

Middle East and Central Asia Department

# Avoiding the New Mediocre

Raising Long-Term Growth  
in the Middle East and Central Asia

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# Preface

The Middle East and Central Asia region is facing unprecedented challenges. Deepening conflicts have caused a devastating loss of life and massive economic damage, forcing large portions of the population to flee abroad. Spillovers from these conflicts, including through increased security tensions, are weighing on confidence and economic activity across the region. At the same time, the new “lower for longer” oil price reality has dampened oil-exporting countries’ longer-term growth prospects and rendered their oil-centered economic growth models untenable, with spillovers to oil-importing countries through lower trade, remittances, and investment. In all these countries, even six years after the Arab Spring, fast-growing populations continue to be frustrated by the lack of inclusiveness in the economic environment, in which job opportunities are few and connections appear more important than merit in accessing the gains from economic growth. In the neighboring Caucasus and Central Asia, spillovers from the recession in Russia, in addition to low oil prices, have brought on the most severe economic difficulties since these countries gained independence 25 years ago.

Against this backdrop, hopes for better standards of living have been dampened, and sociopolitical tensions are rising. Governments have responded by pursuing multifaceted reform agendas. In many countries, political and constitutional reforms have created a foundation for large-scale structural reforms. Large and inefficient energy subsidies across the Middle East are being reduced or eliminated, helping reduce macroeconomic vulnerabilities and free resources for growth-enhancing public spending on infrastructure, education, and health, as well as targeted social assistance.

Raising the region’s economic growth potential is essential for creating jobs and improving the population’s quality of life. The IMF and other institutions have advised countries on structural reforms that can support these goals. However, in the face of heightened macroeconomic vulnerabilities, sociopolitical tensions, security challenges, and a weak global environment, further reforms are difficult to implement, requiring careful prioritization. This publication attempts to help countries identify the most critical reforms for improving their economic prospects, tailoring advice to the unique characteristics of various subgroups of countries within the Middle East and Central Asia region.

I hope that this publication will be useful for policymakers and other stakeholders across the

region as countries set out their reform agendas to improve economic prospects and create jobs, as well as for the international community that supports them in tapping into their enormous economic potential.

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# Executive Summary

Raising the Middle East and Central Asia's<sup>1</sup> long-term growth prospects is critical for meeting the pressing need for jobs and higher living standards in the region. These goals were at the core of the Arab Spring movements in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP) and are also key to confronting the sources of violent regional conflicts. However, these goals remain unfulfilled. Persistently low oil prices, necessitating prolonged and substantial fiscal consolidation, are also increasingly putting jobs and living standards at risk in the region's oil-rich economies, where oil revenue-financed spending had fuelled growth in the non-oil sector and allowed governments to become a major source of employment. In the Caucasus and Central Asia (CCA), the slowdown in Russia, in addition to low commodity prices, is weighing on income and living standards (IMF 2014a).

Long-term growth prospects in the Middle East and Central Asia have weakened significantly over the past several years. The global financial crisis reduced long-term growth rates across the globe (Cubeddu and others 2014; IMF 2013a; IMF 2015). In the Middle East and Central Asia, low oil prices, geopolitical tensions, and regional conflicts have amplified this growth slowdown. Over the next five years, the decline in long-term growth prospects in this region is expected to exceed the emerging market and developing country (EMDC) average by 1¼ percentage points (Mitra and others 2014), raising fears of a "new mediocre," in which the long-term growth malaise becomes the rule, not the exception, across the region.

Complementing the broad literature on estimating and raising long-term growth in advanced and large emerging market economies (for example, Cubeddu and others 2014), this paper identifies and prioritizes key policies for catalyzing long-term growth in the Middle East and Central Asia—tailoring recommendations to different subgroups within the region. The focus is on analyzing potential growth—the rate of growth underlying an economy's long-term

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<sup>1</sup> For the purposes of this paper, the Gulf Cooperation Council (GCC) represents Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates; non-GCC MENAP oil exporters are Algeria, Iran, Iraq, Libya, and Yemen; MENAP oil importers are Afghanistan, Djibouti, Egypt, Jordan, Lebanon, Mauritania, Morocco, Pakistan, Sudan, and Tunisia (Syria is excluded); the Caucasus and Central Asia (CCA) oil exporters are Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan; CCA oil importers are Armenia, Georgia, the Kyrgyz Republic, and Tajikistan; Non-GCC MENAP represents non-GCC MENAP oil exporters and importers; Middle East and North Africa (MENAP) represents non-GCC MENAP and the GCC.

growth prospects—and understanding how policies affect its supply-side drivers—long-term growth in productivity, physical capital (such as machinery, buildings, and computers), and employment. Although a number of studies have split growth into its supply-side factors, this paper systematically examines and prioritizes *key reform areas affecting each supply-side driver*. This study also accounts for sociopolitical concerns, along with other, more typical macroeconomic drivers of growth considered in the literature. This approach is applied to the MENAP and CCA subregions and, further, to oil exporters and importers separately within each subregion. Cross-country regression analysis on a large sample of advanced economies and EMDCs helps benchmark the region to its global peers and provide insights into policy priorities that could accelerate growth in productivity, physical capital, and employment in the Middle East and Central Asia. In the oil-exporting economies, a critical part of this process will be diversification away from oil and fostering private sector-led non-oil economic growth.

Raising productivity growth and building up physical capital—especially in the private sector—are essential for unlocking the growth potential of all countries in the Middle East and Central Asia region. These two drivers could be effective because they would allow the region’s rapidly growing labor force to contribute more productively to the economy, creating more and/or better goods and services more efficiently. At present, investment and, hence, capital accumulation are depressed in many countries in the region, especially in non-GCC MENAP and the CCA, because of weak confidence, stemming from sociopolitical and geopolitical tensions, spillovers from conflicts, and strained public finances. These effects are amplified in the countries experiencing conflict (Iraq, Libya, Syria, and Yemen). In oil-exporting countries, especially those in the GCC, public capital has been growing rapidly in recent years but the pace of growth is slowing as these countries are starting to adjust to the new oil price environment. Faster private capital accumulation can partly make up for slowing public capital accumulation, while supporting economic diversification away from oil.

Three common reform areas will be most critical for boosting long-term growth by accelerating productivity and physical capital accumulation—though specific policy priorities within these reform areas vary across subregions.

- Ensuring a **competitive business environment** boosts productivity growth. To this end, streamlining regulations, tax codes, and red tape, as well as reducing the dominance of state-owned enterprises, will be important steps for all countries in the Middle East and Central Asia. In non-GCC MENAP and the CCA, strengthening the rule of law is particularly important for raising productivity growth.

- **Worker talent**—workers’ skills, quality of education, know-how, and professional networks—is also critical for raising productivity and the Middle East and Central Asia lags behind its global peers in this area. An important finding of this paper is that leveraging extensive and potent diaspora networks can help improve productivity in the region as its diasporas can convey knowledge and expertise, as well as help raise finances for training and education. Improving the quality of education by working with the private sector to develop a curriculum focused on the skills needed for private sector jobs can also help close the gap in worker talent. In most countries in the region, promoting worker talent is an immediate priority.
- **Financial market development**, vital for physical capital accumulation, also falls short of global peers. This paper quantifies the benefits of easing access to finance, especially for small and medium enterprises (SMEs), and ensuring adequate protection of legal rights for raising growth potential across the region.

Closing gaps with global peers in these three critical structural reform areas could raise potential growth by 1½ percentage points in the GCC and 1 percentage point in the CCA oil exporters, while in the non-GCC MENAP oil exporters and MENAP and CCA oil importers, potential growth could double. Of course, security and political stability are a precondition for reforms in these areas to succeed, especially in countries experiencing conflict.

A variety of additional policy measures can support reforms in the above core areas. Efficient and high quality public infrastructure complements the aforementioned reforms in raising physical capital growth. In the GCC and CCA, the focus should be on raising the efficiency of public investment. In the non-GCC MENAP, more and better quality infrastructure (especially for electricity) will be paramount. Across both the Middle East and Central Asia, encouraging technology transfer through increased openness to foreign investment can spur innovation, help firms use their resources more efficiently, and facilitate the use of modern production methods—whose significance for productivity is another important finding of this paper. Greater trade openness, especially with large emerging markets, can enhance the accumulation of physical capital and employment growth. Greater labor market efficiency will also be important for employment growth, especially in the non-GCC MENAP oil exporters. Finally, gradually raising female labor force participation rates would foster innovation, productivity, and, subsequently, job creation.

Effective communication will be essential for overcoming any resistance to these reforms. In a climate of sociopolitical, security, and geopolitical tensions, as well as intensifying spillovers from regional conflicts, reform implementation is deeply challenging. A strong communication strategy relying on outreach and buy-in from vested interests will help clear the road for reforms.

The paper is structured as follows. Chapter 1 provides context, focusing on the importance of raising long-term growth for the region and assessing the region's drivers of growth—namely growth in long-term productivity, long-term physical capital accumulation, and long-term employment. Regression analysis on a large sample of advanced, emerging, and developing economies provides insights into the most influential macroeconomic and structural areas for each of these drivers (Chapter 2). Key policies in each of these areas—tailored to the unique characteristics of each subregion in the Middle East and Central Asia—are discussed in Chapter 3. Lastly, Chapter 4 concludes with main findings and policy implications.



# 1

## Why Raise Long-Term Growth?

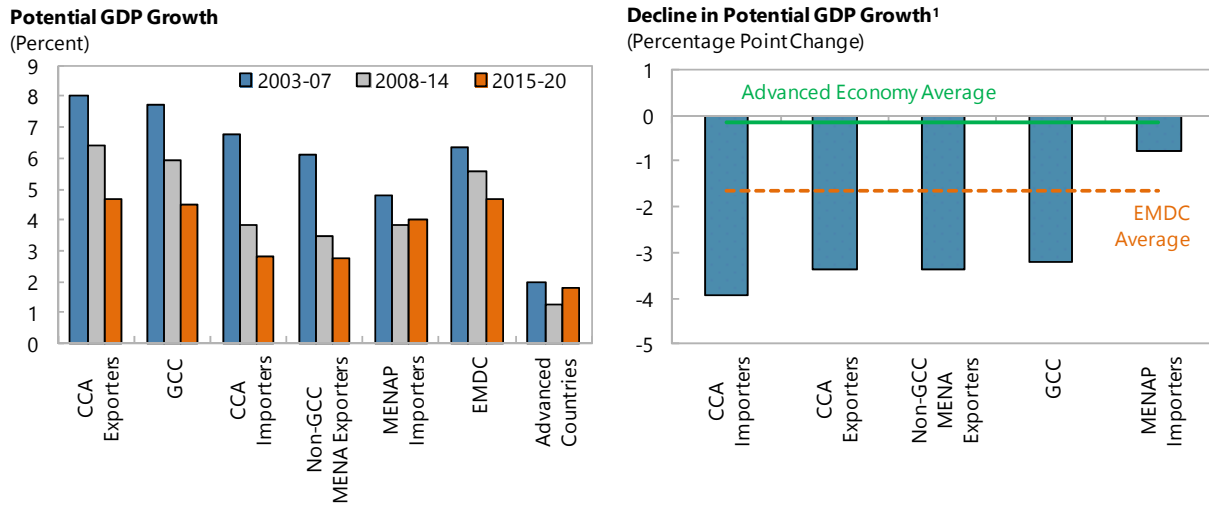
Underlying long-term growth is potential growth—the rate of growth of the level of output consistent with stable inflation,<sup>2</sup> which is fundamental to job creation and living standards. Elevating potential growth rates translates into higher long-term growth through more production of goods and services, resulting in job creation, higher household incomes, and more money for the government to spend on education, healthcare, and social services (IMF 2014a). For oil exporters, this paper focuses on potential growth in the non-oil sector which carries fewer limits than those in the oil sector, which is constrained by finite oil reserves.

Potential growth has been declining across the globe in the aftermath of the global financial crisis (Cubeddu and others 2014; IMF 2013a). The crisis reduced potential growth rates in the Middle East and Central Asia (Figure 1) through its impact on the components of potential growth—long-term productivity, physical capital, and employment. Weaker investor confidence weighed on the physical capital, innovation, and productivity growth the world had become accustomed to in the years preceding the crisis (2003-07). High and persistent unemployment rates resulted in many discouraged workers leaving the labor force. In advanced economies and some EMDCs, this has added to the impact of aging populations. As a result, potential growth in advanced economies has fallen by more than half a percentage point and by almost three-quarters of a percentage point in EMDCs. In the years ahead, potential growth in advanced economies will largely rebound as investment and, subsequently, capital growth recover from the crisis. In contrast, EMDC potential growth is expected to decline further as a result of their aging populations, structural constraints affecting capital growth, and lower total factor productivity growth as these economies get closer to the technological frontier.

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<sup>2</sup> In the short term, actual output growth will deviate temporarily from potential as shocks hit the economy. These deviations reflect the slow adjustment in wages and prices to shocks, which means that the reversion of output to its potential level is gradual. IMF 2015 summarizes the literature on the estimation of potential growth.

**Figure 1. Falling Growth Rates**



Sources: IMF, World Economic Outlook; Global Employment Trends, Mitra and others (2014); and IMF staff estimates.

Note: Potential GDP refers to potential non-oil GDP. Regional aggregates are weighted by GDP at purchasing power parity.

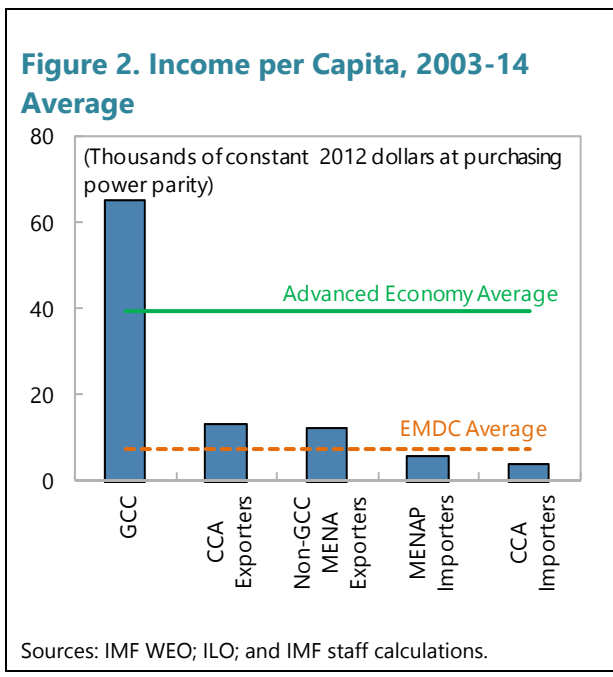
¹ Difference in 2015-20 average potential growth rates from 2003-07 averages.

Strikingly, although not surprisingly, the added effects of low oil prices, geopolitics, and conflicts have amplified the slowdown in the Middle East and Central Asia's growth potential (Figure 1). Over the next five years, MENAP and CCA declines are expected to exceed the EMDC average by 1.25 percentage points (Mitra and others 2014). This slowdown is especially pronounced in the CCA. It is experiencing a slowdown in export revenues owing to lower global commodity prices. Its strong economic links with Russia through trade, foreign direct investment (FDI), and banking have also slowed growth in capital and productivity, in part owing to the fact that Russia, a key economic partner of the CCA, had a substantial slowdown in potential growth owing to geopolitics, inadequate physical infrastructure, an overreliance on commodities, and a weak business climate (Box 1.2 IMF 2013a). Slower growth in China, with whom the CCA is enjoying rapidly growing economic ties, is placing further downward pressure on potential growth. In MENAP, weakened confidence in the aftermath of the Arab Spring and the global financial crisis, spillovers from intensifying regional conflicts (in Iraq, Libya, Syria, and Yemen), and, for oil exporters, the global oil price slump, have hurt public and private investment and capital accumulation. Sociopolitical tensions, strikes, and disheartened workers hamper productivity growth. The countries experiencing conflict face the additional challenge

of massive destruction to their physical capital and the loss of talented and skilled workers, who have either lost their lives or left the country.

**At this juncture in time, achieving higher growth is especially critical for the Middle East and Central Asia region:**

- GCC.** In an environment of sustained low oil prices, the challenge for these countries is to achieve a level of economic diversification that allows for continued high non-oil growth. Oil revenues, through government spending, have driven activity in the GCC's non-oil sector. In this setting, low oil prices, which are projected to persist over the medium term, necessitate a prolonged and substantial slowdown in government spending that will take a toll on economic opportunities and growth potential is anticipated to decline by more than 3 percentage points. At the same time, the number of new job market entrants is rising in these countries, a by-product of their young populations. Although growth rates in the GCC are still estimated at three times those of advanced economies and on par with EMDCs (Figure 1), the number of unemployed nationals is projected to exceed 1 million over the next five years (IMF 2013b). In a low oil price environment, absent higher growth (that is independent of oil), today's high standards of living (measured as per capita income, Figure 2) are likely to decline.



- Non-GCC MENAP.** More jobs and higher living standards were the aspirations at the core of recent political transitions in the MENAP region. However, they are yet to be achieved, and this is only fueling sociopolitical tensions. Youth unemployment (more than 20 percent) remains one of the highest in the world. Against a backdrop of high population growth rates, non-GCC MENAP's standards of living will drop from two-thirds to one-half of the EMDC average over the next five years (Mitra and others 2014). These pressures have accelerated in countries receiving large numbers of refugees (such as Jordan, Lebanon, and, to a lesser extent, Djibouti) from the conflicts in Iraq, Libya, Syria, and Yemen. Yet, current

potential growth rates fall far short of other EMDCs (Figure 1), having declined by more than 3¼ percentage points in non-GCC MENAP oil exporters (more than double the decline in EMDCs). In the MENAP oil importers, potential growth is anticipated to decline (¾ percentage point) by less than that of EMDCs but nevertheless remain below other EMDCs (by almost 1 percentage point).

- **CCA.** The prospects for improving standards of living in the CCA have been complicated by the sharp drop in commodity prices, coupled with the slowdown in Russia, especially through declining remittances. CCA oil exporters' potential growth rates have dropped by more than 3 percentage points from being among the highest in the world to now only matching other EMDCs (Figure 1). Circumstances are even more difficult for CCA oil importers, with potential growth rates falling by 4 percentage points from just above EMDC rates to just two-thirds the rate of other EMDCs.

Raising growth—avoiding the “new mediocre”—requires a better understanding of its drivers: productivity, physical capital, and employment. The long-term growth of each of these factors determines the overall growth of the economy's potential.<sup>3</sup> Long-term employment growth assumes a rate of growth where long-term labor demand matches long-term labor supply, net of a long-term unemployment rate. Long-term physical capital growth reflects growth in both public and private components. And how much output long-term employment and physical capital inputs create is referred to as long-term productivity. It depends on a wide array of factors, most importantly production technology.<sup>4</sup>

Productivity growth will be key to unlocking higher growth potential throughout the Middle East and Central Asia. Adding more employment or capital has diminishing returns in terms of output. By contrast, productivity growth, regardless of initial productivity levels, can boost growth potential for extended periods of time. But, in most of the region, productivity growth is low and declining (Figure 3). In non-GCC MENAP, this is partly due to resistance to productivity-enhancing reforms by vested interests, government administrations with little appetite for change, fragmented political parties, and large informal sectors. It also reflects an education system focused on government employment, leaving graduates unequipped with the necessary private sector skills. In the GCC, productivity growth is not only declining but negative, owing to

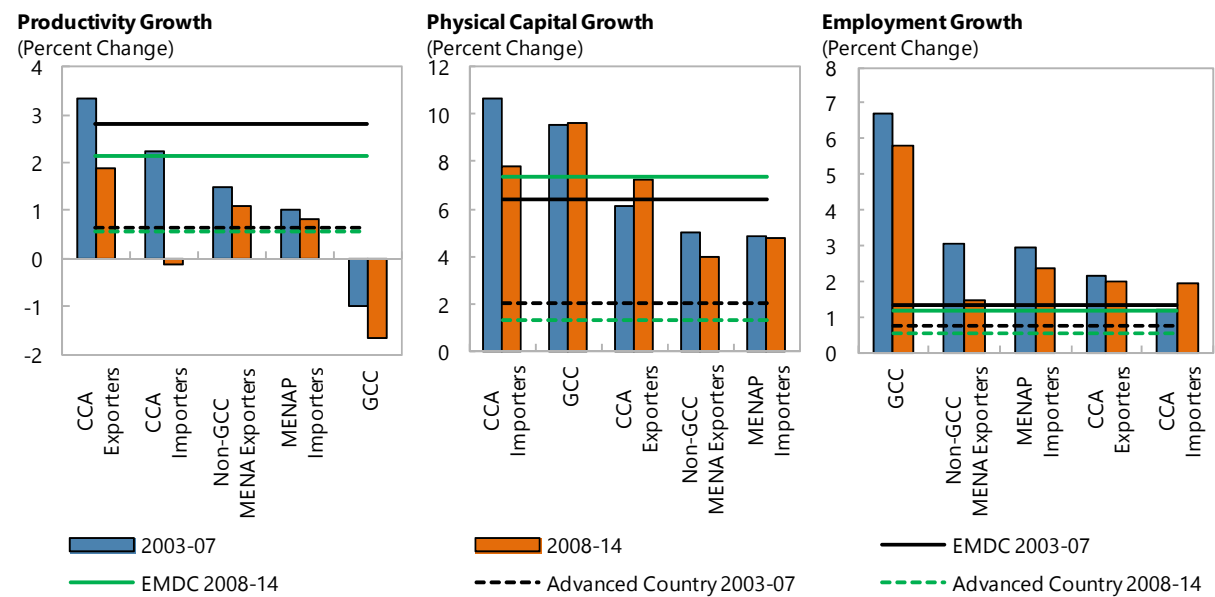
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<sup>3</sup> The term “long-term” is dropped after this paragraph.

<sup>4</sup> Statistical filters and the production function approach were applied to derive long-term growth of real GDP, productivity, physical capital, and labor supply. Details are in Mitra and others (2014).

a reliance on low-skilled foreign workers and cheap energy (IMF 2013b). Reversing this pattern will be critical to economic diversification, the urgency of which has increased in the low oil price environment. Productivity growth has declined the most in the CCA—dropping from just below the EMDC average to near zero in the CCA oil importers. This reflects the slowing of strong structural reform momentum following the global financial crisis, which has weakened productivity growth.

**Figure 3. Productivity, Capital, and Employment Contribute to Slow Growth**



Sources: IMF, World Economic Outlook; Global Employment Trends, Mitra and others (2014); and IMF staff estimates.

Greater physical capital accumulation will be equally important, though priorities regarding its appropriate composition—private or public—vary across the region. Higher accumulation of physical capital, from both private and public sources, is needed in oil importers in the non-GCC MENAP and CCA, and in non-GCC MENAP oil exporters, where both private and public stocks are inadequate. By contrast, in oil exporters in the GCC and CCA, private sector accumulation is expected to have a larger impact on growth potential than public capital accumulation. Public capital stock is already high in these countries and, moreover, stronger private capital growth would partly offset possible declines in public capital growth and support economic diversification.

- The **GCC** has experienced some of the world’s highest public investment in physical capital.

As large hydrocarbon exporters, these countries benefited greatly from decades of high oil prices. These oil receipts and, now in a lower oil price environment, savings from past oil booms, have financed massive physical infrastructure investment. Over the longer term, sustained low oil prices are likely to reduce the availability of financing needed to sustain this model, raising the urgency of increasing private capital growth.

- Capital growth in **non-GCC MENAP** is one-half to two-thirds that of other EMDCs (Figure 3). In the aftermath of the Arab Spring, intensifying regional conflicts, strained public finances, and capacity constraints, low investor confidence reduced already weak private and public investment, stunting or lowering the growth of physical capital. In the current low oil price environment, non-GCC MENAP oil exporters with limited financial buffers may have to cut public spending further, taking a toll on physical capital accumulation, as well as employment.
- **CCA oil importers'** high capital growth has also suffered, though it still matches other EMDCs. The decline reflects the adverse effects on confidence of geopolitical tensions surrounding the conflict between Russia and Ukraine and an easing of conditions prior to the global financial crisis—namely Russia's robust economic growth, which had provided the impetus both for governments to undertake large public infrastructure projects and for strong economic confidence that boosted private investment.
- **CCA oil exporters** maintain public capital growth near EMDC rates but sustained low oil prices may slow these rates.

Finally, raising employment growth would particularly benefit the non-GCC MENAP oil exporters and CCA oil importers. Recall that, in the context of this paper, employment growth refers to a rate of growth where long-term labor demand matches long-term labor supply, net of a long-term unemployment rate. In non-GCC MENAP (both exporters and importers), fast-growing populations have resulted in a large, young workforce. But in some non-GCC MENAP oil exporters (as well as Syria), conflicts have caused massive economic destruction, loss of human lives, and large-scale emigration resulting in a substantial reduction of long-term labor demand and supply. As a result, growth in this subregion's employment has declined, dropping by more than half (Figure 3). In non-GCC MENAP oil importers, long-term labor supply has also fallen but to a much lesser extent. Here, weak economic conditions have reduced near-term labor demand and raised near-term unemployment so high as to discourage worker participation (in the formal economy), including through the hysteresis effect, while expanding

the informal workforce.<sup>5</sup> At the other end of the spectrum, the GCC's employment growth rates are five times the EMDC average and six times that of advanced countries. This reflects their relatively young populations and abundance of low-skilled foreign workers. In a world of sustained low oil prices, this could change quickly. A prolonged and substantial slowdown in government spending would substantially reduce employment of nationals in the public sector, leaving the majority of nationals to find jobs in the non-oil private sector—reducing the demand for foreign workers. In the CCA, low population growth has resulted in slow employment growth, with the CCA oil importers having the lowest growth rate across the region. The Caucasus, meanwhile, faces the additional challenge of aging populations.

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<sup>5</sup> Due to measurement challenges, the informal workforce is not included in employment estimates.

# 2

## What Matters for Growth of Productivity, Employment, and Capital?

The above supply-side drivers of growth have long been examined,<sup>6</sup> but what are the underlying determinants of these drivers? For example, technological progress can raise productivity, as can better managerial practices. But which factor has a larger impact? Honing in on the factors that have the strongest influence on each driver of growth (this chapter), and assessing how developed these factors are in the Middle East and Central Asia and what policy reforms are needed to enhance them (next chapter), can help identify how to raise the region's growth potential.

Our empirical analysis points to eight factors with the most robust links to the supply side drivers of growth:

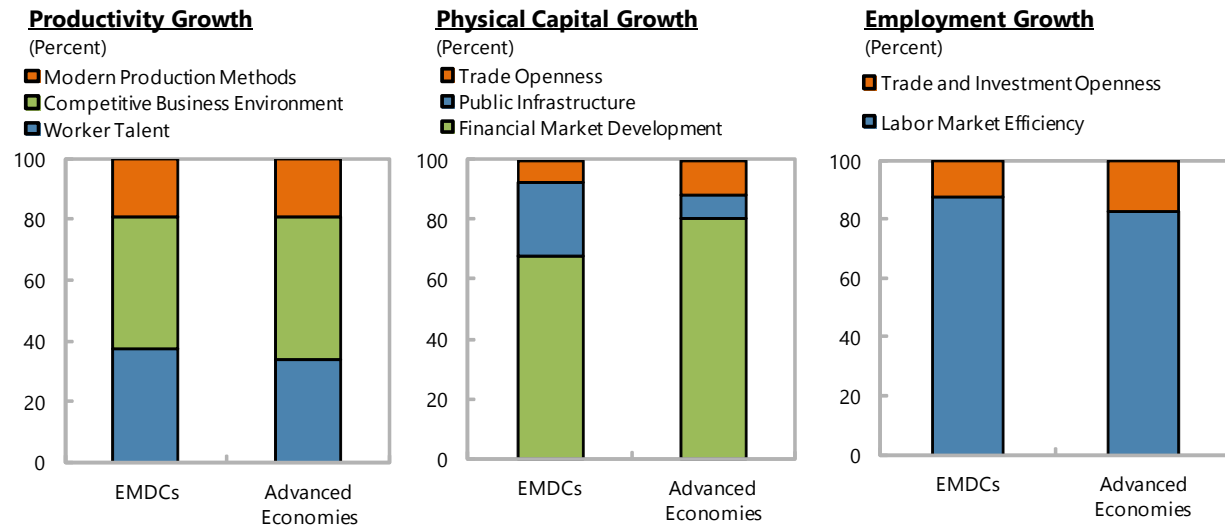
- A **competitive business environment** has the strongest relationship with productivity (Figure 4) and is founded on an environment where the government delivers basic services efficiently, promotes the rule of law, reduces corruption and fraud, and streamlines business regulations.
- **Worker talent** carries almost equal weight as the competitive business environment in influencing productivity. While both the quantity and quality of education (in other words, human capital) are important elements of worker talent, there is also a third component: diaspora support. Large and successful diasporas can convey knowledge and expertise of

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<sup>6</sup> Barro (1997) and Barro and Sala-i-Martin (2004) provide comprehensive literature reviews.



**Figure 4. Relevance of Key Factors to the Drivers of Growth**



Sources: IMF, World Economic Outlook; ILO, Global Employment Trends; World Bank, Doing Business Report; World Economic Forum, Global Competitiveness Report (2014); and IMF staff estimates. Mitra and others (forthcoming) provides additional details.

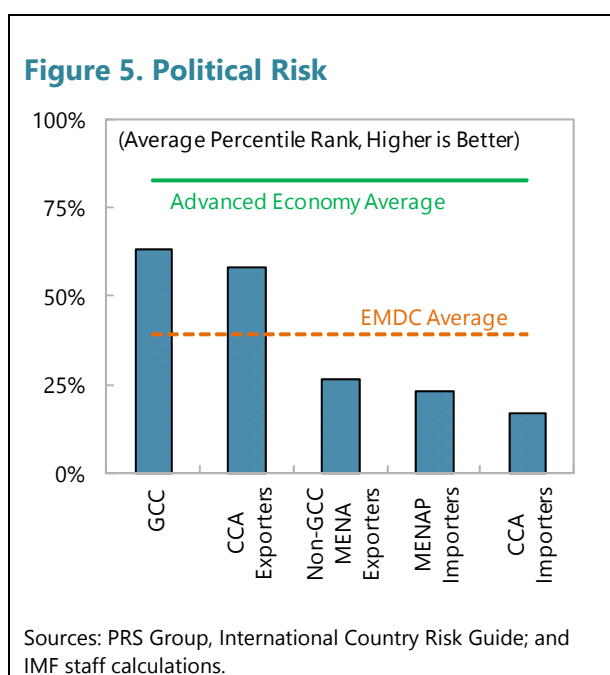
Note: Calculated as the ratio of contributions of a given significant factor relative to the total for all significant factors. Contributions are calculated by multiplying the regression coefficients by weighted average factor values for each subregion.

global opportunities and local particulars and pull together the financial resources needed to act on new opportunities.

- **Modern production methods** are also an important influence on productivity, but have half the impact of the competitive business environment or worker talent. They include technologies and management techniques that help firms efficiently use energy, capital, and worker talent, and institute policies that encourage innovation.
- **Financial market development** is the cornerstone for raising physical capital (Figure 4). By facilitating access to funds and ensuring adequate protection of investors' legal rights, developed financial markets foster greater investment activity.
- **Public infrastructure** also plays a significant role in the creation of physical capital, especially in EMDCs. By definition, it directly adds to the stock of physical capital. Indirectly, it promotes private capital accumulation through the provision of more affordable and reliable production inputs (especially for electricity).

- **Openness**, in the form of better trade integration with other countries, supports growth in both physical capital and employment by stimulating economic activity, though the impact of openness on capital and employment is smaller than that of other factors (Figure 4). In addition, greater openness to foreign investment (such as taking part in globally integrated manufacturing chains) is also linked to employment growth.
- **Labor market efficiency** has the strongest relationship to employment growth (Figure 4) through greater flexibility in wage setting, as well as hiring and firing policies in an environment providing adequate worker protection.

Although not explicitly measured in our study, **security and political stability** underpin the success of all these factors in raising growth. This is a serious challenge for the Middle East and Central Asia, where geopolitical shocks and intensifying regional conflicts have substantial and often long-lasting spillovers across the region (Figure 5).



These eight key factors are identified with cross-country regressions. For each of the long-term drivers—productivity, physical capital, and employment—a pooled ordinary least squares approach is used to regress its potential or long-term growth rate<sup>7</sup> on the latest macroeconomic and structural data (Annex 1 provides details). In addition to traditional growth determinants, including each driver’s own past lagged level to account for convergence, a new

<sup>7</sup> Statistical filters and the production function approach were applied to estimate long-term growth of output, productivity, physical capital, and employment. Details are in Mitra and others (2014). The analysis was done using real GDP in U.S. dollars for oil importing countries and non-oil real GDP in U.S. dollars for oil exporting countries, gross fixed capital accumulation (combined with the perpetual inventory method), and employment data during 1991-2019 from the WEO database. The employment variable does not include human capital adjustments due to data limitations in the Middle East and Central Asia region.

set of technological and sociopolitical factors are included.<sup>8,9</sup> The cross-section on which the regression is applied covers more than a hundred advanced and emerging and developing countries and pulls data from several databases, such as the Fraser Institute's Economic Freedom of the World Index, International Financial Statistics, the International Labor Organization, the PRS Group, World Bank Doing Business, World Bank Education Statistics, the World Economic Forum's Global Competitiveness Report, the World Economic Outlook, and the World Governance Indicators.

Several important findings pertain to the identified factors. In the area of productivity growth, this study examines and finds significance for diaspora support and places modern production methods as the third-most important influence, behind only a competitive business environment and worker talent. This paper also highlights the importance of affordable and easily available financial services and the importance of property and legal rights in supporting physical capital growth (Herrala and Ariss 2013 discuss the importance of removing financial constraints; Bayraktara and Fofackb 2011 illustrate the importance of the quality of governance for capital accumulation in MENAP and Sub-Saharan countries; and the World Bank's Global Financial Development Report 2014 highlights the critical role of financial inclusion). Instead, most studies focus on the influence of financial market depth (measured as the ratio of banking credit to GDP; Levin 1997, 2004; Khan and Senhadji 2000) on capital accumulation. The influence of openness on employment growth, especially with large emerging markets, is also a key finding.

The other factors found to influence the drivers of potential growth are broadly consistent with the literature:

- The importance of **worker talent and a competitive business environment** are consistent with results from previous studies. Cubeddu and others (2014) find that investing in human capital (a major part of worker talent) can significantly improve emerging markets' medium-term growth prospects. Dabla-Norris and others (2013) identify a competitive business environment, strong institutions, and openness to foreign investment and trade to be most influential on emerging market productivity growth. Loko and Diouf (2009) focus on Maghreb countries, where human capital, trade openness, and the business environment

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<sup>8</sup> Only factors with significance levels of 10 percent or less (that is, with at least a 90 percent confidence interval) are discussed in the text. A more detailed discussion of variables lacking significance in the regressions is found in Annex I and Mitra and others (forthcoming).

<sup>9</sup> Regression analysis identifies correlation, not necessarily causality. The results are robust to the exclusion of individual BRICS.

are most important. Similarly, Christiansen and others (2013) find financial and trade liberalization matter most for growth, especially in middle income countries. Mitra and Pouvelle (2012) emphasize the importance of institutional and infrastructure quality, market efficiency, and higher education for productivity in Emerging Europe.

- The importance of **public infrastructure and openness** for growth in physical capital reinforces previous studies. IMF (2014a) finds that raising infrastructure investments in MENAP and CCA countries can significantly boost growth. Chong-Hyun and Chang-Jin (2000) suggest raising trade openness had a significant positive impact on Korea's capital accumulation during 1965–95.
- As expected, **labor market efficiency** is most strongly linked to employment growth. Stockhammer and Klär (2008) find that labor market institutions have a strong influence on medium-term unemployment. Baccaro and Rei (2007) also underline the importance for long-term employment of labor market institutions, such as wage flexibility and hiring and firing practices on unemployment rates in OECD countries. The employment-creating effects of trade and investment openness are elaborated in Baldwin (1994).

# 3

## Reforms to Unlock Growth

### Potential in the Middle East and Central Asia

Raising growth potential requires combinations of reforms that can affect the factors discussed in Chapter 2 and, naturally, reform priorities vary across countries. Most reform areas are heavily discussed in the literature.<sup>10</sup> However, the most effective combination of reforms for each subregion of the Middle East and Central Asia has not previously been systematically explored. Some reform areas will have a larger impact for countries in some subregions than others. This paper assesses the critical combination of reform areas for each subregion as the areas in which it performs poorly relative to its peers (based on empirical and survey data) and where improvement could lead to substantial gains in potential growth (based on regression analysis). Region-specific policies for advancing these critical reform areas are then explored.<sup>11</sup>

Yet there is one challenge that is common across the subregions of the Middle East and Central Asia: overcoming sociopolitical roadblocks in implementing reforms. These roadblocks are most often in the form of political instability or vested interests opposing reforms (World Bank 2009a). A strong communication strategy relying on outreach and buy-in from vested interests will be essential to forging ahead with reforms across the region.

#### **The GCC**

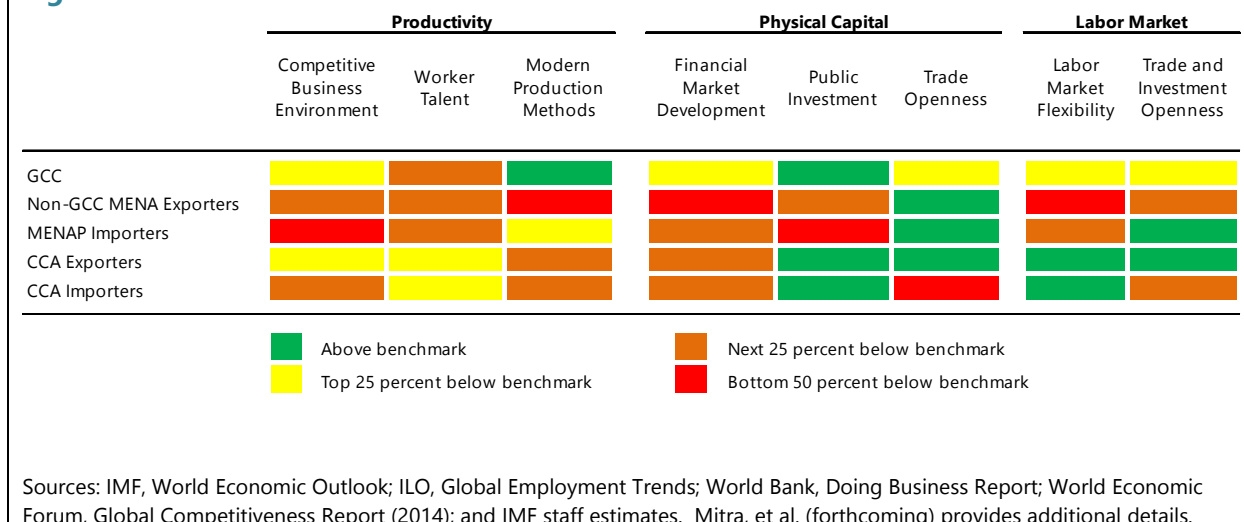
A more competitive business environment and financial market development would support

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<sup>10</sup> World Bank 2011a provides a summary.

<sup>11</sup> The policies discussed in this paper focus on structural reforms. The tax structure, exchange rate, and other macroeconomic policies that can also have an impact on productivity, capital accumulation, and labor are not explored in detail here as they have been covered extensively in the literature.

**Figure 6. Areas for Reform**



higher growth in productivity and physical capital in the GCC. The GCC has generally achieved very high standards in almost all key reforms areas, having made marked improvements over the past few decades. It outperforms EMDCs in all reform areas. Nevertheless, the GCC still falls short of advanced economies in terms of evenhandedness of its business environment and the extent of financial market development (Figure 6), the most important reform areas for growth in productivity and physical capital, respectively. A number of specific measures can be taken to bridge this gap:

- Promoting a more **competitive business environment**, underlying productivity growth, will require streamlining business regulations and reducing bureaucratic red tape to significantly lower the cost of doing business, raise the efficiency of government services, and foster innovation. This would also be conducive to economic diversification and lowering the dependence of potential growth on oil-related activities, thereby raising the GCC’s economic resilience.
- Advancing **financial markets** is especially important for fostering the accumulation of physical capital in the private sector—also critical for economic diversification. Financial market development hinges on both improving access to finance and legal rights.
  - **Access to finance.** In the GCC, and more broadly in the MENAP and CCA subregions, bank loans are heavily concentrated around large borrowers (Chapter 4, IMF 2014c; World Bank 2011b). As a result, the growth of small and medium enterprises (SMEs), an engine of economic activity and jobs (Syed and Lee 2010; Berthélemy and Söderling

1999), is constrained. Further progress in strengthening credit information systems—for example, by expanding the coverage of credit registries—will be important for enabling lenders to better assess the creditworthiness of borrowers. At the same time, further development of alternatives to traditional bank finance, such as Islamic finance, leasing and factoring, and less stringent disclosure requirements on capital markets, would ease some financing constraints.

- **Legal rights.** Modern international best practices are lacking in the GCC and, again, more broadly in the MENAP and CCA subregions (Annex III, IMF 2014a). First, property transfer registration would facilitate collateral-based lending. Second, appropriate protection of minority shareholders would improve the ability of companies to raise capital. Third, strengthened insolvency and judiciary regimes would help enforce contracts and protect lenders in insolvency. In this context, decriminalizing bankruptcy is also important.

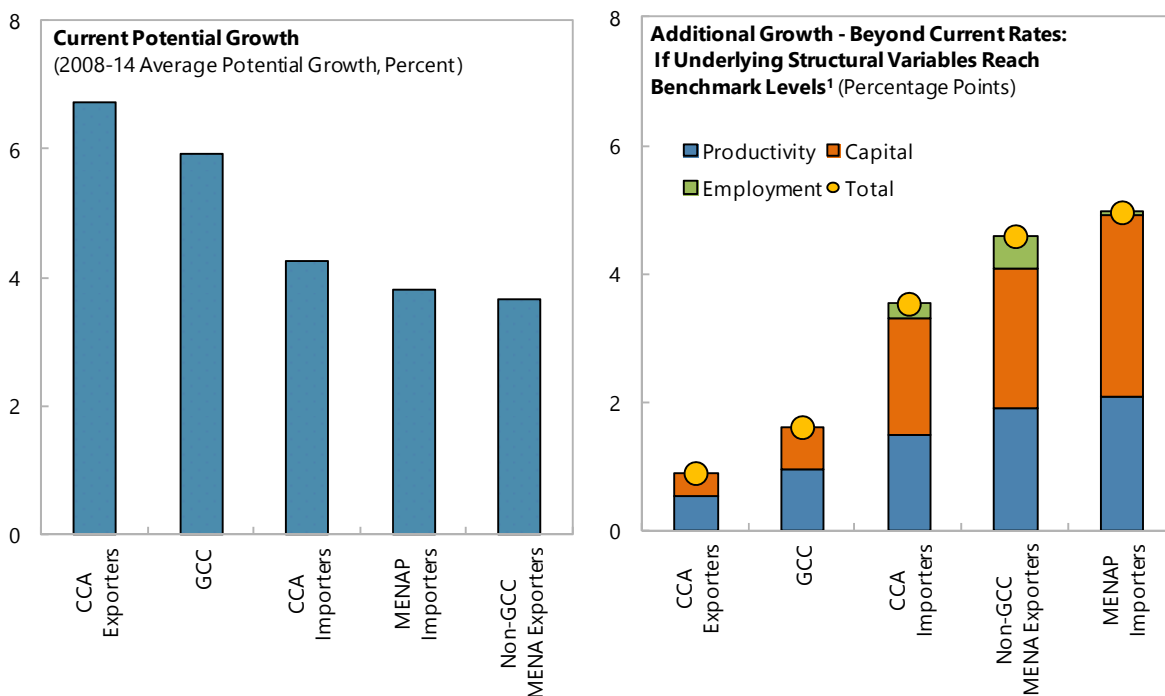
Over the long term, national worker talent needs to be developed. Less economic reliance on oil may adversely affect the GCC's ability to hire talented foreign workers. Consequently, improving the quality of education of nationals today, where there is a substantial discrepancy between worker talent of foreign and domestic professionals, is critical for maintaining high levels of productivity into the future. In particular, better and more targeted education of nationals will support their participation in high value-added activities. To this end, the education system needs to be better aligned with the diversity of private sector needs. In addition, gradually raising female labor force participation rates (see Non-GCC MENAP section for policies) would not only raise labor force growth but also foster innovation, productivity, and, subsequently, jobs. Greater labor market efficiency—including reducing the wage gap between public and private sector jobs—and openness (in relation to the export of non-oil goods and services) can also play an important role in ensuring appropriate growth in employment of national labor.

Maintaining high quality public infrastructure and raising its efficiency can complement the reforms above. Public infrastructure supports the use and accumulation of physical capital both directly and indirectly through the provision of more affordable and reliable inputs into production. Indeed, high public infrastructure investment (as a percentage of GDP) bolstered physical capital accumulation in the GCC in recent years, reflecting the fruits of the past decade's large oil-export earnings. But sustained lower oil prices and the accompanying fiscal consolidation they necessitate will constrain the resources available to build new infrastructure and maintain existing infrastructure. Consequently, raising the efficiency of public spending will be critical to make the most of any public investment. In addition, exploring other financing

options—including issuing Sukuks, introducing taxes, and channeling savings from lowering energy subsidies—would help maintain adequate levels of public infrastructure investment. To this end, greater transparency of key investment projects over the entire project cycle (such as appraisal, procurement, and bidding stages) and the budget process would be helpful. Over the medium term, strategic alignment of projects with development priorities and revamping the management framework (including independent checks of project appraisal and selection) are both critical.

The GCC could add 1.5 percentage points to its growth potential by closing gaps with advanced economies in the reform areas discussed above (Figure 7). In doing so, GCC countries would

**Figure 7. How Much Can Potential Growth Rise?**



Sources: Mitra and others (2014); World Economic Outlook; and IMF staff calculations.

<sup>1</sup> Potential growth derived if each of the factors underlying potential productivity (for example, worker talent, modern production methods), capital (for example, business environment, financial development), and employment (for example, labor market efficiency, work environment) are increased to average benchmark levels. For simulation details see Mitra and others (2014, forthcoming).

advance the diversification of their economies away from oil and toward a more dynamic, private-sector driven, growth model. A little more than half the gains—adding to current potential growth of 6 percent—can come from boosting productivity growth through a more

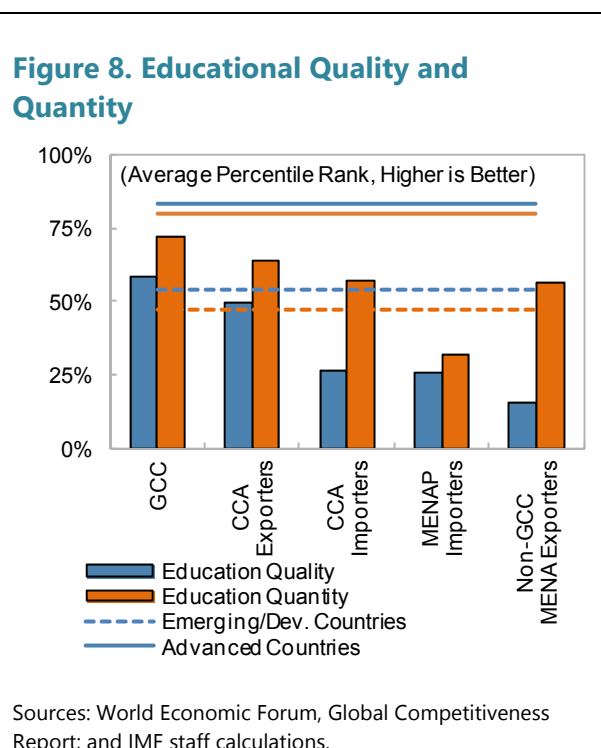


competitive business environment and developing the worker talent of nationals. The rest would depend on financial market development leading to the accumulation of higher physical capital in the private sector, complementing already high growth in public infrastructure.

## Non-GCC MENAP

Multifaceted reforms are needed in the non-GCC MENAP region, for both oil exporters and oil importers alike. In contrast to the GCC, the rest of MENAP ranks below most EMDCs in almost all key structural reforms areas (Figure 6). But serious capacity constraints impede non-GCC policymakers from implementing such a wide spectrum of reforms all at once. Consequently, it would be better to initially focus on a handful of reforms—namely, those that can have the largest impact on the drivers of growth.

- Fostering a **competitive business environment** could substantially boost productivity. Promoting the rule of law would help to discourage corruption. The privatization of large state-owned enterprises involved in sectors critical for businesses (electricity, transport, services, telecommunications, and banking) would lower their costs and improve the quality of services, while reducing the government’s liabilities and fraud. Lastly, systematic streamlining of business regulations, tax codes, and bureaucratic red tape can both reduce the cost of doing business and promote inclusiveness by discouraging favoritism.



- Worker talent, also critical for productivity, can be nurtured with policies that improve the education system and leverage diaspora networks:
  - **Education.** Across non-GCC MENAP, the quality of education underperforms other EMDCs (Figure 8). Returns from schooling are among the lowest in the world (Montenegro and Patrinos 2013) and workers lack the skills needed for private sector jobs. Public–private sector partnerships in curriculum design, apprenticeships, and

internships can address this challenge by better aligning education with private sector needs. In the MENAP oil importers, the number of years a student spends in school also falls short of other EMDCs and can be raised through programs that provide incentives for parents to send children to school. IMF (2014c) elaborates on policies to raise both the quality and quantity of education.

- **Leveraging diasporas.** Large and successful MENAP diasporas can be tapped by governments through policy initiatives that facilitate communication networks where emigrants abroad can share their knowledge and expertise with businesses at home. A strong communication strategy on the benefits of diaspora networks—especially for the elite, who may view them as competition—is very important. Some examples of successful leveraging of diaspora networks are Globalscot (Box 1), Foundation Chile, South African Network of Skills Abroad, and Thailand’s Reverse Brain Drain project.
- **Financial market development** is critical for raising physical capital growth. By supporting SME growth, financial markets not only build physical capital but also support a shift from state-dominated to private sector-driven growth models. The first step toward developing these markets is to boost the soundness of banks, raise access to finance, and ensure the legal rights of investors. The intricacies of reforms in these last two areas are similar to those that apply to the GCC (discussed above).
- More and better quality **public infrastructure** (especially for electricity) also underlies physical capital growth and its effectiveness in raising growth. The MENAP oil importers and the non-GCC oil exporters invest considerably less in public infrastructure than is warranted by their income levels (Annex II, IMF 2014a; Albino-War and others 2014). The challenge of limited fiscal space can be largely overcome by streamlining and reallocating spending from untargeted subsidies and the public sector wage bill toward infrastructure spending,<sup>12</sup> mobilizing additional public revenues (Jewell and others 2015), developing a platform to mobilize equity investment or donor grants, and blending concessional and nonconcessional financing. Public-private partnerships are also attractive but their risks (including to cost overruns and debt sustainability) need to be managed through better public investment management, appropriate legal and institutional frameworks, and transparent fiscal accounting and reporting. In addition, better public investment management can raise both the quality and efficiency of public infrastructure (specific recommendations in GCC section

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<sup>12</sup> In the near term, more public and private infrastructure investment will also create jobs. Over the longer term, all the reforms mentioned here foster job-creating investment and a reduction in structural unemployment.

above).

- Greater **labor market efficiency** is the main factor supporting higher employment growth in non-GCC MENAP and encouraging productivity growth as it facilitates higher wages and salaries, mobility, and promotions, reducing incentives for the most talented workers to emigrate. But labor market efficiency is lacking in the non-GCC MENAP countries (Figure 6) due to rigidities that stifle labor markets and fuel large informal sectors. Worker supply and demand can be increased when wages are set according to a less centralized collective bargaining processes. And more flexible hiring and firing policies (with unemployment benefits and protection against discrimination and arbitrary employer decisions) reduce firms' costs and provide incentives for investment in firm-specific training (policy measures are described in IMF 2014c).

Over the longer term, using more modern production methods can further bolster productivity. Once momentum has been gained in improving the business environment and worker talent—both of which have a stronger impact on productivity growth—freed-up resources can then be channeled toward raising non-commodity foreign direct investment. This spurs the widespread use of modern production methods (ranking among the lowest in the world for many non-GCC MENA countries), particularly when it is in multinational global manufacturing chains (Box 2 elaborates on the channels).<sup>13</sup> How can the non-GCC MENAP attract more investment of this kind?

- **Increased openness** (see the CCA section below for specific policies). Non-commodity trade with fast-growing economies fosters vertically integrated global manufacturing chains.<sup>14</sup> In open East Asian economies, these interactions (such as imports of intermediate and capital goods) led to twice the amount of technology transfers than in MENAP (Pack 2008).
- **Investment promotion** cost-effectively reduces investors' transaction costs through public services that provide information on business opportunities, laws, regulations, and factor costs. The diaspora (see above) can also assist. Investment promotion is particularly relevant

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<sup>13</sup> Security and political stability are especially important for non-commodity foreign direct investment. Burger and others (2015) find that political instability hurts mostly high quality foreign direct investment associated with job creation and technology transfer (and that enables structural transformation).

<sup>14</sup> Details for GCC economies are discussed in Cherif and Hasanov (2014) and the proceedings of the conference "Economic Development, Diversification, and the Role of the State" in Kuwait City, Kuwait, April 30, 2014 (<http://www.imf.org/external/np/seminars/eng/2014/mcd/>).

where there have been recent political transitions. Harding and Javorick (2007) find investment promotion to be more effective than tax incentives and subsidized infrastructure such as energy.

- **Worker talent** (see above), especially technical and language skills, also attract multinationals (Noorbakhsh and others 2001).

Gradually raising female labor force participation can benefit employment and productivity growth over the long term. While undoubtedly a global issue, female labor force participation in MENAP is the lowest in the world. Raising it contributes directly to long-term employment growth—both by increasing the supply of labor and by creating jobs (including the numbers of female entrepreneurs who in turn create more jobs). By diversifying the labor force, female labor force participation also fosters innovation and productivity. Key policies include ensuring equality in wages and employment opportunities, the freedom of mobility, facilitating parental leave and child care, and improving access to—and quality of—education for young girls (Box 1.3, IMF 2013c).

These multifaceted reforms could more than double potential growth for non-GCC MENAP (Figure 7). Catching up to the average EMDC in the areas of a competitive business environment, developing worker talent, and eventually modern production methods can spur productivity—raising current potential growth rates (about 4 percent for both the non-GCC MENAP oil exporters and oil importers) by almost 2 percentage points. Physical capital accumulation, in both the public and private sectors, would rise by similar amounts if EMDC standards were to be achieved in financial market development, public infrastructure, and greater global trade integration (especially with fast-growing emerging markets). The latter, coupled with greater global investment integration and more flexible labor markets, would support labor growth, as well as contributing to potential growth—though to a lesser extent than productivity and physical capital growth.

## **CCA**

In the CCA, improving the business environment, worker talent, and financial market development are essential. The CCA's performance in these critical areas lags that of its peers in the rest of the world (Figure 6). Yet, these are the areas that bring the largest gains to productivity and physical capital growth. Against the backdrop of large spillovers from the recession in Russia, geopolitical tensions, and, in the case of oil exporters, lower oil prices, reform implementation should be accelerated, targeting reforms to the selected, most effective areas.

- Developing a more **competitive business environment** supports productivity by facilitating private sector development. To this end, streamlining of business regulations, tax codes, and bureaucratic red tape would discourage corruption and level the playing field for businesses. Reducing the dominance of state-owned enterprises, in part through privatization, and raising their efficiency will also be critical for reducing the operating cost of businesses.
- Cultivating **worker talent**, also underlying productivity, is especially important in the CCA oil importers where educational quality substantially lags other EMDCs. Re-orienting the education system toward the skills needed for private sector development would be an important step in this regard. Leveraging diaspora networks, as described in the non-GCC MENAP section above, can also be a strong tool for boosting CCA worker talent.
- **Financial market development**, especially when geared toward SMEs, could elevate physical capital growth. Raising access to finance and ensuring the legal rights of investors (detailed policies discussed in the GCC section above), against the backdrop of a sound banking system, lay the foundations for such development.
- Greater **openness in trade and investment**, lacking in CCA oil importers, is important for employment growth by expanding job opportunities and, to a lesser extent, supporting physical capital accumulation. But connectivity with large emerging markets has been limited in most of these countries with few benefits from the high growth in large emerging markets (Box 2.6, IMF 2013c; Annex V, IMF 2014a).
- **Greater trade integration**. Key policies include lowering tariffs, and eliminating significant nontariff barriers and import barriers for exporting industries. Additionally, simplification of customs rules and procedures, upgrading logistical infrastructure, and export-promoting policies would also help.
- **Transitioning to higher value-added exports**. Increased foreign direct investment can facilitate this process, particularly multinational investment that integrates these countries into international supply chains. Investment promotion is particularly relevant for this process in CCA economies, as they are nontraditional multinational destinations. As discussed in the non-GCC MENAP section above, these policies would also be conducive for modernizing production methods (where the CCA lags its peers, Figure 6), which in turn raises productivity.

Substantially higher potential growth can be achieved in the CCA through these policies (Figure 7). Current rates (4¼ percent) could be almost doubled in the CCA oil importers and

raised from 7 to 8 percent in the CCA oil exporters. Productivity could account for almost half the gains by closing the gap with the average EMDC in the business environment and worker talent, and over the long term, modern production methods. Higher private sector physical capital accumulation, accounting for the rest of the pick-up in growth potential, could be catalyzed by elevating financial sector development. In the CCA oil importers, greater trade and investment integration with large emerging markets would support both growth in capital and employment<sup>15</sup>—with the latter adding further to potential growth.

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<sup>15</sup> The influence on labor growth of trade and investment integration with the rest of the world is smaller than labor market flexibility. However, the CCA oil importers outperform the EMDC average in labor market flexibility. Consequently, in the context of filling gaps with EMDCs in order to raise long-term employment growth, this analysis points to growth of trade and investment integration with the rest of the world.

# 4

## Main Findings and Policy Implications

Well-targeted policies can boost the Middle East and Central Asia’s declining long-term economic growth prospects, lifting the region out of the “new mediocre.” In the midst of intensifying regional conflicts and falling oil prices—requiring prolonged fiscal consolidation—the region’s growth prospects are declining faster than in the rest of the world. That makes it more imperative than ever to reverse this trend, especially given the importance of high growth for creating jobs and raising living standards in the region. Higher MENAP and CCA growth rates can be achieved through policies aimed at raising growth in productivity and physical capital—where promoting private capital accumulation is especially important in the GCC and CCA and both higher public and private capital accumulation in the non-GCC MENAP. Closing gaps with their global peers in critical structural reform areas underlying these drivers of growth could raise growth potential in the CCA oil exporters by 1 percentage point, in the GCC by 1.5 percentage points, and double growth in the non-GCC MENAP oil exporters and importers, as well as the CCA oil importers.

Developing a more competitive business environment, worker talent, and financial markets are the most critical reform areas for the Middle East and Central Asia. Cross-country regression analysis on a large sample of advanced economies and EMDCs provides insights into policy priorities that could accelerate growth in each factor of production. Inclusion of sociopolitical factors enriches the policy implications, which are tailored toward the unique characteristics of the individual subregions of the Middle East and Central Asia.

- Ensuring a **competitive business environment** boosts productivity growth. It depends on a supportive public sector. To this end, streamlining regulations, tax codes, and red tape, as well as reducing the dominance of state-owned enterprises in sectors critical for businesses are important first steps for all countries in the Middle East and Central Asia. In non-GCC MENAP and the CCA, promoting the rule of law is also essential.

- **Worker talent**—namely workers’ skills, quality of education, know-how, and professional networks—is also critical for raising productivity but its standards across the Middle East and Central Asia lag behind their global peers. This gap can be closed by improving the quality of education (in partnership with the private sector) and leveraging diaspora networks that can convey knowledge and expertise, as well as expand the pool of available financial resources.
- **Financial market development**, vital for physical capital accumulation, also falls short of global peers. This paper empirically highlights the benefits of easing access to finance, especially for SMEs, and ensuring adequate protection of legal rights for advancing financial market development in all countries of the region.

Supporting reforms in other policy areas is also important for reaching and maintaining high growth rates. Efficient and high quality public infrastructure complements the above reforms in raising physical capital growth. In the GCC and CCA oil exporters, the focus should be on raising the efficiency of public investment, which is especially important in an environment of shrinking public investment necessitated by the new lower oil price reality. In non-GCC MENAP, more and better quality infrastructure (especially for electricity) is paramount. Across MENAP and the CCA, encouraging technology transfer through increased openness in foreign investments can spur innovation, help firms use their resources more efficiently, and facilitate the use of modern production methods. Greater trade openness, especially with large emerging markets, can enhance the accumulation of physical capital and employment growth. Greater labor market efficiency is also important for employment growth, especially in the non-GCC MENAP oil exporters. Finally, gradually raising female labor force participation rates would foster innovation, productivity, and, subsequently, jobs.

Successful implementation of these reforms requires effective communication. A strong communication strategy relying on outreach and buy-in from vested interests can help clear the road for reforms. This is also important in curbing limitations in financial sector development and, thus, physical capital accumulation. Improved worker talent and the investor confidence generated from the reform momentum will gradually address other limitations, such as implementation capacity and the availability of financing. Of course, implementing ambitious reform programs in the context of sociopolitical, security, and geopolitical tensions, as well as intensifying spillovers from regional conflicts, is deeply challenging, requiring not only strong resolve on the part of domestic policymakers but also concerted international support.



### Box 1. Leveraging Diaspora Synergies: The Scottish Case

Globalscot, a diaspora network created and managed by the Scottish government, is highly valued for its ability to elevate the quantity and quality of global knowledge circulation in Scotland (MacRae and Wight 2006). It was initiated in 2001, targeting highly educated and motivated parts of the diaspora as a developmental resource.

Focused on openness and international cooperation, within a few years Globalscot has become a great success. It is now a powerful network of more than 800 influential business professionals; the acceptance rate to invitations by Scotland's first minister to join the network is about 75 percent. Members offer their time, experience, contacts, knowledge, and skills to businesses and other domestic beneficiaries.

### Box 2. Foreign Direct Investment: A Means for Modernizing Production Methods

*Multinational foreign direct investment, especially in the form of vertically integrated production chains or transnational distribution networks, stimulates modernization of production methods through a variety of paths:*

- **Multinationals improve local suppliers' product quality.** In order to maintain certain standards for their own products, multinationals have strong incentives to raise the quality of local suppliers' products through technical assistance and training (OECD 2002). As local firms become more technologically sophisticated, they more readily adopt new technologies. Blalock and Gertler (2007) find strong evidence of productivity gains, greater competition, and lower prices among local firms in markets that supply foreign entrants. The technology transfer also benefits downstream buyers in other sectors using the same supply source.
- **International buyers of multinational goods share production techniques and foster competition.** Firms in Korea and Taiwan gained considerable knowledge of production engineering, new production processes, and quality control from foreign companies that purchased their goods (Blalock and Gertler 2007). Knowledge about changing product demand enabled Asian companies to shift more quickly to new products in the early part of the growth cycle (Pack 2008).
- **Multinational workers facilitate knowledge spillovers into domestic industries** (Todo, Zhang, and Zhou 2009). Highly qualified technical workers employed by multinationals share their knowledge when they interact with local workers (such as through collaborative projects and when they take jobs with local firms). These spillovers are amplified when local workers themselves have received high quality technical education (Pack 2008).

## Annex I. Regression Results

Three sets of cross-country regressions are performed to examine the determinants of the long-term supply-side drivers of potential growth. This exercise covers a global sample, drawing on indicators from several sources such as the Fraser Institute's Economic Freedom of the World Index, International Financial Statistics, the International Labor Organization, the PRS Group, World Bank Doing Business, World Bank Education Statistics, the World Economic Forum's Global Competitiveness Report, the World Economic Outlook, and the World Governance Indicators. The dependent variable in each of the three regressions is average smoothed growth in productivity, physical capital, and long-term employment during 2007-14 (Mitra and others 2016 provide estimation details). The independent variables are based on the latest data available, since many of the variables are structural indicators measured only every few years. The regression results are summarized in Table A1.1 and elaborated in Mitra and others (2016).<sup>16</sup>

The analysis suggests that potential productivity growth is associated with traditional factors such as strong worker talent, a competitive business environment, and modern production methods. Important findings are the influence of modern production methods and democratic institutions:

- **Worker talent** is represented by the quality and quantity of education as well as diaspora support. An improvement in the quality of education (for instance, enough to move up by one score in the Global Competitiveness Report rankings, where 1 is poorest and 7 is highest) raises productivity growth by 0.7 percentage points. The quantity of education is also positively associated with productivity growth but is not empirically significant. Making better use of diaspora support (such as moving up one score in the Global Competitiveness Report rankings) has a significant influence on productivity growth—increasing it by 0.6 percentage points.
- A **competitive business environment**—where the government delivers basic services efficiently, promotes the rule of law, reduces corruption and fraud, and streamlines business regulations—significantly influences productivity. An improvement in it (for example, enough to move up one in the Global Competitiveness Report rankings, where 1 is poorest and 7 is highest) is found to raise productivity growth by 1.4 percentage points.
- **Modern production methods** are the application of technologies and management techniques that help firms efficiently use energy, capital, and worker talent, while instituting policies that encourage innovation. Technology transfer through FDI serves as a good proxy for modern

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<sup>16</sup> Regression analysis identifies correlation, not necessarily causality.

production methods, since it has been shown to spread new technologies and management methods to local firms, raising their competitiveness (OECD 2002; UN Conference on Trade and Development 2010). Productivity growth could rise by 0.5 percentage points when the use of modern production methods increases (for example, enough to move FDI technology transfer scores up by one in the Global Competitiveness Report rankings, where 1 is poorest and 7 is highest).

- **Democratic institutions**, including freedom of speech and media, human rights, voter participation, and accountability and transparency of government, carry a neutral (and statistically insignificant) association with productivity growth.

Potential physical capital accumulation is found to be associated with well-developed financial markets, public infrastructure, and trade openness—especially with large emerging markets:

- **Financial market development** fosters greater investment activity by facilitating access to funds and protecting investors. Its advancement (for example, enough to move up one in the Global Competitiveness Report rankings, where 1 is poorest and 7 is highest) raises physical capital accumulation rates by 1.7 percentage points.
- **Public infrastructure**, approximated by public investment (as a percentage of GDP), has the most substantial impact on physical capital accumulation. An increase of 1 percent of GDP raises physical capital accumulation rates by 25.7 percentage points. This reflects both direct and indirect effects through the provision of more affordable and reliable inputs (especially for electricity) into production.
- **Trade openness**, especially trade that promotes increased connectedness with large emerging and advanced economies, is also influential. Its improvement increases physical capital accumulation rates by 3.5 percentage points.
- **Democratic institutions**, described in Chapter 2, have a neutral and statistically insignificant relationship with physical capital accumulation rates.

Cross-country regressions suggest that potential workforce growth is associated with flexible labor markets (that ensure adequate worker protection) and openness with the rest of the world—especially large emerging markets (Annex 1, Table A1.1 provides detailed results):

- **Labor market efficiency** is represented by flexibility in wage determination as well as in hiring and firing policies. An increase in wage flexibility (for example, enough to move up one in the Global Competitiveness Report rankings, where 1 is poorest and 7 is highest) could raise long-term employment growth by 0.4 percentage points. Flexibility in hiring and firing policies, while providing adequate worker protection, is also positively related to long-term employment growth. However, it is not empirically significant.
- **Openness** in trade and investment with the rest of the world, especially large emerging and advanced economies, expands job opportunities. Higher exports to large emerging markets (such as, 1 percent of total exports) correspond to a 1.1 percentage point increase in long-term employment growth. Higher foreign direct investment has a similar effect. When it improves by 1 percent of GDP, long-term employment growth rises by 1.2 percentage points.
- **Democratic institutions**, described in Chapter 2, have a neutral and statistically insignificant relationship with physical capital accumulation rates.

Alternative specifications do not generally affect the results. A number of alternative specifications have been used, and the results are found to be generally robust. These include adding additional, and replacing different, control variables (see Mitra and others 2016 for more details).

**Table A1.1. Effect on Growth in Potential Productivity, Physical Capital, and Long-Term Employment (in percentage points) 1/ 2/**

Productivity Growth, 2007-14		Physical Capital Growth, 2007-14		Long-Term Employment Growth, 2007-14	
Factors		Factors		Factors	
<b>Worker Talent</b>					
Educational Quality (GCR, rankings 1-7)	0.653 (0.004)*	Financial Market Development (GCR, rankings 1-7)	1.708 (0.008)**	<b>Labor Markets</b>	
Educational Quantity (GCR, rankings 1-7)	0.127 (0.002)	Real Lending Rate (WDI, rate)	0.025 (0.000)	Wage Flexibility (GCR, rankings 1-7)	0.366 (0.002)*
Diaspora Support 3/ (GCR, rankings 1-7)	0.717 (0.003)**			Hiring and Firing Flexibility (GCR, rankings 1-7)	0.086 (0.002)
<b>Modern Production Methods</b>					
FDI Technology Transfer (GCR, rankings 1-7)	0.610 (0.003)*	Infrastructure	25.700 (0.099)**	On-the-job training (GCR, rankings 1-7)	0.200 (0.003)
Quality Standards (EFW, rankings 1-10)	0.173 (0.005)	Public Investment (WEO, percent GDP)		Public Spending on Education (EdStats, percent GDP)	0.045 (0.001)
<b>Competitive Business Environment</b>					
Overall Global Competitiveness (GCR, rankings 1-7)	1.335 (0.008)*	Openness	3.480 (0.019)**	<b>Openness</b>	
Trade Tariffs (EFW, rankings 1-10)	-0.265 (0.002)	Exports to BRICS and AEs (UNCTAD & WEO, percent of total exports)	0.103 (0.007)	Exports to BRICS and AEs (UNCTAD & WEO, percent of total exports)	1.133 (0.007)*
Non-tariff Barriers (EFW, rankings 1-10)	-0.24 (0)	Trade Liberalization (GCR, rankings 1-7)		FDI (WEO, percent GDP)	1.179 (0.001)**
<b>Other</b>					
Democratic Institutions 4/ (WGI, rankings 1-100)	0.001 (0.000)	Other		<b>Other</b>	
Government Spending Efficiency (GCR, rankings 1-7)	0.173 (0.004)	Democratic Institutions 4/ (WGI, rankings 1-100)	0.002 (0.000)	Democratic Institutions 4/ (WGI, rankings 1-100)	0.004 (0.000)
Quality of Institutions (GCR, rankings 1-7)	-1.149 (0.010)	Government Spending Efficiency (GCR, rankings 1-7)	-1.528 (0.010)	Government Regulations 5/ (GCR, rankings 1-7)	-0.035 (0.003)
Quality of Infrastructure (GCR, rankings 1-7)	-0.005 (0.005)	Government Regulations 5/ (GCR, rankings 1-7)	-0.815 (0.009)	Rule of Law (WGI, rankings 1-100)	0.021 (0.000)
Female Labor Force Participation Rate (ILO, % of female population ages 15+)	0.01 (0.000)	Initial Physical Capital	-0.444 (0.002)**	Corruption (WGI, rankings 1-100)	0.013 (0.000)
Initial Productivity	-0.003 (0.001)	Constant	-0.012 (0.033)	Initial Labor	-0.166 (0.000)**
Constant	-0.005 (0.023)			Constant	-0.029 (0.015)*
$R^2$	0.18	$R^2$	0.19	$R^2$	0.30
$N$	114	$N$	94	$N$	111

Source: Mitra and others, forthcoming.

1/Robust standard errors are in (); \*\* implies  $p < 0.05$ ; \*\*\* implies  $p < 0.01$

2/The latest available values are used for each factor. Their sources and units are in brackets under the variable name; GCR=Global Competitiveness Report with 1=Poorest and 7= Highest Score; WEO=World Economic Outlook; EFW=World Economic Freedom of the World Index; WGI=Worldwide Governance Indicators; EdStats: World Bank Education Statistics; WDI: World Development Indicators.

3/Measured as the negative of the brain drain index.

4/Represented by the voice and accountability index.

5/Higher values correspond to more bureaucracy.

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