Develop, Deploy and Draw: 
Back ing Abu Dhabi’s 2030 Total Human Capital Potential

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Abu Dhabi 2030 and the Human Capital Challenge

“Economic success crucially relies on human capital – the knowledge, skills, competencies and attributes that allow people to contribute to their personal and social well-being, as well as that of their countries.” (OECD, 2007)

Executive Summary

Each of the countries that have increased their level of innovative capacity over the last quarter century — Japan, Sweden, Finland, and Germany — has implemented policies that encourage human capital investment in science and engineering. (Furman and Porter, 2001). Around the world, governments have taken notice of this success and have invested heavily in all levels of education and training including sending their citizens overseas for training. Governments have also actively developed talent mobility, immigration and fiscal regimes that entice international talent to flow through their economies.

Alternatively: But the talent issue is a complex one, particularly because origins of talent and their demand destinations are often dislocated. Talent sources are geographically diffused and tend to vary along the lines of industries, sectors and specializations.

Apart from this wide variation in the source and destination of talent, the talent situations within countries can also be highly dynamic and complicated. For example, some countries produce high caliber graduates that go unemployed, under-employed, or that go to work elsewhere. Others have migration systems that allow the inflow of foreign talent only to become unemployed or under-employed, or re-emigrate, whilst others make efficient use of foreign talent but only to fail to produce their own local talent.

Thereby, talent management requires working on three different levels in a coherent way. Specifically, it depends on the overall performance of three inter-related environments in a country:

- The talent development environment.
- The talent deployment environment;
- And the talent drawing-in (attracting) environment.
Collectively, these three environments form a system that is shaped by complex supply-and-demand forces that have a significant impact on human resources production, utilization and accumulation. Consequently, a country’s success in meeting its human resources needs and talent depends on three core abilities linked to the three environments, namely: to develop talent, to deploy talent effectively, and to draw critical talent (Mahroum, 2007).

To develop talent involves the ability of national educational and training institutions to produce sufficient quantities and suitable qualities of talent for the local labor market. This entails - among others things - the ability to be flexible and responsive to labor market dynamics in light of both short-term and long-term demands on human resources. Countries that fail to develop sufficient and suitable HR nationally tend to look overseas to fill emerging skill shortages.

To deploy talent involves the ability of national labor markets to utilize and employ local talent adequately and effectively. This implies the presence of a situation where job satisfaction is high, skill mismatch is low, and employment levels of the highly skilled are high.

To draw in talent involves the ability of local institutions to attract both local and international talent (engineers, researchers, academics and R&D executives) at all levels (students, early career persons and senior professionals).

Abu Dhabi on the 3D’s Balance

Imbalances or weaknesses in the ability to perform well in any of the 3Ds will lead to problems in the formation of national human resources for science and technology in a given jurisdiction. Thus, a country that performs well in developing and/or drawing talent, but fails to deploy this talent sufficiently, will inevitably suffer from a ‘brain drain’ to countries that are more successful in deploying such talent. Likewise, a country that deploys talent well but fails to develop enough local talent and fails to attract enough international talent will find itself chronically struggling from skills shortages. Whereas a country that is struggling along all three Ds dimensions is a country in real trouble!

In Abu Dhabi, the expansion of private and public educational and training infrastructure in the Emirate has bolstered the enrolment and educational attainment rates for students. This serves to create a strong foundation for higher education in the region. However, given such a foundation, Abu Dhabi still lacks significant participation in higher levels of education. This weakens the development capability of the region which otherwise shows great signs of progress with comparatively better performance on other metrics such as staff training and quality of management education.

With regards to ‘talent deployment’, Abu Dhabi appears to be in need to accelerate its performance through the combination of labor productivity growth along with growth in employment. Specifically, by bringing a larger proportion of the population within the fold of the labor market and increasing their productivity through the deployment of training schemes.
and advanced technology, Abu Dhabi will have the necessary human capital base to achieve the objectives of Vision 2030.

Abu Dhabi’s ‘talent drawing’ environment has still room for improvement. Until now, Abu Dhabi has largely been a magnet for low-skilled workers given the structure of the economy and the attendant demand for such workers. However, the government’s efforts to transfer the economy into a knowledge-based one through the setting up of universities, high-tech firms and advanced infrastructure has begun to be manifested through the increased flow of FDI and the influx of knowledge workers.

Policy Recommendations

Abu Dhabi needs to embrace a comprehensive approach to human capital development. While secondary and tertiary education will still play an important role, policymakers need to extend their scope to include the professional development of the local and expatriate population in the region. This will necessitate a greater focus on distance learning and on-the-job training schemes. Also, policymakers will need to formulate a systematic development plan that is sensitive to the needs of females in the Emirate. Education and training opportunities should be molded to fit a local culture that supports family life and marriage at a relatively young age. Such consideration should also extend to the rural and peripheral regions of the Emirate.

Female human capital development extends well beyond training and educational opportunities. The data indicates that their scale of participation in the labor market is low and their scope of activities is narrow. Governments need to actively encourage their deployment in the workforce through dismantling glass ceilings on female participation in senior managerial positions.

Moving to the wider set of factors that influence the deployment environment in the Emirate, the government will need to consider ways to promote permanent settlement for expatriate professionals in critical work domains. This is a necessity considering the fact that the size of the economy and its growth rate surpasses that of the local population. In all of these dimensions, the government should take a collaborative approach to their human capital development policy through partnerships with industry and academic experts to foster the cross-pollinations of ideas.

Finally, in terms of drawing in the right category of workers and bolstering its higher education system, Abu Dhabi might consider integrating its student visa system with a working visa where foreign students at UAE universities can be given priority-status over other foreign workers. Allowing a smooth transition between a college degree and entry into the labor market will provide a strong incentive for graduates to remain in the country and use their skills. Additionally, the Abu Dhabi government might want to introduce a Headquarters program based on the Viennese (Austria) model where foreign firms get an incentive package to facilitate their set-up. Given Abu Dhabi’s success in attracting high-profile foreign institutes to the
Emirate, there might be significant synergies in also attracting the regional headquarters of major global corporations to the Emirate.

The policy scope for talent management should go beyond the linear (supply) approach to a more ‘systemic approach’, to include structural and cultural barriers to total human capital management. In particular, the policy design-implementation chain should be consolidated as much as possible to bring various related government departments and agencies together to better coordinate and implement human capital management issues at the level of the Abu Dhabi economy as a whole.

Introduction

Human capital (HC) is widely considered to be one of the key enablers of innovation and economic development. The Abu Dhabi Economic Vision (ADEV) 2030 has acknowledged the essential role of developing and acquiring the necessary human capital to accomplish a successful transformation of the Abu Dhabi economy into a knowledge-based economy. In particular, the emerging economic sectors of focus for the Emirate- including, Aerospace, Semiconductors and Renewable energy- require human resources with very high degrees of educational and intellectual attainments.

While, arguably, Abu Dhabi has the financial muscle to pull off many of the challenges posited by the ambitious ADEV 2030 objectives, human capital represents a bigger challenge. ADEV 2030 has significant human capital demands, which in order to be met, will necessitate major changes in various aspects of the emirate’s investment and immigration systems. This is particularly true in the case of the local population in the Emirate, as the Abu Dhabi Economic Vision notes “unemployment amongst the Nationals can be ascribed to a mismatch between education and labor market demand.”

The experience of other countries in this regard might provide some useful lessons for Abu Dhabi for what to do and what not to do. But international experiences too are not without their shortcomings; especially with regards to their approach to human capital development issues. For most governments, the issue of human capital development is largely approached from the human resource development angle. This would include education and training issues ranging from K-12 schooling to Higher Education and Life Long Learning.

Over the last two decades, however, some governments, particularly those in the OECD countries, began thinking about human capital from a larger angle to include human capital “acquisition” in addition to human capital “development”. Through a series of modifications to their immigration systems, national human capital policies were expanded to include the capacity to attract and retain foreign talent as supplementary supplies to indigenous human capital. This change has been triggered by rising skills shortages across much of the OECD countries in 1990s and 2000s. The situation was brought to fore by the sudden and rapid rise of
information and communication technologies (ICT) as drivers of economic growth and eventually as enablers of economic activity. Businesses, and subsequently governments, struggled to keep pace with the changing demands for new technical skills that were both scarce in quantity and quality. Immigration and international poaching of talent became to be seen as one quick remedy for what seemed like a chronic skills shortage and governments found themselves (sometimes reluctantly) rolling out new immigration regimes permitting the inflow of needed talent (Mahroum, 2002).

As a result, human capital policies expanded to include three major components: Human Capital Development, Deployment, and Drawing. These three “capacities” need to exist in an economy in order for it to be competitive. Focusing on developing human capital but failing to deploy it sufficiently will inevitably lead to negative outcomes such as unemployment, underemployment or ‘brain drain’. Likewise, focusing on developing and deploying indigenous human capital, but failing to retain international talent sufficiently will jeopardize the learning curve of the total workforce.

Section 1: Towards a ‘Total Human Capital Potential’ Approach

Governments’ human capital and human resources policies encompass a broad spectrum of policy issues starting with education policy and extending to labor and immigration policies. In fact, human capital (as opposed to human resources) extends to include policy issues pertaining to health and wellbeing. In the context of this paper, we will use human capital as term strictly referring to skills and talent and not in a broader sense. In this respect, we make use of an analytic framework developed by Mahroum (2007) intended for policymakers to understand the dynamics of human capital development. This framework is composed of three D’s: Develop Deploy, and Draw. The 3Ds can be elaborated further as the following:

- **To develop** talent is the ability of national educational and training institutions to produce sufficient quantities and suitable qualities of talent for the local labor market. This entails the ability to be flexible and responsive to labor market dynamics in light of both short-term and long-term demands on human resources. Countries that fail to develop sufficient and suitable human capital nationally tend to look overseas to fill emerging skill shortages.

- **To deploy** talent is the ability of local businesses to utilize and employ local talent adequately and effectively in the local economy. This implies the presence of a situation where job satisfaction is high, skill mismatch is low, and employment levels of the highly skilled are high.

- **To draw** in talent is the ability of national S&T institutions to attract both local and international talent (such as engineers, researchers, academics and R&D executives) at all levels (students, early career persons and senior professionals). This can be reflected in, among other indicators, enrolment and graduation rates, and at graduate and PhD
levels the proportion of foreign skilled workers in the labour market relative to other countries.

These three inter-related components of human capital potential form a “triangular” approach to human capital policy. In the absence of such concerted focus and a parochial concentration on just one or two pillar(s), businesses and governments are likely to face major deficits in their human capital capacities. This circularity in the three pillars of development is visualized in Exhibit A below:

**Exhibit A: Total Human Capital Potential**

| Indigenous Skill Development | Deployment of highly-skilled labor (both domestic and foreign) | Ability to draw highly skilled foreign manpower |


**The Three ‘Ds’ Interplay**

Individual components of the 3 D’s framework when deployed in conjunction may provide an amplified overall effect. For instance, higher levels of HR deployment lead to higher levels of HR development and vice versa, provided that policymakers and the regulatory environment support the process. Higher levels of deployment create an urgent need for a highly educated workforce. Consequently, universities and training centers follow suit and upgrade the standard of education imparted onto their students. Conversely, a highly educated population will find
avenues to apply their education towards value creation. As the knowledge base of an economy improves, the prospects of knowledge-based value creation increase.

Furthermore, there is also a link between the ability of the place to develop talent and its ability to draw in new talent from elsewhere (Florida, 2002). The agglomeration of human capital in a place gives rise to various ‘positive externalities’ (i.e. spillover effects), providing good settings for industries and firms with knowledge-intensive activities, such as specialized business service firms and headquarters of multinational firms (Lucas, 1988; Jacobs, 1961). This is also one of the major concerns of policymakers in Abu Dhabi, where the Government has big plans for the Emirate to become a regional and global hub for knowledge-driven businesses.

The expected spillover effect of the agglomeration of high levels of talent in one place is especially accentuated in the area of knowledge transfer. Knowledge transfer is a both time- and resource-consuming process (Karlsson & Johansson, 2006) and its cost varies for various actors. Different economic actors located at different points in a geographical space have different knowledge access costs, even if they are in the same trade (Karlsson et al., 2009). The inflows to, and agglomeration of, talent into a place therefore accelerates the rate of knowledge transfer to that place and with a greater efficiency.

A highly educated local population will provide an more efficient platform for drawing in educated and talented labor from other parts of the world. As noted by many observers (Saxenian, 2008; Florida, 2008), there is a new rising class of trans-global migrants who share similar educational backgrounds and are at increasingly more at ease with people of similar backgrounds. This implies that a significant human capital capacity is mobile and hence available to more than one economy and a highly educated population can be a magnet to attract it.

The abundance of talent in a particular location is also an important magnet of local and foreign investment (OECD, 2010; UNCTAD, 2008)). For example, in India despite meager economic conditions, many multinational corporations (MNCs) decided to open R&D labs in India because of the agglomeration of high levels of skilled workforce (Demos, 2007). The same has been observed in the economic success stories of Ireland and Singapore (Kavanagh, 2006).

The three dynamics of development, deployment and drawing are thus closely interlinked. It is important to note that this dynamic relationship between three facets of human capital management at the level of an economy contains a great deal of complexity. For example:

- The institutional requirements behind developing a skilled workforce is fairly heavy: the supply is influenced by factors that go beyond traditional notions, such as high wage levels will attract more workers. The principal ‘creators’ of a highly-educated workforce are professors and teachers. Over and above monetary payments, they are attracted by factors such as quality and quantity of research facilities (libraries, labs etc.), PhD programs and the caliber of their colleagues (Mahroum, 2000).
The ‘supply-and-demand’ dynamics between human capital development and human capital deployment can have long time horizons and hence labor market ‘signals’ might have a delayed effect. Thus, even when the sophistication of the professional environment in a region improves, the training of new workforce is a lengthy process and there might exist a substantial time-lag between a changing demand and the supply to meet that demand. This can create conditions of temporary ‘skills shortages.’

The central issue informing human capital development in a particular region is that demand for this particular type of workforce has become increasingly global. Economies around the world are becoming cognizant of the importance of skilled labor. Consequently, it becomes important to coordinate human capital policies with efforts to improve the overall competitiveness of the economy.

Therefore, historically, governments have struggled with getting their human capital policies right. For example, France has had a long tradition of using forecast techniques to try steer human capital supply for prospective demand. Both the Ministry of Labor and the Ministry of Education each runs their own forecasts, the former focusing on “occupational families” whereas the latter focuses on “skills and qualifications” in demand. Other countries, such as Finland, run similar forecasting techniques in attempt to steer present investments in human capital in a direction that matches future demand. Some professional and industrial associations get involved in such forecast exercises too in order to inform government policy.

The problem with these exercises, however, is that they are often inaccurate (Méhaut, 2006). This is evident in the stagnant levels of high unemployment, particularly among the youth, for example in France and by the continuous outbreak of skills shortages across different sectors and across countries. The reason is that such exercises tend to be very much based on the capacity of the local educational system to provide the quality and quantity needed to match future labor market demand. Rapid technical change and increased economic openness and globalization, however, make both the supply and demand for human capital very unstable and in a state of rapid flux and subsequently translate into a gap between forecasts and reality. In addition to the globalization and internationalization of labor markets have expanded the economic geography of labor supply and demand and subsequently forecasts based on national data alone are not sufficient (Mahroum et al, 2007).

The three ‘Ds’ framework employed in this paper overrides such problems by focusing on the agility in the human capital system that supports an economy and subsequently its ability to adapt and respond to changing local or global conditions. The ability of an economy to develop talent is therefore no less important than its ability to draw it in from international sources. Most important however is the ability of an economy to deploy talent efficiently and effectively or it will risk wasting its talent potential. The three Ds ability is therefore about the total human capital potential of an economy.
Section 2: Abu Dhabi on the 3Ds’ Balance

Human Capital Development Capabilities in Abu Dhabi

In this section, we consider the capacity of Abu Dhabi to develop its own human capital. This might include the capacity to train graduates in fields of science and technology, but also in “softer” fields such as media and business management. The human capital development capacity can be derived from traditional platforms of learning like schools and universities and on-the-job and corporate and ad hoc training facilities.

Table 1 below provides an overview of the major components and characteristics of Abu Dhabi’s human capital development capacity. The data shows that private schools play a bigger role in the development of human capital at the K-12 levels. The situation is remarkably different at the higher education level where public universities and institutions of higher education play a more significant role. Both the size of classroom and the pupils per teacher ratios are at par with OECD standards, for example similar to the average classroom size in the OECD (OECD, 2010).

<table>
<thead>
<tr>
<th>Key Indicators of Educational Services</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Government Schools</td>
<td>301</td>
</tr>
<tr>
<td>Number of Private Schools</td>
<td>180</td>
</tr>
<tr>
<td>Students in Government Schools (000)</td>
<td>122</td>
</tr>
<tr>
<td>Students in Private Schools (000)</td>
<td>157</td>
</tr>
<tr>
<td>Number of Teachers in Government Schools</td>
<td>10,367</td>
</tr>
<tr>
<td>Number of Teachers in Private Schools</td>
<td>9,908</td>
</tr>
<tr>
<td>Pupils per Teacher ratio</td>
<td>13.4</td>
</tr>
<tr>
<td>Pupils per Classroom ratio</td>
<td>22.4</td>
</tr>
<tr>
<td>Number of Universities</td>
<td>9</td>
</tr>
<tr>
<td>Number of Graduate Students from Government Institutions of Higher Learning</td>
<td>4,530</td>
</tr>
<tr>
<td>Number of Graduate Students from Private Institutions of Higher Learning</td>
<td>1,457</td>
</tr>
<tr>
<td>Percentage illiterate population (10 years &amp; over)</td>
<td>8.33%</td>
</tr>
<tr>
<td>Dropout Rate (Pupils in government Schools 2007/2008)</td>
<td>1.80%</td>
</tr>
</tbody>
</table>

Source: Abu Dhabi Statistical Yearbook, 2010

Thus, there are indicators that Abu Dhabi enjoys relatively an educational infrastructure of high quality and this is supported in a recent Global Competitiveness report produced by the World Economic Forum for the UAE as a whole. Figure 1 below shows that for the UAE as a whole, of which the Emirate of Abu Dhabi represents its largest component.
Figures on Abu Dhabi expenditure on education are not available. UAE figures that exist are at the UAE-wide level and aggregated at the total expenditure per GDP. Using the latter, a policy brief produced by the Dubai School of Government (Karaman, 2011) suggests that UAE in general invests below regional average on education. The brief cites a UNSECO and UNDP reports stating that in 2005 the UAE spent proportionately less on education than any other Arabic-speaking country, with only 1.3% of GDP (UNESCO 2011) (EU average 4.72%, and MENA average of 5.3%). Lack of data on expenditures on other levels of education makes contextualizing these results difficult. However, since we are mostly concerned with outcomes, we use the average number of years of schooling on an adult in the UAE as a proxy.

Figure 1: Quality of Educational System

![Quality of Educational System Normalized Scores - Global Competitiveness Report, WEF 2010](chart.png)
Figure 2 below shows the Mean Years of Schooling of Adult Population in a number of comparator countries’ in 2010.


Looking at the average number of years an adult in the UAE receives compared to other regional neighbors, we find the UAE comparing favorably to most of its neighbors (and indeed to most other Arabic speaking countries). While it is obvious that the gap with the more advanced economies is still by around three years, the UAE has been making a very rapid progress in this regard with the average number of years of schooling of a typical adult continuing to go up. Figure 3 below shows that the average years of schooling received by an adult in the UAE has gone up from 3.1 years in 1980 to 6.9 in 2000 to 9.2 in 2010.
Educational Attainment

The most typical educational attainment in Abu Dhabi among UAE nationals is secondary education. Thereafter, we see a steep decline (from 30 percent of the population to around 10 percent) for the university level. Additionally, the share of Masters’ degree holders and PhD’s are almost insignificant. This presents a rather stark picture of the educational “supply chain” in Abu Dhabi. Attainments are significantly biased towards completion of Secondary schooling with little progression to higher degrees or qualifications. At the same time, it can present a hopeful picture: The proportion of nationals in the secondary schools implies that the population has the fundamental skills necessary to progress towards higher educational qualifications.
The participation of women in both education and the labor force has become a significant policy issue worldwide, not least due to the significant economic opportunity that exists from leveraging their skills to foster economic growth. Figure 5 presents a breakdown of female educational attainments. The vertical axis represents the proportion of females in a particular educational category as a proportion of the overall Nationals female population over the age of ten.

Much like the trend in the overall population, we see that largest share goes to secondary education with a steep decline in post-secondary participation. If we disaggregate the overall population by Male and Female participation (graph not presented for the sake of conciseness), relative to the total Female population, approximately 33 percent are in Secondary schools while the analogous ratio for Males is 31 percent. Further, the same ratio at the University level is 9.96 percent for females and 9.52 percent for Males. This trend reverses when we consider advanced qualifications like PhD and Masters.
Figure 5: Female Nationals Educational Attainment

Source: Abu Dhabi Statistical Yearbook 2010 with authors’ further analysis.
Textbox A: Educational Attainment of All Residents in the Emirate

We do not consider the entire population (i.e. including expatriates) of the Emirate. This is because the intention of the analysis here is to analyze Abu Dhabi’s own capacity in developing talent. Nonetheless, it might be useful for analytic purposes to provide a comprehensive view of the wider context and hence we provide data on the general level of educational attainment among all residents in the Emirate. The vertical axis represents the percentage of nationals and non-nationals with a given level of education as a proportion of the total population. As expected, the highest proportion has gone to secondary school. The figures for the General and Nationals population are 24.16 percent and 32.75 percent respectively. Above this level, it the ratio is higher for the General population than the Nationals population. So, the PhD category ratio is 0.34 percent for the overall population while it is only 0.17 percent for the Nationals population while the Masters’ figures are 1.00 percent and 0.55 percent respectively.

Figure 6: Educational Attainments of the Total Population

Regional Variations in Talent Development Capacity

Levels and patterns of human capital development, measured by education attainment, stay rather stable between the two main cities of the Emirate of Abu Dhabi. The gap between female and male attainment of above secondary education remains the same and so does the rate of attainments among males. The picture is slightly different in the rural and peripheral regions where the gap between males and females are much larger with a very small percentage of females attaining secondary education or above.

Table 2: Above Secondary Educational Attainments in Abu Dhabi peripheral regions

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Male/Total Population</th>
<th>Female/Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abu Dhabi</td>
<td>208,093</td>
<td>142,416</td>
<td>25.57%</td>
<td>17.50%</td>
</tr>
<tr>
<td>Al Ain</td>
<td>119,358</td>
<td>73,640</td>
<td>26.54%</td>
<td>16.37%</td>
</tr>
<tr>
<td>Western Region</td>
<td>35,599</td>
<td>10,981</td>
<td>31.15%</td>
<td>9.61%</td>
</tr>
<tr>
<td>Emirate Islands</td>
<td>4,488</td>
<td>803</td>
<td>34.02%</td>
<td>6.09%</td>
</tr>
</tbody>
</table>

Source: Abu Dhabi Statistical Yearbook 2010, Innovation and authors own analysis.

The data in the table above (Table 2) signals two main messages, the first that the government policy in this regard is producing equitable results across the region among the male population, and the second is it is less equitable when it comes to females. Cultural and occupational aspects pertaining to life in rural and peripheral areas stand to explain a big part of this gap, which call on the Government to design the appropriate policy interventions, including a lifecycle approach to human capital, one that takes into consider the specificities of local culture. For example, when it comes to females’ education and participation in the labor force, the typical age of marriage and child rearing could be taken into account when designing schooling, education and training programs for females encompassing the whole lifecycle from young adulthood to 50+ of age.

Lifecycle based human capital policies as well technical-change oriented government policies however require investment in both traditional platforms of learning and in alternative platforms of lifelong learning. Abu Dhabi has the strategic priority of enhancing the education and skills of the native population in the Emirate, and thus a lifecycle based approach to learning is required. This is understandable given the rate of both technical change and demographic change.

Talent Development over the Lifecycle

Research has shown that investments earlier in the lifecycle of people have high positive impact on any further investment in their human capital over their lifecycle (Carneiro and Heckman, 2003). With a distinctively young population (see Figure 7 below), Abu Dhabi will need a
lifecycle based human capital development policy where skill upgrading, further and lifelong learning are key component components of any education policy.

**Figure 7: Population pyramid of the Emirate of Abu Dhabi, 2008**

Investment further on along the lifecycle is also necessitated by the rate of technical change. The economic returns of learning apparently tend to increase with the rate of technical change, rewarding those with higher skills and disadvantaging those without it. The chart below (Figure 8) shows the increased return on investment in education as a result of continued technical advancements. Technology has thus driven a new demand for learning in two ways: for those doing well to keep their skills up to date, and for those who are low-skilled to retrain or catch up (Cisco, 2010).
Talent Development in the Workplace

A lifecycle based approach to human capital policy that takes into consideration the changing skills need of the individual over their life course as well as the changing skills need in the labor market due to technical change requires frequent investment in training people on the job. The UAE (data for Abu Dhabi is not available) is already among the best its peers in the provision of staff training (see Figure 9 below).
Investment in education and training has strong positive effects on the improvement of the productivity of workers, and subsequently on economic growth and living standards (Kavanagh, 2006). At a microeconomic level, human capital theory suggests that a person’s earnings in the labor market are influenced by the level of human capital they possess and that education and training play an important role in attaining that level of human capital (ibid.). Ireland is an example often used to demonstrate the effect of education and training on economic growth. In the Irish context, improvements in workforce quality (mirrored in higher levels of educational attainment in the 1980s and 1990s) have been estimated to have contributed to almost one-fifth of the total growth in output during the boom and 1.0 percent per annum to average annual GNP growth (6.4 percent per annum) and annual average GNP growth per adult (4.7 percent per annum) over the same period. In addition, improvements in labor quality also had a positive impact on the employment rate; it is estimated that a maximum of two thirds of the increase in employment over the period 1994 to 2003 reflects the increase in educational attainment.

Thus, the fact that the UAE invests favorably in the continuous “upskilling” of its workforce is a very good signal of positive potential of human capital deployment, which we will cover in the next section of this report.

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Textbox B: National Development Plan of Ireland

After decades of sluggish growth and an economy reliant on low value added services, Ireland has emerged on the world stage as a major innovation-driven, knowledge economy. This push to attain status as an economic environment driven by world-class knowledge infrastructure has been attained on the back of the Ireland National Development Plan. Much like the Vision 2030, this plan boldly outlines key strategic thrusts for the country along with planned logistical and monetary investments by the government.

A major sub-initiative in this regard is the upgrading of the skills of the labor force to aid those who have low or no educational qualifications (or skills). Broadly, from a social welfare point of view, it is important to focus a substantial portion of the labor market policy towards such groups. As the vision 2030 delineates, one of the primary goals of policymakers going forward is to reduce vulnerability to international shocks. These low-skilled pockets of the labor market are especially vulnerable to economic shocks. Providing a solid foundation for them also provides support against the broader economies susceptibility to political and economic shock.

In this respect, the Irish government has initiated a number of programs to “upskill” this segment of the labor force: An important social program in this area address school dropouts. The government plans of combating this through a combination of educational programs which aim to instill the importance of learning and schooling along with measures which permits this at-risk population to engage in the labor market while in school.

Also informative are the Irish government’s plans to enhance higher education in the country. Ireland has decided to carry out a targeted strategy for its higher education sector: based on pinpointing the key areas of strategic importance (which in the case of Ireland happens to be engineering, architecture, digital media, information technology and tourism), the government will assist in delivery of these courses. In addition, Irish authorities are also focused on also increasing the number of PhDs and research students in Irish universities in these key areas.

Figure 10: Productivity Growth of Labor measured per hour workload in select economies

Source: Forfs calculations based on Groningen Total Economy database, August 2005
Assessment of Human Capital Development Capabilities

There is no doubt that Abu Dhabi has been making great strides in improving its human capital stock and the ability to develop on a sustainable basis. Enrollment and attainment rates have been up as a result of an expanding public and private infrastructure of education and training in the Emirate. Figure 11 presents a joint assessment of the Development environment in Abu Dhabi and the other GCC states. The benefit of such an analysis is that it allows for a comprehensive comparison across countries as well as indicators. However, participation in higher and tertiary education still lags behind and is below the levels needed to support the ambitions of the 2030 Economic Vision.

Figure 11: Cross country assessment of the Development Environment

Source: Statistical Center of Abu Dhabi, World Bank, World Economic Forum, IPI Analysis

The analysis demonstrates some key strengths for the Emirate of Abu Dhabi, namely the extent of staff training and the quality of management training. On the other dimensions of human capital development, Abu Dhabi seems to be lacking when compared to the GCC countries. It is
important to keep in mind that this might solely be an issue of data availability or measurement error. Nevertheless, it is important to note the rather lower levels of investment in education in compared with other countries in the region that has been registered in some international data sources such as UNDP and UNESCO.

**Policy Recommendations**

- At the individual level, education allows the individual to make better deployment of her time and efforts by reaping higher rewards. At the level of the economy as a whole, the more trained a local workforce is, the higher return a country will get from their deployment of their life course.

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**Exhibit B: Returns to Education**

Source: Cited in OECD, 2009.

Abu Dhabi needs to continue investing in all levels of human capital development from the pre-primary to the further learning (i.e. post formal education) levels. Since the return for investment in education declines over the life course of an individual, but remains critical for the sustainability of the Abu Dhabi workforce given the demographic challenge represented by a small workforce, Abu Dhabi Government will need to provide support and assistance for further learning opportunities for the adult in the workforce segment of the population.
- The Abu Dhabi human capital development policy needs to be greater than its education policy. Human capital development extends beyond formal training at K-12 and Tertiary Education. With a young population and an internationally open economy, Abu Dhabi is in need of a human capital development policy that encompasses the different stages of the lifecycles of individuals. These would include development opportunities through Lifelong Learning and furthering learning initiatives, on the job training, career-shifts and cross-sector mobility training schemes, etc. that cater for individuals development needs over the course of much of their productive lives.

- Abu Dhabi also needs to develop a human capital development policy that is sensitive to the typical lifecycle of females in the Emirate and to the residents of rural and peripheral regions in the Emirate. With a local culture supportive of family life and marriage at a relatively young age, more education and training opportunities should be tailored to females and rural residents in order to encourage their participation in all levels of education both in the formal system and in further learning activities mentioned above.

- At the strategic and policy level, Abu Dhabi Education Council has introduced a very sophisticated education policy that supports individuals over 6 cycles of training from preparatory levels to second stage of tertiary education (see graph below).

Exhibit C: ADEC’s AD Educational System Pathways

Source: Abu Dhabi Education Council

We propose that while this particular structure with its various components continues to lie at the core of Abu Dhabi’s human capital development policy, two additional components need to be introduced: 1- a post-formal training component, i.e. further and lifelong learning, and 2- a lifestyle sensitive component whereas women and
residents of rural and peripheral regions can have flexible access and participation in the educational system at all levels.

**Human Capital Deployment Capabilities in Abu Dhabi**

In this section, we present an overview of the Human Capital Deployment environment in Abu Dhabi. The “Deployment” environment refers to the productive usage of educated human capital in the population. While human capital development provides the basic “raw material” for engaging in productive economic activity, “deployment” actually relates to the “usage” of that material to generate products and services. Thus, it is tangible manifestation of human capital.

A very good indicator of human capital deployment is participation in the labor force. Labor force participation rate is defined as “the ratio of the labor force to the working age population” (OECD Glossary of Statistical Terms), and the working age population refers to the ages of 15 to 64. Figure 12 presents data for the UAE along with Australia, Finland, Germany, Malaysia, Norway, Sweden and the United States. While the UAE has the largest Male labor force participation rate (i.e. males in the labor force to the working age male population), it also has the lowest female labor force participation rate among the selected group of countries.

This provides a clear signal as to the immense untapped potential of the female labor force in the United Arab Emirates at large. There seems to be a clear room to accommodate a substantial portion of the Female working age population into the labor force. This incorporation will readily lead to a significant improvement in the human capital base of the country as a whole. While labor force participation can be incredibly telling in terms of providing a succinct overview of the underlying factors, it is useful to bear in mind that it can also disguise a lot of variation in the data. For instance, working in elementary occupation which does not require a high degree of skills/education will drive up the ratio. Thus, it does not necessarily speak to the quality or sophistication of the labor force.
Abu Dhabi has a high rate of labor participation especially among males. The majority of these work as professionals (such as managers, technicians and in specialized fields). Figure 13 presents the ratio between the number of Nationals in a particular profession and the overall population of the employed workers. A substantial proportion (24.66 percent) is engaged in other service jobs such as in sales.

**Figure 12: Labor Force Participation rates across countries**

![Bar chart showing labor force participation rates by gender for various countries in 2009.](chart)

*Source: Key Labor Indicators, International Labor Organization, IPI Analysis*

**Figure 13: Nationals employment by Occupation**

![Bar chart showing estimated employed nationals by occupation in Abu Dhabi in 2008.](chart)

*Source: Statistical Yearbook of Abu Dhabi, 2010, IPI Analysis*
The data in Figure 13 above shows that despite the general perception that “nationals” in Abu Dhabi shy away from technical and services jobs, these are the two largest segments of workers among the native workforce. The false perception may be a result of the large imbalance between the number of nationals and the number of expats in the workforce.

Contributing to this imbalance is the low rate of participation of native females in the workforce. Following the analysis done in the previous section, we further disaggregate the number to examine the pattern in female employment. Figure 14 presents data on female employed nationals by main occupation. The vertical axis in this graph gives the proportion of employed national women in a particular occupation relative to the total population of employed women.

The greatest proportion of female workers is engaged as Specialists in Scientific Fields (40.05 percent), followed by Technicians and Associate Professionals (at 28 percent). This means that native females tend to be occupied in domains similar to those of local males. It is worth noting that the majority of professional national women are engaged in highly sophisticated, knowledge driven professions, which might be a reflection of dominant cultural values where women are encouraged to take high profile jobs only and where women strive to prove themselves in high profile jobs. The observation is supported by the fact that while approximately 40 percent of employed females are engaged as specialists in scientific fields, the analogous number for males is only 12 percent.

The pattern reverses for the category Legislators, Senior Officials and Managers. In this case, the ration for Males is 10.72 percent while the ratio for females is 5.92 percent. This presents an interesting snapshot of the employment environment of nationals in Abu Dhabi: While a large number of women engage in knowledge driven professions (proportionately larger than men), it seems that the progression of these women to the higher echelons of corporate control (as reflected by the category of Legislators, Senior Officials and managers) is rather restricted. One explanation for such a finding might be that women, after spending a few years in the labor force, tend to exit it to carry out familial roles (e.g. child rearing). Thus, it might be the case that they don’t spend enough time in professional roles to move forward and upward in the organization.
The picture for the total workforce in Abu Dhabi looks a bit different. Highly-paid highly skilled workers are in the minority with the bulk of the workforce concentrated in elementary, shop level service jobs, and plant and machine operators. This pattern of employment explains the low productivity of the 64% of the workforce that was mentioned earlier. The construction sector is responsible for a large proportion of these (Abu Dhabi Annual Economic Report 2010), for which the demand is expected to drop over time.

Figure 15 below provides a comparative analysis of the occupational choices of Nationals and Non-nationals in the Emirate. This chart presents data on the professions of the nationals within a certain category over the total number of nationals employed across all eight classes. It then replicates this process for the Non-nationals population.

The main conclusion emerging from this is that between these two sub-groups of the population, more non-nationals are deployed professions like agriculture, crafts and assembly. Occupations which are lower down the value chain. On the other hand, nationals are deployed in more skill-intensive professions like legislation and scientific specialists. However, this is a comparison within the population (i.e. number of national scientific specialists divided by the total number of employed national). Thus, the data indicates deployment bias towards low-skilled professions of the expatriate labor force in the Emirate.
Figure 15: Comparison of Occupations between Non-nationals and Nationals

Source: Statistical Yearbook of Abu Dhabi, 2010, and authors’ own calculations.
Skill mismatches occur when there is a chasm between the skills demanded in the labor market and the supply of skills emanating from universities. In many cases, these two go hand-in-hand viz. the course offerings of educational institutions are configured, *ex ante*, to meet labor market needs. To analyze the extent of skill mismatch in Abu Dhabi labor market, we rely upon an instructive diagram adopted from the Abu Dhabi Economic Vision 2030. The figure above presents a Demand/Supply interpretation of the interaction between skills supply and labor market demand in the Emirate.

More precisely, the vertical axis represents the supply of skills (as expressed by the percentage of student enrolment in a particular discipline) while the horizontal axis represents labor market demand (as expressed by percentage of employment according to specialization). The red-line (alternatively, the forty-five degree line) represents the equalization between the supply and demand factors (i.e. equalization between values on the vertical and horizontal axes). On this line, the labor market demand is sated by the educational supply. If a point lies above the line, it means that the supply side (i.e. student enrolment) exceeds the demand side (i.e. labor market needs). Conversely, if a point lies below the line, this means that the labor market needs exceed the supply of candidates. Thus, this figure presents an illuminating prognosis of the skill mismatch problem in Abu Dhabi.

On the Surplus side, we have disciplines such as Science and Humanities, Administration and Law. This means that there are more candidates in the labor market than there is requirement. This surplus is to be contrasted with the skills that are in deficit in the Abu Dhabi labor market such as Engineering, Information and Communications Technology (ICT), Business and Medicine. It is informative that these are also the skills that are the strategic priorities for the state going forward. This denotes a clear and urgent policy need to re-evaluate the state’s educational priorities to steer them towards these careers.
**Labor Productivity**

It has been indicated that 4% of the Abu Dhabi labor force, particularly those employed in the oil and gas industry, are responsible for 64% of Abu Dhabi’s GDP (ADEC, 2010). But labor productivity has been improving and Abu Dhabi has regional comparative advantage in this regard (see figure 17 below). Abu Dhabi is ahead by a large margin all its neighbors, which by and large have similar economic structures characterized by a heavy reliance on natural resources (with the exception of Bahrain).

**Figure 17: Labor Force Productivity Measures**

![Labor Force Productivity Chart]


This regional comparative advantage in labor force productivity is a promising sign for the Emirate. The labor force productivity measure provides an approximation of the income per worker in a particular country (calculated by dividing GDP by the number of workers). Increasing labor force productivity is a sign of a healthy deployment environment because it can mean that total income is rising in the country, number of workers are falling – while maintaining the current standard of income or both. Alternatively, it might also mean that the increase in income is outstripping the increase in the number of workers. Each of these cases present a promising development for the labor market of an economy. It is worth noting that Abu Dhabi performs well here in among countries with more or less similar industrial structures (bare Bahrain). In particular, Abu Dhabi’s leadership along this dimension (as compared to other GCC countries) signifies that the Emirate is in a robust position to exploit productivity advantages. The relatively higher figure for productivity means that the Emirate can take a lead in developing industries which are labor intensive.
**Employment Growth as another proxy of deployment**

Growth in employment is a signifier of the economic health of the labor market i.e. a drop in employment signifies a contraction in the economy along with the labor market. Figure 18 presents a comparative analysis of the 2007 to 2008 growth in employment for the GCC countries and Abu Dhabi. Over this period, Qatar had the highest employment growth among the GCC countries with the other contenders lagging far behind. While an examination of economic business cycles lies beyond the scope of this paper, it is important to note that it is a critical driver of the deployment environment in a particular region.

Human resource policymakers can control the variables like the skills of migrants and the education/certification requirements for professionals; however they cannot control the broader swings in an economy. And these broader macroeconomic swings have an immense impact on the quality of labor available in a region at a particular point in time. For instance, the recession in the United States and the ensuing retrenchment in the financial sector might have led to an influx of highly skilled and experienced financial professionals in emerging markets unconnected with the turmoil.

To put this in a GCC context, we might view these countries (Qatar, Abu Dhabi etc.) in a sense competing for talented professionals from the rest of the world. From such a perspective, the success of any given country in attracting workers will depend upon general economic robustness.

![Figure 18: Employment Growth](Source: SCAD, World Bank, IMF World Economic Outlook April 2011, IPI Analysis)
**Assessment of Human Capital Deployment Capacity**

Abu Dhabi economy has been growing very fast over the last decade (see figure 19 below). In particular the sharp price of oil in international markets has meant that the GDP has more than tripled in less than a decade. This has brought with it massive resources for investment in economic and social development, which translated in intensive human capital deployment, especially of expatriate workforce.

![Figure 19: GDP growth of Abu Dhabi](image)


On the whole, it appears as if Abu Dhabi has been heading in the right direction. Despite a fast growth of GDP, employment growth has lagged behind allowing for improved in labor productivity. This has been achieved with a growth in labor participation among the nationals workforce. Looking at the radar/spider chart below (Fig 20), we find the comparison with Qatar very interesting where both employment growth and participation rates have increased but labor productivity lags that of Abu Dhabi. The rest of the GCC seems to perform weakly on all three aspects of deployment in comparison with Abu Dhabi and Qatar.
Thus, Abu Dhabi leads the other GCC countries in terms of Labor productivity and is a second to Qatar in terms of Labor force participation. The results indicate that Abu Dhabi is fairly strong in comparison to comparator countries like Qatar and Kuwait. Abu Dhabi’s deployment capability will excel if it can combine labor productivity growth with employment growth. However, these particular variables are significantly dependent on broad macroeconomic fluctuations and thus are almost impossible to manipulate.

**Policy Recommendations**

- Human capital deployment is closely tied to human capital development. In order to get higher returns on the deployment of local native workers, the Government needs to invest in their early years learning and onward over the course of their productive years. The quality aspect of human capital requires long term commitment, monitoring and continued investment.

- Female participation currently seems to be relatively concentrated in a few work domains. Hence, their level (scale) of participation is low and their scope of participation is narrow. Government need to encourage more females to participate in the workforce by firstly addressing the development aspects of their participation (i.e. education and training that fit their life styles), and secondly their appropriate deployment in the
workforce such as combating discrimination and glass ceiling against female participation in higher and senior managerial positions.

- The quantitative aspect of the local workforce remains a challenge. The size of the economy and its rapid pace of growth surpass those of the local population. While drawing and deploying expat workforce provides a remedy to the problem, the extent of dependency on foreign labor is the problem. Abu Dhabi Government will need to encourage natural population growth in addition to consider alternative ways of permanent settlement for long term expats in critical domain of work (e.g. teachers, doctors and nurses).

- Meeting future demand for labor both in terms of quantity and quality will require a closer partnership between government, education sector, and employers. Such partnership cannot be a one off event, but requires an established mechanism of monitoring, consultation and action. The Government might want to consider the setting up of sector-specific skills council that helps coordinate and advice on education, training, and immigration policies.
Human Capital Draw Capabilities in Abu Dhabi

In a global economy, the ability to attract and draw in talent is as important as the ability to develop talent. Flows are as important as stocks. The discussion of Abu Dhabi on the 3D’s balance therefore examines the “drawing” capacity of the Emirate. Drawing is the process by which an economy attracts and retains critical skilled labor that allows it to respond to changing demographics, skills requirement, and market demand. In other words, it makes economies more agile.

Abu Dhabi on the talent drawing scale

The Inflow of immigrants

The UAE ranks 13th in the world in terms of total migration inflows, foreign workers constitute more than 70% of the population making it the third immigration country by percent of population (RATHA and XU, 2008). The majority of expatriates, as they are known here, are concentrated in Abu Dhabi and Dubai. The high concentration of foreign workers in the workforce implies a significant dependency on expat labor in fostering economic growth and development in the region.

The sheer presence of large proportion of low skilled foreign workers is not necessarily a reflection of a strong drawing capability. The profile of skill distribution of the non-nationals in the Emirate shows that they are largely concentrated in lower skill occupations. In part, the buildup towards 2030, particularly the large infrastructure and construction projects that are underway, is responsible for a large share of this greater dependency on foreign labor in the construction and low end services sector. But as Abu Dhabi moves closer to its 2030 targets with higher levels of skilled jobs created (or attracted) in the economy, the Emirate and with it the UAE as a whole will find it increasingly necessarily to acquire the talent draw capabilities of more advanced countries like Australia and Canada.

Abu Dhabi will be competing for larger numbers of engineers, scientists, academics and business managers with other players in the region and internationally. The competition for talent will grow larger with the expect socio-economic restructuring processes going on in the MENA region where several countries (such as Egypt and Tunisia) are at the receiving ends of major financial investments from donor countries and international organizations. Abu Dhabi might find it increasingly difficult to recruit first class talent from overseas unless it adopts a competitive talent drawing system akin to those in place in Australia and Canada.
Figure 21 presents comparative data on the immigrant populations of countries in the GCC. Although data is not presented on the skill breakdown of these sub-clusters of the population, this graph presents an overview of the drawing capacities of economies in this region. Dubai leads with Qatar and Abu Dhabi following suit. This implies that these three countries already have the “upper-hand” in the region when it comes to attracting workers. Consequently, it is important for policymakers in the region to focus upon attracting the “right” sort of talent.

Given the significant scarcity of data with regard to the educational status of inward flows of migrant workers to this region and Abu Dhabi, in particular, we make the assumption that the current data on non-nationals provide a very close proxy variable for the inward flows of migrants. Examining non-nationals is a stock variable whereas migrations every year is a flow variable. Figure 22 presents the proportions of immigrants within each educational class relative to the total non-national population over 10 years of age and Abu Dhabi appears to attract a majority of people the lower end of the skills ladder.
Different Drawing Capabilities for Different Skills

In 1967, authorities in Canada introduced a seminal approach towards managing the inflow of migrants. Known as the “point system”, this was to grant admission to “a person who by reason of his (or her) education, training, skills or other special qualifications is likely to become successfully established in Canada” (Kelley & Trebilcock, 1998). This system was innovative in many ways; chief among them was the fact that here was a formal and objective procedure to manage the inflow of immigrants into the country. Indeed, the goal was to assess the human capital potential of each new candidate and admit those that passed a certain critical threshold.

In 1973, Australia decided to adapt the point based entry system popularized by the Canadian government. Much like the former, the goal of policymakers in Australia was to make the immigrant selection system more objective and provide a conduit to control the influx of immigrants. Again, the goal was to promote the influx of highly-skilled labor to bolster the competitiveness of the economy. Indeed, as scholars have noted, the system was “deigned to make selection more objective and less open to the discretion of officials” (Ongley & Pearson, 1995).

By way of structure, the Australian system is very similar to the Canadian one. Basis for admission include language proficiency, age, specific work experience and occupation skills (Shachar, 2006). Interestingly, the Australians have added an additional tweak to the system: Usually, they require a secure job offer from an Australian employer. This is an interesting extension of the Canadian system. By tying immigration to the labor market, decision makers in Australia have effectively ensured that deployment and drawing go hand-in-hand i.e. that there is no case where a skilled migrant gets into the country only for their skills to be not efficiently utilizes.
Textbox D: Five Distinct Categories of Mobile Professionals

Mahroum (2000) has identified five main push and pull factors and channels of drawing in distinct groups of professionals and highly skilled. These are: i) Managers & Executives, ii) Engineers & Technicians, iii) Academics & Scientists, iv) Entrepreneurs, and v) Students.

Managers and Executives: These are mostly affected by corporate policies, especially regarding expanding activities overseas and internationalization. The decision for their mobility comes often unplanned and surprisingly based upon a new merger or expansion activity of the employing firm. These often originate from temporary intra-corporate transfers that later turn into long term and permanent moves. Various types of foreign investments necessitate different type of intra-corporate personnel expatriation. Engineering staff might be sent abroad to supervise and operate a project in a less advanced developing country which possesses little of such human resources, whereas, senior managerial staff will often be transferred between firms in advanced countries after a merger or a take-over.

Engineers and technicians: These are largely affected by immigration policies, industrial and labor policies of governments. They are largely affected by labor market “pull” and “push” economic factors, i.e. best offers. This group of workers goes where the demand for their skills is most needed and most rewarded.

Academics and scientists: International contacts between scientists from different countries are a normal part of scientific life and an old norm among scientists. The movements of scientists are most affected by bottom-up developments in academia and science, as these are instrumental in the diffusion of scientific ideas. In general, scientists seem to be attracted to the nature of the work they are required to do and the conditions under which they have to conduct their work.

Entrepreneurs: These are business-oriented persons who arrive with capital and ideas aiming at setting up certain business activities. They are stimulated by a variety of policies, most prominently, governmental (visa, taxation, protection, etc.) policies and credit facilities.

Students: These are the main sources of global workforce supply. They are mostly affected by the quality of educational offers around the world and the variation between countries in this respect. But they are also increasingly influenced by governmental, intergovernmental, and inter-organizational policies that aim to foster mobility and exchange between countries and organizations (e.g. EU Erasmus mobility programs).
**FDI as a channel of talent**

Changing the economic structure towards higher pay higher skills economy can be best achieved through the increase of high value added foreign investment. In 2007, Abu Dhabi ranked high in its region in terms of attracting such foreign investment (Fig 23).

![Figure 23: FDI Inflows](image)

This trend seems to continue, an A.T. Kearney FDI Index indicates that in 2010, after two turbulent economic years globally, investors’ confidence in the UAE and Abu Dhabi remained high. This became evident in a recent survey (see Fig 24 below) where both Dubai and Abu Dhabi ranked highest in the region in terms of attractiveness of investment. This is important because FDI are important channels of talent transfer both through intra-corporate transfer of managers and skilled personnel and through their recruitment of skilled talent from within local and international markets (Amin, 2000; Ward et al., 2001).
Dubai is leading in terms of foreign investors’ confidence in the Middle East, but Abu Dhabi comes second. This is a good proxy for attractiveness of associated talent. FDI is an important channel of human capital. Figure 25 below shows a country of origin breakdown of FDI in Abu Dhabi in 2007. Europe emerges as the biggest single source of investments followed by a diverse group of countries. It is expected that such FDI act as a channel for human capital draw and deployment. Consequently, Abu Dhabi government might consider strengthening its cooperation in this area with Europe, both in terms of training policies and ease of entry and mobility of expat labor. They also operate as nodes of local-global knowledge and talent exchange and help build local social networks and capital around specific domains of expertise.
In proportional terms, Abu Dhabi has still a long way to go. FDI does not represent a large share of the economy yet (see Figure 26). Figure 26 presents normalized scores for the FDI Inflows in 2007. This leads to a surprising conclusion where relative to the size of the economy, Bahrain is the best performer relative to other countries in the GCC. Although the differential is quite small, Dubai performs marginally better than Saudi Arabia, Qatar and Abu Dhabi. Furthermore, FDI in the form of multinational corporations setting up plants and branches in the Emirate is still very modest. We cast some light on this aspect in the next section.
The presence of Advanced Service Providers

In the GaWC classification of cities\(^2\), Abu Dhabi city is classified under the list of “sufficient” cities. These are cities that are not world cities as defined here but they have sufficient services so as not to be overly dependent on world cities. Two specialized categories of city are common at this level of integration: smaller capital cities, and traditional centres of manufacturing regions. This designation puts Abu Dhabi in the same category like cities such as Muscat, Lausanne or Las Vegas. In the same classification system, Dubai is classified as a beta+ city together with Barcelona, San Francisco, and Johannesburg. These are important world cities that are instrumental in linking their region or state into the world economy.

Figure 27: GaWC Ranking

Dubai tops GCC cities in terms of its global connectivity, particularly because many global service providers firms take the city as their regional headquarters. Abu Dhabi ranks unfavorably in this regard indicating that this particular channel of human capital drawing mechanism remains weak and below regional comparators. This may partially be attributed to the strong development of Dubai as a regional centre for global service provider firms and the effect of that on the decisions of these firms on not to have more than one regional HQ in the same country or region. In addition, one of the main attractions of Dubai is its free trade zones that allow foreign investors and corporations to operate with no taxation and hence attract many young professionals to the Emirate. However, we expect more recent data for Abu Dhabi to

\(^2\) Globalization & World Cities: [http://www.lboro.ac.uk/gawc/gawcworlds.html](http://www.lboro.ac.uk/gawc/gawcworlds.html); measures the connectivity of cities on the basis of the presence of global specialized service providing firms and the level of the office representation of such firms in different cities. London and New York top the list because many of these firms hold their HQs in them.
show that an improved ranking on the presence of such firms given the massive recent growth in the Emirate,

Finally, an important factor driving the ability of places to draw in global talent is quality of life. In the Mercer global Quality of Living survey released in 2010, Abu Dhabi ranked 83rd among 200 cities, while Dubai ranked 75. This means Abu Dhabi has a long way to go in order to become a global hotspot for talent driven by quality of life and opportunity. Dubai remains the city with the highest quality of living ranking in the GCC for 2010. The Mercer quality of living considers factors such as the social environment, medical and health considerations and housing, the Mercer Quality of Living Survey provides an aggregate representation of the facts that attract professionals to geographic regions. Figure 28 below provides the rankings of the cities in the GCC which are included in the latest iteration of the report.

Figure 28: Mercer Quality of Living Rankings

Source: Mercer Quality of Living survey 2010
Assessment of Human Capital Draw Capability

Abu Dhabi has largely been a magnet for low skilled foreign workers due to the strong demand for this type of workers in the economy. However, there are signs that the Government investment in the setting up of the various components of a knowledge based economy, such as universities, high-tech firms, modern amenities, and an advanced infrastructure, is beginning to increase the flow of FDI and foreign highly skilled talent. Abu Dhabi remains comparatively a laggard in the attraction of multinational corporations and advanced specialized service firms (Fig 29).

Figure 29: Comparative assessment of the Drawing Environment

While Dubai scores fairly high on all three dimensions of human capital drawing capabilities, Abu Dhabi singularly lags in the case of advanced service provider presence. As mentioned previously, the presence of advanced service providers has the immense impact of providing an impetus for additional professionals to relocate to a particular region. It is a recognized fact that professionals will choose to relocate to areas with a substantive presence of other professionals. This means that a dim presence of global brand-name firms has a negative impact on the attractiveness of Abu Dhabi as a destination for skilled professionals.
The large proportion of low skilled expats in Abu Dhabi for an extend period of time has resulted in the creation of permanent “temporary workers”. While this was meant to keep a cap on low skilled expats in the economy by ensuring their short-term ad hoc presence, this has had the counterproductive effect on skilled expats. Significant human capital resources are regularly lost for other countries due to lack of sense of visa security and the various restrictions on property ownership, investment, and permanent settlement. This also acts as a deterrent for would be long term residents with critical skills to move into the country. In the long run, the large proportion of expat population does not contribute to a greater balance between native and foreign-born workforce.

**Policy Recommendations**

- Abu Dhabi needs to re-think the definition and concept of “local” to expand it to include other non-native categories. In particular, Abu Dhabi needs to develop a settlement program for highly skilled workers and high impact entrepreneurs to allow a specific quota of these to be added to the native workforce and hence augmenting the proportion of the native versus expat. Various experiences in this regard can be learnt from countries with historically similar challenges such as Australia, Canada and New Zealand. Skilled long term residency will contribute to stabilizing the workforce and the growth of population through non-natural means.

- Creating special categories of long or permanent residents will help mitigate against the cultural and social risks inherent in massive naturalization of foreign residents, while capturing the benefits of integrating long term contributors to the Abu Dhabi development particularly those with the skills set in demand. For example, working with the Federal UAE Government, Abu Dhabi government might contemplate regional-GCC based types of settlements akin to those currently experienced with in the EU (e.g. Blue Cards), which allow high skilled foreign workers long term residency and mobility rights across all EU countries.
Abu Dhabi might also integrate its student visa system with a working visa system whereas foreign students at UAE universities can be given priority status over other foreign workers and special types of long term residency allowing them to use their skills in the country. This should strengthen both UAE universities offer and the link between their offering and the local labor market.

- In terms of improving the flow of highly skilled talent, Abu Dhabi government might want to introduce a Headquarters program akin to that experienced with in Austria, particularly by the city of Vienna where foreign firms choosing to set their regional or international headquarters in the city get an incentive package to facilitate their set up. Abu Dhabi government has an experience with attracting high profile institutes of higher education to the Emirate, and it might well explore a scheme to attract major global corporations to relocate their regional HQs to the Emirate.

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**The Blue Card**

The Directive allows highly qualified workers from third countries to work in the EU for an initial period of four years if they fulfill the following criteria: they have to possess a college diploma or have completed five years occupational training, enjoy a job contract or a job offer, and their gross income has to be at least 50 percent above the national average. Individual decisions as to whether a Blue Card will be issued are left to the Member State in question. This is also true when a Blue Card holder applies (at the earliest after 18 months) to work in another EU country. The Blue Card is renewable and can lead to permanent residency after five years. Blue Card holders are granted the same social and labor rights as the citizens of the receiving country as well as the right to family reunification.

*Source: [http://www.europeanunionbluecard.com.](http://www.europeanunionbluecard.com)*
Section 3: Summary and Conclusions

When it comes to its human capital development capabilities, there is little debate around the notion that Abu Dhabi has made incredible strides in establishing an indigenous capability for human capital development. This is partly evidenced by the increase of average years of schooling and in the educational enrollment and attainment rates of the adult population. However, the ambitious goals of the Abu Dhabi Economic Vision 2030 warrant a stronger push towards educational upgrade particularly through increasing the rates of enrolment in tertiary education and beyond. To achieve this, Abu Dhabi government has been investing in the expansion and internationalization of the higher education system, but these efforts have yet to translate into higher enrolment and graduation rates among the local population.

At the economy-level, higher level of skills and training of the workforce are strongly associated with higher economic returns. The idea of training in this regard is not solely restricted to formalized education. Post-higher education schemes can play an important role in enhancing the capabilities of the workforce. One particular area that merits government’s, but also private sector’s investors, is flexible educational platforms including distance and e-learning facilities, flexi-time and evening training facilities, as well as long term modular course programs that can be taken over extended period of time or combined with industrial experience. These should allow more of females and residents of rural areas to participate in tertiary and other forms of education.

Usually human capital development policy strictly focuses upon the section of the population in schools or universities. The most significant contributors to economic growth, employed workers are often dropped from the scope of concern. Policymakers in Abu Dhabi must work to move away from this constricted view of human capital development. These could include Lifelong learning initiatives, on-the-job training, career-shifts and cross-sector mobility training.

The necessity for policy support is especially amplified in the case of National females. With the prevailing cultural norm of marriage at a relatively young age, the Government must adopt a lifestyle sensitive component where women have flexible access and participation in both formal educational institutions and the labor market.

The capability to deploy human capital has been largely driven by the rapid growth of the Abu Dhabi economy over the last decade. Abu Dhabi is one of the leaders in labor productivity and labor force participation in a cross-sectional comparison of GCC countries. These results hint towards a robust and growing deployment environment. More importantly, it also presages a changing deployment environment. The entry of skilled professionals and knowledge-driven firms are bound to change the contours of the labor market landscape in the Emirate.

One of the inhibitors of a vigorous deployment environment is Abu Dhabi is the limited female participation in the labor force. Currently, both the scale of participation and the scope is quite circumscribed. In this key aspect, governments will need to address issues such as gender
discrimination and the presence of a “glass ceiling” against female participation in senior positions.

An additional feature of the labor force of Abu Dhabi and one which occupies a prominent place on the agendas of policymakers across the region, is the existent dependency on foreign labor. While simple calculations dictate that this will remain a feature of the region given that the size and growth of the economy exceeds those of the National population, a whole-scale dependency on a transitory labor force must be addressed by the authorities. Policymakers might envision means of augmenting the national population by incorporating expats with critical skills (professors, doctors, scientists, etc.) through long-term residency plans.

Ultimately, all of these strategies will have to be undertaken in tight-knit collaboration with private sector employers and educational sector representatives. Both the former and latter represent the “demanders” and “primary suppliers” of qualified labor and thereby it is important to absorb their perspectives in the decision making process. Authorities might wish to contemplate the setting up of sector-specific skills councils to coordinate such cross-boundary activities.

Until now, the economic development trajectory of the Abu Dhabi economy has chiefly attracted low-skilled foreign workers. This sizeable portion of the total population of Abu Dhabi has created a unique class of “temporary” workers. Due to the intrinsic linkage between their visa-status and employment, these workers usually spend a limited amount of time in the country before departing. But given the long history of this visa system, a class of permanent transient workers has emerged in the Emirate.

However, policymakers must now become cognizant of the negative incentives such a system presents to skilled workers. Professionals with significant levels of skills/aptitudes are lost to other emerging countries due to a lack of residency security coupled with onerous restrictions on property ownership, investments etc. The ill-effects of such a system becomes apparent when we consider the slim presence of advanced service providers (consulting firms, investment banks etc.) in the Emirate. Skilled professionals who work in such firms are attracted to geographies which have a substantive presence of other skilled professionals like themselves. A perpetual churn in this set clearly sends a negative signal to additional workers seeking to relocate to this region.

There is now an acute need for the development of a permanent settlement program for highly-skilled workers and knowledge entrepreneurs. As a model, the government might consider the EU Blue Card system which grants long term residency and mobility rights to high skill foreign labor across the GCC. A multilateral approach and management of the talent issue might act as an assurance against causing permanent changes to local demographic structures. Additionally, the government might even consider integrating the student-visa system with a work permit, and hence simultaneously increase the supply of skilled workers to the economy and boost the demand for Abu Dhabi universities.
A government human capital strategy cannot deal with these three capabilities in isolation of each other. The design, development, implementation and monitoring and evaluation of government policies in this regard needs take a total approach to the human capital issue, one that integrates the local capacity to develop the needed quantities and qualities of human resources, with the capabilities to deploy effectively indigenous as well as foreign human resources. The capability to draw in foreign human resources should not be considered as an ad hoc temporary need, but as an increasingly common and much required necessity for competing in a globalised world.
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