrial technologies for targeted development, based on:

- their potential to be applied widely
- the creation of a specialisation
- the achievement of a competitive edge in the export market place (Tien and Flora 1996).

In parallel with economic development over the last half century, Taiwan has planned and developed its system of education and skill development as the basis for its innovative and technical capacity. In the 1960s, the government first introduced 'manpower plans'. Since then, almost all levels of educational policies, especially those related to vocational and technical education, have been led by economic goals (Tien and Flora 1996). This extends to the setting of target ratios for the number of students in vocational versus non-vocational education streams. Also, within the university system ratios have specified that more students will be enrolled in science and engineering disciplines, than in humanities and social science disciplines.

The establishment of an extensive system of vocational education was fundamental to Taiwan's successful economic transition. The expansion of vocational education was a consequence of government policy, not a natural consequence of the market. The number of students in technical vocational education was actively encouraged through government policy (Tien and Flora 1996). The government's interventionist planning approach has generally succeeded, despite difficulties in aligning the supply of skilled graduates with emerging demand, and ensuring adequate supply of highly skilled graduates from the university system.

Not surprisingly, given Taiwan's industry profile, engineering and science graduates played the most prominent role in the economic development process. Interestingly, university research is aligned with Taiwan's science and technology policy with universities being a key implementation agency under the policy (Science and Technology Policy Research and Information Centre 2006).

Skills development in Ireland

In the space of two decades, Ireland was transformed into a high productivity and low unemployment economy. The change in human capital during this period is important to understanding how this happened. The rise in human capital played a critical role in increasing output and productivity, ensuring relatively equitable wage distribution and increasing employment levels (Bergin and Kearney 2007).

As a small trading economy, integrated with the European Union (EU), it is particularly important for Ireland to maintain or improve its national competitiveness. Since the 1990s, Ireland has achieved this through the rapid adjustment of high-skilled labour supply to demand driven by investment in education and strong migration flows.

The Irish model of success is the result of meticulous government planning (Beary 2007). The key body was the National Economic and Social Council (NESC), which was set up in 1973, and remains a key player today. It is an independent economic advisory body with representatives of various industry sectors, Non Government Organisations (NGOs) and government. In 1987, the government implemented the NESC recommended Program for Economic Recovery. Six other social partnership programs, each of which was jointly negotiated by the government, trade unions and employer groups — known together as the social partners, followed this. The Irish Government has continued a planning-based approach, with the latest ten-year plan unveiled in November 2005.

Flowing from these plans was an increased investment in human capital through the development of the education and training system. Particularly, the establishment of regional technical colleges in the 1980s, which trained workers in areas that the newly arrived companies needed (such as IT and engineering) (Beary 2007). Other factors that complemented these skills developments included:

- *industrial development and investment attraction* — encouraged by low taxes. Multinationals were attracted to Ireland by a corporate tax rate of 10 per cent for manufacturers, today it is 12.5 per cent. Today, about 85 per cent of the manufactured goods that Ireland exports derive from foreign direct investment. Following the manufacturers, were the financial service businesses, which established in Dublin.

- *maximising the benefits from economic integration with Europe* — which results in lower cost of doing business, less regulatory burden, and simplified immigration arrangements. Ireland opened its labour markets to what were, at that time, the new EU member states of central and Eastern Europe
- *improving infrastructure* — particularly in the high human capital dividend areas of health and education investment
- *national wage agreements* — in partnership with unions and employers, which reflected the cooperative approach, which is a feature of the Irish model
- *establishing financial stability* — which was achieved through difficult fiscal reforms during the 1980s that laid the reform foundations.

Research has found that the effects of educational attainment contributed around 0.5 percentage points per annum to growth in Ireland in the 1990s. Through the combination of human capital accumulation and migration, Ireland transitioned to an innovative economy, with living standards that surpassed many of its continental neighbours (Fitzgerald and Kearney 2000).

The main benefit was in rising levels of employment. Skilled labour was attracted to Ireland, which contributed to this success. As often occurs following periods of sustained growth, infrastructure constraints emerged as an increasing issue. Factors such as rapidly increasing house prices could reduce Ireland's attractiveness for some prospective migrants. Also, other nations, particularly in Eastern Europe, are seeking to follow the Irish model. This has increased competition for investment and skilled labour.

The importance of Ireland's wave of immigrants cannot be underestimated. Fiscal and regulatory changes are a necessary part of the prosperity equation, but they make up the 'easier' part. The harder part is to attract and retain talent. Ireland succeeded not only because of its fiscal changes, but because of the country's openness to new arrivals (Brenner 2006).

The other factor that has been put forward (Bloom and Canning 2005) is the decline in Ireland's dependency ratio. This is a measure of the number of non-working people the working population supports. In Ireland's case, the relaxation of family planning restrictions in the 1970s led to a decline in the birth rate, from an average of almost four children per Irish woman in the 1970s to half that number in the mid 1990s (Gladwell 2006).

Skills development in Sweden

Sweden has internationally recognised experience in implementing labour market programs and training unemployed adults. As such, it is an appropriate country to learn from in regard to skills development and human capital for three reasons:

- Sweden has a long and large-scale experience of labour market programs
- Sweden's experiences can provide lessons to policy makers
- Sweden has large and rich administration data available (Carling K and Richardson K 2003)

Labour market programs in Sweden include several youth programs, implemented on both a national and local government level, the ‘Knowledge Lift’ program, and other programs ranging from those that provide vocational training, programs that offer work experience to programs that give individuals the opportunity to start up a new business.

The ‘Knowledge Lift’ Adult Education Initiative took place in Sweden between 1997 and 2002 to raise skills of low-skilled workers so to enable them to transition to medium-skill level jobs. ‘Knowledge Lift’ replaced and improved an older, similar program with a focus on developing general employment skills such as English, Swedish and mathematics skills rather than specific skills. It progressed far from the older program in that it developed and modernised teaching methodologies. The program was run on a municipal level, and enabled municipalities to provide the initiative jointly. Participants were supported while they undertook the courses that typically spanned 6 months. The significance of ‘Knowledge Lift’ can be appreciated through the number of participants — 200 000 of a 538 004 target group in 1997 alone — the largest adult education program ever operated in Sweden (Albrecht J et al. 2006).

The program’s goals and outcomes contradicted the general conclusion of contemporary literature, which was pessimistic towards the ability of training to effect individual labour market outcomes (Albrecht J et al. 2006). ‘Knowledge Lift’ had a positive effect on the employment of young males and is likely to have generated a change in skill distribution in favour of those with more skills in Sweden and hence it had a positive effect on Sweden’s labour market (Albrecht J et al. 2004; Albrecht J et al. 2006).

It should be noted that the result of reduced low skill jobs, may also be due to retiring older workers, and younger educated workers entering the workforce. Further the program had no significant effects on income levels or for women, who had similar probabilities of finding employment to non-participants.

Another, more general study provides broad implications of labour market program groups in categories. The findings showed that:

- programs with a work experience component and training provided by employers have better outcomes than programs with a focus on classroom vocational training only
- programs with more regular work experience are more effective
- the timing of placement in a program does not affect the program’s efficiency
- results are homogenous across demographic and skill groups (Carling K and Richardson K 2003).

More recently, Sweden has been commended by the OECD for its resilient economy in light of the financial crisis and for reducing labour market exclusion, which continues to affect certain demographic groups such as youth and women. Education policies and labour market rigidities hinder employment opportunities for youth. Swedes tend to exit the education system relatively late and apprenticeships have been criticised for being too specific and hence restricting career development (Organisation for Economic Co-operation and Development 2008a). High minimum wages and a compressed wage structure have meant that Swedish youth have experienced difficulties entering the workforce. In this regard, it is difficult to make comparisons with the very different wage structure that applies in Bahrain.

Sweden's experience and the subsequent rigorous evaluation shows that labour market programs set in the right context can generate positive effects to employment. But as expected, different programs will generate different results hence evaluations may contradict one another. For example, while Carling and Richardson (2003) have noted that the programs have the same results across demographic groups, Albrecht et al (2004) revealed that while 'Knowledge Lift' has been positive for Sweden's labour market, its effects differ amongst particular groups — young men benefited more so than women. Such contradictions reveal that while lessons can be learnt from a country that is mature in terms of labour market policy, Bahrain needs to tailor its own reforms so that they are specific to particular demographics and relevant to the domestic regulatory structure to reap optimal benefits.

5.5 Implications for Bahrain

The key theme that emerges is that skills are a vitally important component of any economic growth strategy. In Hong Kong, Singapore and Taiwan, investment in skills formation has been accompanied by a surge in production, and a diversification of their respective economies. The experience of Ireland provides an even more compelling case for investment in skills formation — with the additional lesson that investments in broad-based knowledge creation, including the creative industries, is a potential source of longer term advantage.

It does appear that successful skills strategies manage risk by spreading the skills investment across a small number of areas rather than making a large bet on one industry sectors or spreading resources across all sectors. This helps insulate the national economy from unpredictable changes in global market conditions. In Singapore, for example, there are a number of concurrent industry development strategies being pursued in diverse fields including biotechnology, nanotechnology, and the creative arts. These may prove to be farsighted investments in a new growth industry for the future; or may prove to be as short lived as some of that country's investments of past decades (for example, transitory investments in the 1980s in skills for the garment and fashion industry). The Singapore experience suggests, however, that a large number of relatively modest initial investments in skills, each of which is based on a solid foundation of basic competencies in numeracy and literacy, are an effective way of managing risks in a small and open economy.

Country comparisons are not always a reliable guide for policy. The factors that have led to creation of competitive advantage in any one country rely on deep-seated institutional and cultural settings that are not easy to replicate. For each of the country comparisons chosen, there are alternative explanations to skills development which scholars have argued has been fundamental to their comparative success, including:

- Ireland — proximity to Europe, early membership of the European Union, and access to European Union agricultural subsidies and industry support programs
- Singapore — a rigorous anti-corruption program that distinguished it from its neighbours, location between the Strait of Malacca and the South China Sea positioning it as a shipping hub
- Taiwan — geopolitical support from the United States following creation of a Nationalist government
- Hong Kong — position as the gateway for trade with China during a period when that country was resistant to outside contact, natural advantages in shipping due to quality of Hong Kong harbour
- Sweden — a well regarded and resilient economy, with relatively high taxation that has led to significant investment in the education system and labour market.

Even so, the conclusion that can be drawn from examining each of these countries is that their investment in skills was a key-enabling factor that allowed them to take advantage of economic opportunities as they arose. In other words, skills are not sufficient to guarantee economic success, but they are necessary. This makes a skills strategy for Bahrain a vitally important component of future national competitive advantage.

Chapter 6

Future policy directions for Bahrain

The overall aim of comparative investigations is to test and develop theoretical and practical issues by examining a multitude of circumstances and experiences. There is not one unified body of comparative research that can form the starting point for all cross-country research — rather, a multitude of different sources. The previous chapters have illustrated the variety of policy settings adopted by governments to address future skills demands — not surprising given the very different trajectories of development paths and competitive positioning seen in the various countries and regions.

Nonetheless some common threads that can be drawn out of the country comparative analysis to indicate the components that are most likely to be useful in the development of an effective skills strategy for the Kingdom of Bahrain. This chapter draws out the policy lessons from those country comparisons, together with the consensus from leading edge thinking in academia and in multilateral institutions, and applies them to the specific conditions found in the Kingdom of Bahrain.

There is no immediate and clear-cut link between investment in a highly specialised or industry-specific area of skills development and creation of a competitive advantage. The international experience suggests that broad based skills development is likely to be more successful than narrowly focused skills strategies that over-invest in one area of expertise at the expense of others. This broad based development needs to be balanced with technically specific skills in sectors that will contribute to Bahrain's national competitiveness.

Successful skills strategies manage risk by spreading the skills investment across a small number of areas and as such the international experience could be characterised as an argument based on risk. This helps insulate the national economy from unpredictable changes in global market conditions that may make an investment that is unviable at some future stage.

The experience of some of the more successful small Asian countries in particular has been one of a series of both successes and failures in linking skills programs and industry programs, but in each case the initial investment has been of a sufficiently small size that failures were not significant losses.

6.1 Global trends in labour markets and skills — implications for Bahrain

The future of the labour market in Bahrain depends on the formation of skills at higher levels of sophistication, in order to meet the challenges posed by global conditions. Two key demographic factors drive to this conclusion.

Firstly, population growth means that the supply of unskilled labour both in total and as a proportion of the global workforce will continue to rise for the foreseeable future (as shown in Chapter 2). This in turn means that there will be ongoing downward pressure globally on relative wages for unskilled labour. The implication for Bahrain is that the economy will have little capacity to create jobs for Bahraini nationals at reasonable wage rates in the unskilled sector; and that Bahrain will continue to find a ready supply of relatively cheap unskilled expatriate labour.

Secondly, the skilled workforce globally is increasingly mobile. The overall trend towards globalisation of trade in goods and services has also extended to labour flows — with increasing migration not only from developing to developed countries, but also considerable movement within the developing world.

6.2 What type of skills strategy is required for Bahrain?

A demand led skills delivery system will be required for Bahrain. This approach draws on that adopted in the UK's *Leitch Review of Skills*, which supports the development of a demand led system as best practice in ensuring that increased investment by employers and individual in skills delivers economically valuable skills (see Box 6.1).

Box 6.1

DEMAND-LED SKILLS DEVELOPMENT

'...Under a planned system, the incentives are for providers to continue doing what they have done in the past so long as that meets the requirements of planning, rather than responding flexibly as demand for skills changes. ...

Recent reforms in England have attempted to develop a more 'demand-led' system, responding to demand rather than trying to plan supply. ...

The Review has concluded that a demand-led approach must be embedded across the system so that providers only receive funding as they attract customers, rather than receiving a block grant based upon supply-side estimates of expected demand. *Building a demand-led system is the only way in which to increase employer and individual investment in skills and ensure that increased investment delivers economically valuable skills.'*

Source: (Leitch 2007).

This strategy is based on the evidence that suggests that development of skills is more important than other labour market interventions such as de-unionisation, removal of employment security, reduction in mandatory minimum work standards and related labour reforms. The ILO notes that:

In the 1990s, most countries sought to address the employment problem essentially through policies designed to increase labour market flexibility. But these policies had very limited success in reducing unemployment and instead led to growth of low-paid part-time and temporary jobs and even to two-tier labour markets. This is surprising considering that the 1990s was actually a period of rapid economic growth.

Analysis shows that the policies were based on a misunderstanding of the employment problem. The labour market difficulties of low-skilled workers in all advanced industrial countries arose not from inflexibility of labour markets but from structural changes – de-industrialisation, skill-biased technological change and growing specialisation in skill-intensive products induced by globalisation. These factors have been steadily reducing the demand for low-skilled labour despite the dwindling number of low-skilled workers and increasing the demand for high-skilled labour despite the rapidly increasing number of high-skilled workers. Policies designed to increase labour market flexibility have only succeeded in pushing some low-skilled workers into non-standard and involuntary part-time employment (International Labour Organization 2008b).

There is no agreed approach internationally on the appropriate role of government in skills development. Variations reflect different national cultures and economies. An important policy question for skills development is whether to adopt a broad based strategy or target particular sectors. The choices available to governments are generally a function of the total size of the working population and the economic resources available to government. As such, in a large country, a broad based strategy is more likely to be adopted. The Leitch Review of Skills in the UK for example concluded that the UK urgently raise achievements at all levels of skills and recommended that it commit to becoming a world leader in skills by 2020, benchmarked against the upper quartile of the OECD. This overarching recommendation was reached following a detailed comparison of UK labour market and skill performance with other countries.

On the other hand, in a smaller country, resource constraints mean that not all levels and types of skills can be addressed at the same time. The choice of skills to be addressed can be left to the market (for example, Hong Kong) or determined through more directive economic planning (for example, Singapore). A consequence of the rapid economic growth in most of the comparison countries is that they have also placed a premium on less tangible but increasingly important skills such as creative problem solving, communication, adaptability, and self-management. In addition, as shown in Chapter 5, their skills investments have emphasised those that have been transferable between industry sectors.

A consequence of the rapid economic growth in most of the comparison countries is that they have also placed a premium on less tangible but increasingly important skills such as creative problem solving, communication, adaptability, and self-management. In addition, as shown in Chapter 5, their skills investments have emphasised those that have been transferable between industry sectors.

The recommended policy objective for Bahrain, in light of these findings, is a mix of broadly based skills development and a targeted strategy undertaken with regard to the identified skills gaps in a small number of economic sectors. The identification of the sectors to be targeted, and their needs, is the subject of the next stages of this study.

6.3 Next steps

As noted earlier, Bahrain has the major advantage of a growing domestic labour force and a young age cohort. Bahrain therefore has the potential to significantly and rapidly increase the domestic component of its labour force. This is a source of the major policy challenge that drives this study: the economy will need to provide jobs for this cohort of younger workers, and that will require an investment in skills development and formation.

The characteristics of the Bahrain labour force represent a major competitive advantage provided these workers can attain high skill levels. This will require a sector-based skills strategy to be developed as part of this study (and to be addressed in Report 2). It may also require complementary structural changes that are outside the scope of this project. For example, there is likely to be a need for a combination of attitude shifts among the domestic population and easing of barriers to female participation as well as a re-alignment of curriculum and training approach along the lines suggested by the EDB. These broader issues are being addressed in other parts of the overarching economic development and labour market planning framework of the Kingdom of Bahrain.

The alternative to a skills strategy is an increasingly costly bidding war with other countries for both the higher and lower ends of the labour market. This labour market challenge is not unique to Bahrain, but will impact upon all GCC States. Over time, the burden of having an under-participating and under-skilled labour force will place unsustainable restraints on the economy. Bahrain is well positioned to enter into the GCC and MENA skills market if the internal issues concerning labour force management, skills development and the interaction of labour market and education planning are addressed.

Appendix A

References

- Acemoglu, D. (2003). *Patterns of Skill Premia*. New York, Review of Economic Studies.
- Albrecht J, van den Berg G. J, et al. (2004). The Knowledge Lift: The Swedish Adult Education Program That Aimed to Eliminate Low Worker Skill Levels, for. Uppsala, The Institute for Labour Market Policy Evaluation.
- (2006). The Aggregate Labour Market Effects of the Swedish Knowledge Lift Program, for. London, Centre for Economic Policy Research.
- Asian Development Bank (2007). Key Indicators of Developing Asian and Pacific Countries, for. Taipei China.
- Aucion, P. (2005). *The New Public Management: Canada in Comparative Perspective*. Montreal, Institute for Research on Public Policy.
- Autor, D. (2007). Technological Change and Job Polarization: Implications for Skill Demand and Wage Inequality. *National Academies Workshop on Research Evidence Related to Future Skill Demands*. New York.
- Autor, D. H., F. Levy, et al. (2003a). Computer-Based Technological Change and Skill Demands. *Reconciling the perspectives of economists and sociologists*. New York.
- (2003b). "The Skill Content of Recent Technological Change: An Empirical Exploration." *Quarterly Journal of Economics* 4.
- Beary, B. (2007). "Why Ireland's Economic Boom Is No Miracle." *The Globalist*(30 May 2007).
- Becker, G. (1964). *Human Capital: A Theoretical and Empirical Analysis*. New York, Universal Press.
- Bergin, A. and I. Kearney (2007). "Human Capital Accumulation in an Open Labour Market: Ireland in the 1990s." *Elsevier* 24(6): 839-858.
- Bloom, D. and D. Canning (2005). Global Demographic Change: Dimensions and Economic Significance. *Working Paper No 1 - Initiative for Public Health*. Boston, Harvard.
- Boer, K. d. and J. Turner (2008). "Oil-Reappraising the Gulf States." *The McKinsey Quarterly* 33(January).
- Brenner, R. (2006). "The Irish Economical Miracle." Retrieved 1 August, 2008, from <http://www.nationalreview.com/>.
- Business Higher Education Roundtable. (2003, 25-26 November 2003). from http://www.bhert.com/events_PastEventsSymposium.htm.
- Carling K and Richardson K (2003). "The Relative Efficiency of Labour Market Programs: Swedish Experience from the 1990's." *Labour Economics* 11: 335-354.

Central Bank of Bahrain (2008). Economic Indicators No. 21, for. Bahrain, Financial Stability Directorate.

Central Informatics Organization (2008). *2007 National Accounts*, Kingdom of Bahrain.

Dustmann, C., J. Ludsteck, et al. (2007). Revisiting the German Wage Structure, University of Rochester.

DW-World. (2007). "Germany Opens Labour Market to Skilled Eu Workers' " Retrieved March, 2008, from www.dw-world.de.

Economic and Social Research Council (2003). *Uk Competitiveness: Moving to the Next Stage*, for., DTI Economics.

Economic Development Board (2004). *Reforming Bahrain's Labour Market: Summary of Workshop Presentations*, for. Manama.

--- (2005). *Economic Reform Vision for Bahrain: Economic Policy Workstream*, for. Manama.

--- (2006). *Developing Bahrain's Economy*, for. Manama.

Economic Research Service (2008). *Real Historic Gross Product (Gdp) and Growth Rates of Gdp for Baseline Countries/Regions (in Billions of 2000 Dollars) 1969-2007*, for. Washington.

Economist Intelligence Unit (2008a). *Bahrain Economy Demographic Profile*, for.

---. (2008b). "Country Report Annual Data and Forecast." Retrieved December, 2008, from http://countryanalysis.eiu.com/country_reports.

Fitzgerald, J. and I. Kearney (2000). *Convergence in Living Standards in Ireland: The Role of the New Economy*, for., Economic and Social Research Institute (ESRI).

Fong, P. E. and L. Low (1996). *The Experience of Singapore: Trade, Development, and Internationalization*,. *Comparative Asian Economics*. J. Y. T. Kurak. Greenwich, JAI Press: 395-417.

Gladwell, M. (2006). *What's Behind Ireland's Economic Miracle - and G.M's Financial Crises?* *The New Yorker*.

Goos, M. and A. Manning (2007). "Lousy and Lovely Jobs: The Rising Polarization of Work in Britain." *Review of Economics and Statistics* **1**.

Gulf News (2008). *Foreign Workers*. *Gulf News*.

Hardill, I. and S. MacDonald (2000). "Skilled International Migration: The Experience of Nurses in the Uk." *Regional Studies* **7**.

Harry, W. (2007). "Employment Creation and Localization: The Crucial Human Resource Issues for the Gcc." *Int. J. of Human Resource Management* **18**(1): 132–146.

Heywood, J. S. and X. Wei (2004). "Economic and Signaling; Evidence from a Highly Competitive Labor Market." *Education Economics* **12**(1): 1-16.

Houston, J. (2007). "Future Skill Demands, from a Corporate Consultant Perspective." from <http://www7.nationalacademies.org>.

Hsieh, C. T. and K. T. Woo (2005). "The Impact of Outsourcing to China on Hong Kong's Labor Market." *The American Economic Review* **95**(5): 1673-1687.

Imai, H. (2002). Hong Kong's High Inflation under the Us Dollar Peg: The Balassa-Samuelson Effect of Dutch Disease? *Working Paper*. California, Stanford University.

International Labour Organization. (2007). "Key Indicators of the Labour Market Program - Chapter 7." Retrieved 13 August 2008, from <http://www.ilo.org/public/english/employment/strat/kilm/download/kilm18.pdf>.

---. (2008a). "Statistical Database." from <http://www.ilo.org/stat/index.htm>.

--- (2008b). The Global Employment Challenge, for. Geneva.

International Monetary Fund (2004). Emerging Strains in Gcc Labour Markets. *IMF Working Paper*.

---. (2008, October 2008). "World Economic Outlook Database." Retrieved December, 2008.

Khalaf, R. (2007). "Gulf Struggles to Close Jobless Gap." Retrieved 25 April, 2008, from www.gulf.com.

Labour Market Regulatory Authority (2007). *Labour Force Survey Bahrain*. Bahrain.

---. (2008). "Bahrain Labour Market Indicators." from <http://www.lmra.bh/blmi>.

Lam and M. K. Newman (2000). "Government Intervention in the Economy: A Comparative Analysis of Singapore and Hong Kong." *Public Administration and development* **20**(5): 397-421.

Lee, M. (2005). "Major Issues of University Education Policy in Hong Kong." *Asia Pacific Education Review* **6**(2): 102-112.

Leitch (2007). Leitch Review of Skills, for.

Levy, F. and R. J. Murnane (2004). *The New Division of Labour: How Computers Are Creating the Next Job Market*. Princeton NJ, Princeton University.

Lin C. W. and K. W. Wong (1997). Economic Growth and International Trade: The Case of Hong Kong. *Dynamics, Economic Growth and International Trade*. Hong Kong.

Lin, Y. (2003). Industrial Structure, Technical Change, and the Role of Government in Development of the Electronics and Information Industry in Tapei, China. *Asian Development Bank, ERD Working Paper Series*. Manilla.

Little, A. D. (2005). Country Policy Research Discussion Document for Economic Development Board, for. Kingdom of Bahrain, Boston, USA.

McKinsey Global Institute (2005). The Emerging Global Labour Market: The Demand for Offshore Talent in Services, for. Washington DC.

Middle East Business Intelligence. (2008). "Meed Projects "Gulf Projects"." Retrieved 14 July, 2008, from http://www.meed.com/databank/gulf_projects/2008/07/gulf_projects_14_july_2008.html.

Middle East Media Research Institute (2006). Unemployment in the Middle East - Causes and Consequences, for.

Ministry of Labour (2007). *Labour Force Survey 2006*. Manama.

Ministry of Labour and Employment (2002). The Ministry of Labour Annual Report 2001-2002, Government of India: Chapter 4 - Productivity.

Molle, W. (2002). "Globalisation, Regionalisation and Labour Markets, Regional Studies." *Regional Studies* 36(2): 161-172.

National Bank of Kuwait (2007). Gcc Banking, for.

--- (2008). Gcc Economic Outlook 2010: The Boom Goes On, for.

National Research Council (2008). "Research on Future Skill Demands, a Workshop Summary."

Organisation for Economic Co-operation and Development. (2007). "Oecd Insights: Human Capital." Retrieved 23 July, 2008, from http://www.oecd.org/document/11/0,3343,en_21571361_37705603_37714763_1_1_1,00.html.

---. (2008a). "Economic Survey of Sweden." Retrieved 20 January, 2008, from http://www.oecd.org/document/36/0,3343,en_2649_34569_41733540_1_1_1_1.0.html.

--- (2008b). Fact Book 2008: Economic Environmental and Social Studies, for.

Partnership for 21st Century Skills (2005). *Framework for 21st Century Learning*.

Porter, M. (1990). *The Competitive Advantage of Nations*. New York, Free Press.

Salt, J. (2004). Hot Property: The Global Market for Skills, for. London, H M Parliament.

Samba Financial Group. (2008). "Gcc Economic Outlook." *June* Retrieved 1 July, 2008, from www.samba.com.

Science and Technology Policy Research and Information Centre (2006). Yearbook of Science and Technology, for. Taiwan ROC, National Applied Research Laboratories.

Smith Institute (2006). Productive Partnerships: The Role of Employment Relations in Growing the Uk Economy, for. London, Smith Institute.

Tamkeen (2008) Overview.

Tan, C. H. (1996). *Strategic Policies and Businesses in Singapore: A Manager's Reference*. Singapore, McGraw-Hill.

Tether, B., A. Mina, et al. (2005). A Literature Review on Skills and Innovation How Does Successful Innovation Impact on the Demand for Skills and How Do Skills Drive Innovation?, for.

Tien and F. Flora (1996). How Education Drive Taiwan's Economic Development. *Economic Reform Today*.

United Kingdom Treasury (2006). Prosperity for All in the Global Economy: World Class Skills, for. London.

United Nations. (2006). "World Population Prospects 2006." from <http://esa.u.org/unpp/p2k0data.asp>.

--- (2008) Social Indicators.

University Grants Committee. (2004). "Hong Kong Higher Education, to Make a Difference, Move with the Times." Retrieved 14 August, 2008, from <http://www.ugc.edu.hk/eng/ugc/publication/report/report.htm>.

Wade, R. (2004). *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. USA, Princeton University Press.

Winckler, O. (2005). *Arab Political Demography*. Sussex, Academic Press, United Kingdom.

World Bank (2007). The Road Not Travelled: Education Reform in the Middle East and Africa, for. Washington DC.

--- (2008). Ease of Doing Business Index, for. Washington DC, World Bank.

World Economic Forum (2004). The Lisbon Review: An Assessment of Policies and Reforms in Europe, for. Geneva.

---. (2007). "Arab World Competitiveness Report 2007." Retrieved 1 July, 2008, from <http://www.weforum.org/en/index.htm>.

---. (2008). "Global Competitiveness Report 2007-08." Retrieved 1 July, 2008, from <http://www.weforum.org/en/index.htm>
<http://www.weforum.org/pdf/scenarios/gcc.executive.summary.pdf>.

World Health Organization. (2008). "Whosis Detailed Global Health Database." Retrieved December, 2008, from <http://www.who.int/whosis/data/>.