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Fiscal Policy and Structural Transformation in the Arab Region: What are the Pathways?

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Table of Contents

1. Introduction

2. Significance of structural transformation for inclusive and sustainable development

3. An Assessment of structural transformation in the Arab region

Oil-rich countries

Oil-poor countries

4. Fiscal policy, employment and structural transformation

Quantity vs quality of investment in fiscal policy choices

“Crowd in” influence of public investment remained a challenge

Weak association between growth in R&D expenditure and GDP

Lagging behind on quality education and advance education levels

Generating decent work remain a critical policy challenge

5. What are the pathways – Policy discussion

Investing in higher value-added and labour-intensive sectors

Investing in infrastructure, research and innovations, and human capital

6. References

1. Introduction

The weak growth-employment-poverty relation lies at the heart of the challenges of human wellbeing that the Arab region is facing. This is evident from the findings of several recent studies.¹ The region's high average economic growth over recent decades did not significantly improve incomes of the poor, nor did it generate enough decent work for the educated labour force. Furthermore, the region is quite often prone to macroeconomic instability due to ever volatile world oil prices or due to volatility in global economic growth. Such instability negatively impacts macroeconomic indicators such as GDP growth, foreign earnings, employment and unemployment as well as it aggravates poor social sector indicators such as poverty and inequality. While the global economic recession of 2008 impacted differently to different countries in the region depending upon their exposure and dependence on global growth, the impact of the recent sharp fall in oil prices in 2014 especially negatively impacted all the oil-rich countries in terms of their growth, current account balances and fiscal space for development expenditure.²

One of the main reasons for such volatility and the weak growth-employment-poverty relation in the Arab region is the lack of economic diversification to non-oil economic sectors.³ This is despite most countries in the region have undertaken major liberalisation policies since the 1990s in order to gain from the globalisation process. Although most countries have reaped the fruits of globalisation through increases in overall growth and incomes, the benefits were skewed to certain sections of population. Together with this, frugal fiscal policies that has squeezed social development expenditure has resulted in declining standard of living, which influenced the Arab Spring.⁴

In the literature, one possible way that countries can progress toward achieving inclusive growth is through productivity-enhancing structural transformation where dominance of economic sectors shift from an agrarian based low value-added sectors to high value-added industrial and service sectors.⁵ The Arab region experienced some changes in its economic structure over the past three decades, but that happened largely as a movement of labour from agriculture to lower value-added service sectors. In the region as a whole, the share of manufacturing in GDP remained low and sluggish over time and trade remain concentrated around oil led products. Services' share in total output increased, but remained mainly concentrated at the low end of the value-added chain in the informal sector, resulting in low paid, low quality and low productivity jobs.

To overcome this problem, there is a need for relooking at the patterns of growth and social development policies in the region and suggest for economic policies that leads to inclusive growth and development. Fiscal policy has a dominant role in connecting these development aims. Hausmann and Rodrik (2003) argued that the role of governments in fostering industrial growth and transformation of economies from typically agrarian based low value-added sectors to high value-added industry and services sectors, generally referred to as structural transformation, is critical. Appropriate government interventions, with clear imposition of

¹ ESCWA, 2016; Sarangi, 2015; ILO and UNDP, 2013.

² Sarangi and El-Ahmadih, 2017.

³ Von Arnim et al, 2011.

⁴ Ali, 2014.

⁵ Hausmann and Rodrik, 2003.

rule-based policy discipline, can increase the expected payoff to innovation and the transformation process.⁶ Historical evidence shows that industrialized countries, including Western Europe, North America, and the newly industrialized countries of East Asia, have successfully transformed from agrarian to modern advanced economies mainly with the help of pro-active governments.⁷ Investing in research and development, modern infrastructure, incentivising private businesses and academic institutions, patent systems, and large public procurements are examples of various support measures that the industrialized countries continue to adopt to advance industrial upgrading and diversification.

Given this background, the following section of the paper explains the concepts and measures of structural transformation and its significance in the context of inclusive and sustainable development. The third section of the paper examines the patterns of structural transformation and productivity in the Arab region and identifies the challenges. The third section discusses linkages between fiscal policy, particularly public investment, employment patterns and structural transformation in the Arab region. The final section discusses possible pathways for policy intervention.

2. Significance of structural transformation for inclusive and sustainable development

Concepts and measures

Conceptually, 'structural transformation' of an economy corrects the allocative inefficiencies in factors of production that can lead to higher growth of any economy. GDP per capita and some measure of productivity, such as GDP per worker or GDP per working hour, are the two most common measures of economic performance at the aggregate level.⁸ Employment shares, value-added shares, and final consumption expenditure shares are the most common measures of economic activity at the sectoral level. Measuring structural transformation therefore requires examining the changes in the relative contributions of different economic sectors over time. A typical situation of structural transformation involves a decline in the share of agriculture (at the lower end of value-added sectors) and increases in share of industry, services and manufacturing (at the higher end of the value-added sectors) and the combination of these changes contribute to increase in overall productivity and GDP per capita over a time path. The sub-sectors within industry or services can also be disaggregated into low or high value-added activities for the purpose of analysis, which is an empirical issue.

What matters for successful transformation of economies is not whether structural transformation occurs, but whether it is of the right kind and how fast it takes place. The role of sectoral labor productivity in explaining the process of structural transformation—the secular reallocation of labor across sectors—and the time path of aggregate productivity are therefore important considerations for understanding structural transformation. Studies indicate to systematic and sizeable differences in sectoral labour productivity across countries and the productivity gaps between rich and poor countries are larger in services and agriculture, as compared to manufacturing. Furthermore, developing countries have larger

⁶ Hausmann and Rodrik, 2003. Interventions tend to create distortions in the market. By imposition of policy disciplines, such as encouraging investments in the modern sector ex ante, and also by rationalizing production ex post, government policies can counteract the possible market distortions.

⁷ Lin and Monga, 2010.

⁸ Herrendorf et al., 2013.

productivity gaps both within and between sectors, as compared to that of advanced economies.⁹ Importantly, the countries that shift resources from less-productive traditional sectors to more productive modern sectors experience aggregate productivity gains and economic growth.

However, gains in productivity and aggregate growth can be seen as a narrow economic outcome of structural transformation. A broader outcome of productivity-enhancing structural transformation is more inclusive and sustainable development. The 2008 report by the Commission on Growth and Development found that all countries that have experienced high growth rates over several decades, have exhibited structural transformation while all countries that have remained poor, have failed to undergo structural change.¹⁰ Recently, the 2030 agenda for sustainable development recognizes diversification, technological upgrading and innovation as a means of improving economic productivity and generation of decent jobs.¹¹ The 2016 Arab Human Development Report emphasized that sustaining economic growth requires the ability of an economy to “constantly generate new fast growing activities characterized by higher value added and productivity”.¹² The Arab Development Outlook: Vision 2030 report suggests that structural transformation is key to reduce volatility in growth, and to promote inclusive and sustainable economic growth, full and productive employment and decent work for all, as envisaged in the SDG 8.¹³

The kind of structural transformation needed for the region can be analyzed by better understanding the challenges in current economic structures (sectors and sub-sectors) and respective labour productivities in the Arab economies. Previous studies have mainly focused on broad sectors such as oil and non-oil or agriculture, mining, manufacturing, and services sectors.¹⁴ In the region, services sector constitute major share of workforce in most countries and recent trends in employment indicate to significant shifts of labour from agriculture to services sectors in some countries, such as in Egypt and Morocco.¹⁵ However, labour productivity growth in the region is the slowest among all regions, being less than one during the 1991-2010 and it turned negative during 2011-16.¹⁶ This raises concern about the type of structural change, which can be better understood by disaggregating services sector output and employment into more detail sub-sectors.

An ideal way of dividing the services sector would be by considering the ladder of low to high value-added activities in terms of their technology levels, and the same can be done for the manufacturing sub-sectors. However, time series employment data on sub-sectors of services and manufacturing, drawn from ILO,¹⁷ are very much limited for few countries in the region and there are comparability concerns over time while disaggregating the data by applying latest industrial classification (ISIC 4). After undertaking necessary scrutiny for constructing

⁹ Duarte and Restuccia, 2010; Herrendorf et al., 2013.

¹⁰ Commission on Growth and Development, 2008.

¹¹ United Nations, 2015; See: <https://sustainabledevelopment.un.org/sdg8>.

¹² UNDP, 2016.

¹³ ESCWA, 2016.

¹⁴ Von Arnim et al., 2011.

¹⁵ Sarangi, 2015.

¹⁶ ESCWA, 2013.

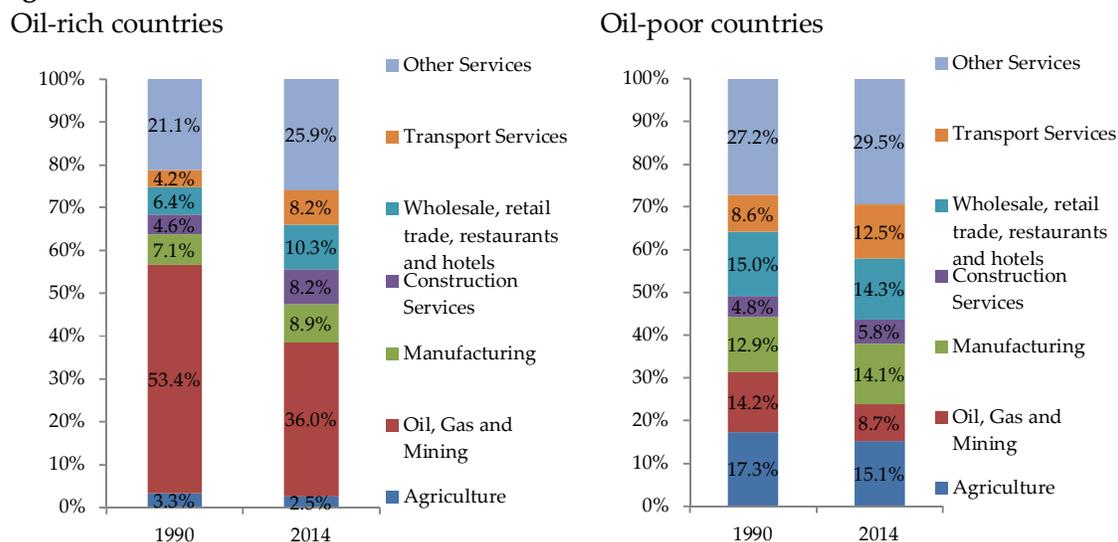
¹⁷ ILO, 2016.

comparable employment data at sub-sector level for services activities, a seven sectors database was prepared by using ISIC 3 classification – agriculture, oil and gas, manufacturing, construction, trade and hotels, transport and communication, and other services.¹⁸ Value-added data were taken from National Accounts database of United Nations Statistics Division.¹⁹ Given the classification of sub-sectors, it will be precisely inappropriate to identify an entire sector or sub-sector as high or low value-added but intuitively and based on supporting evidence from the Arab region, most of agriculture and most of “other services’ activities tend to be low value-added, while most activities in the rest of the five sectors or sub-sectors fall between high and low value-added activities. Several measures of structural change are examined based on these data.

3. An assessment of structural transformation in the Arab region

Figure 1 shows the economic structures of oil-rich and non-oil-rich countries. While the region’s overall economy is reliant on extractive industries, oil-rich and non-oil-rich countries have markedly different structures. Oil, gas, and mining dominate oil-rich-countries, contrasted with more diversified structures in non-oil-rich countries. While the share of this sector has fallen in both groups of countries over time, manufacturing sector growth has remained sluggish. Since the 1990s the share of the service sector has increased in both groups of countries, but within this sector, the share of “other services”, which as noted earlier tend to be largely low value-added and informal activities, constitute a large share of activities and its share has further increased over time. This pattern resonates with growing informal activities in the region which is typically at the low-end of value added activities.²⁰ Overall, the economic structure of the region indicates to stagnating shares of GDP of agriculture and manufacturing sectors, an expanding service sector with high concentration in low value-added activities, and a still dominant oil sector in oil-rich countries.

Figure 1: Economic structures of oil-rich and non-oil-rich countries



Source: Authors’ calculation, based on data from UNSTATS (2016).

¹⁸ See the challenges of preparing time series employment data at sub-sector level in Sarangi, 2015.

¹⁹ UNSTATS, 2016.

²⁰ ILO and UNDP, 2013.

Note: "Other Services" include all service activities under ISIC 3 classification J-P, such as in financial intermediation; real estate, renting and business activities; public administration and defense, compulsory social security; Education; Health and social work; Other community, social and personal service activities; and private households with employed persons.

3.1 Structural change in the Oil-rich countries

In oil-rich countries like Qatar, Saudi Arabia and Oman, the value-added share of mining and utilities is high but they account for a very small proportion of employment. The value-added share of mining actually increased in Saudi Arabia between 2000 and 2013, while that slightly declined in Oman and Qatar (figure 2).

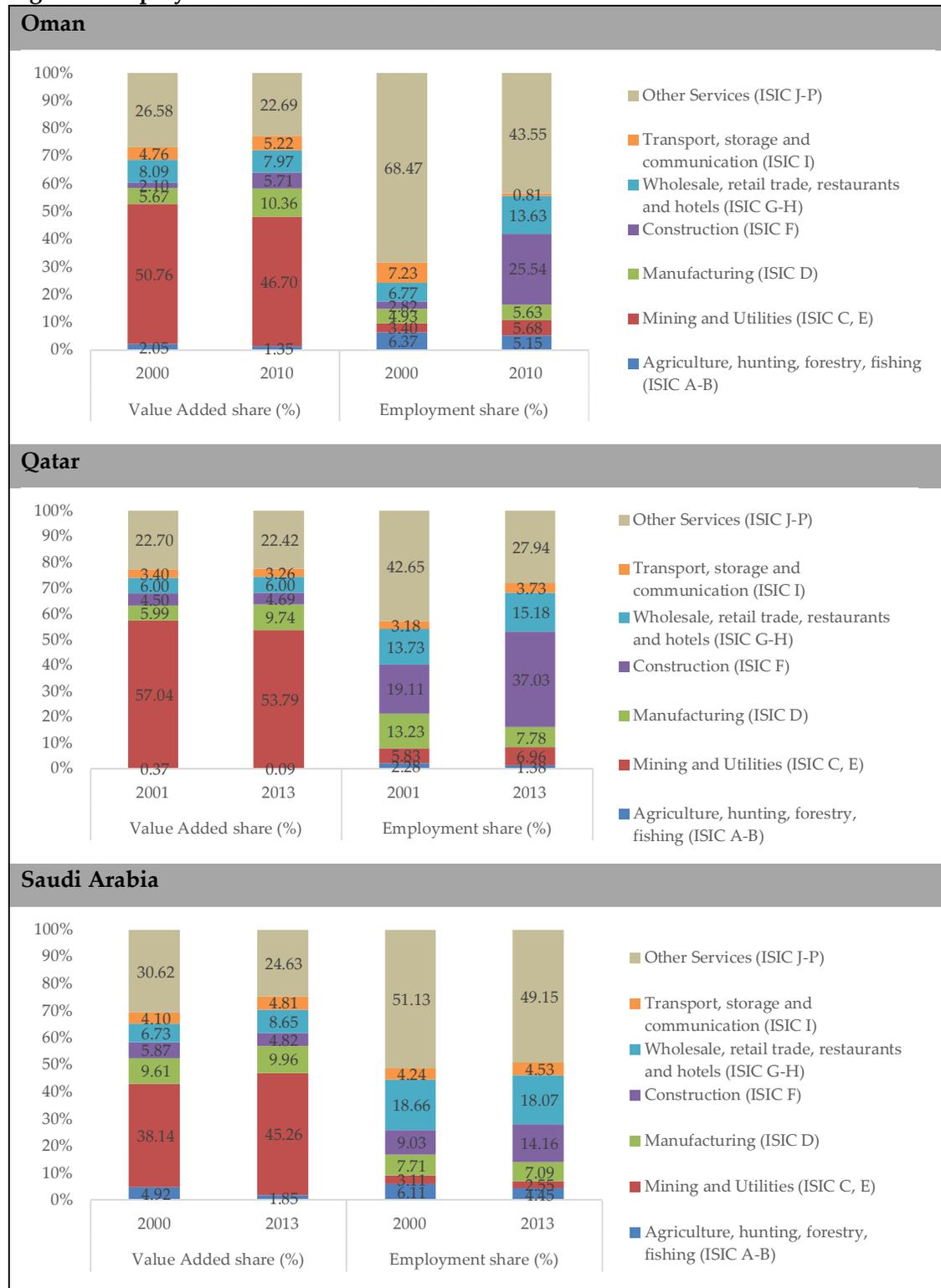
There has been greater diversification in employment shares to non-oil sectors, yet the change in value added of non-oil sectors is marginal during the same period. Essentially, the diversification in oil-rich countries has largely been directed towards the construction sector, hotels and restaurants, financial services and "other services". The growth of these non-oil services sectors is based largely on low value-added activities and dependent upon often imported low-skilled and cheap labor from Asia.²¹ It is clear that the share of construction is low in value-added but it is relatively highly labour intensive compared to other sectors. The share of employment in the "other services" in Saudi Arabia and Oman is much larger as compared to the share of value added from these sectors in 2013 and 2010 respectively. In Qatar, much of the employment share from "other services" seem to shift to construction. Total employment share in construction and "other services" together accounted for 65 percent in 2013, as against a 27 percent share in value added.

Apparently, labour productivity growth, measured by growth in output per worker²², in construction sector was negative and high in all the three countries during the period 2001 and 2013. Labour productivity growth in "other services" was also negative over the same period for Saudi Arabia and Oman. Overall average labour productivity growth remained as low as 0.3 in Saudi Arabia, and negative in Oman and Qatar during the period between 2000 and 2013. This pattern of sluggish average labour productivity growth across the oil-rich countries is a stark contrast to the pattern observed by the emerging market economies noticed during the period 2000s.

²¹ ESCWA, 2012.

²² The growth rates here are compound annual growth rates at two points of time, due to lack of time series information on employment across sectors.

Figure 2: Employment and value-added shares

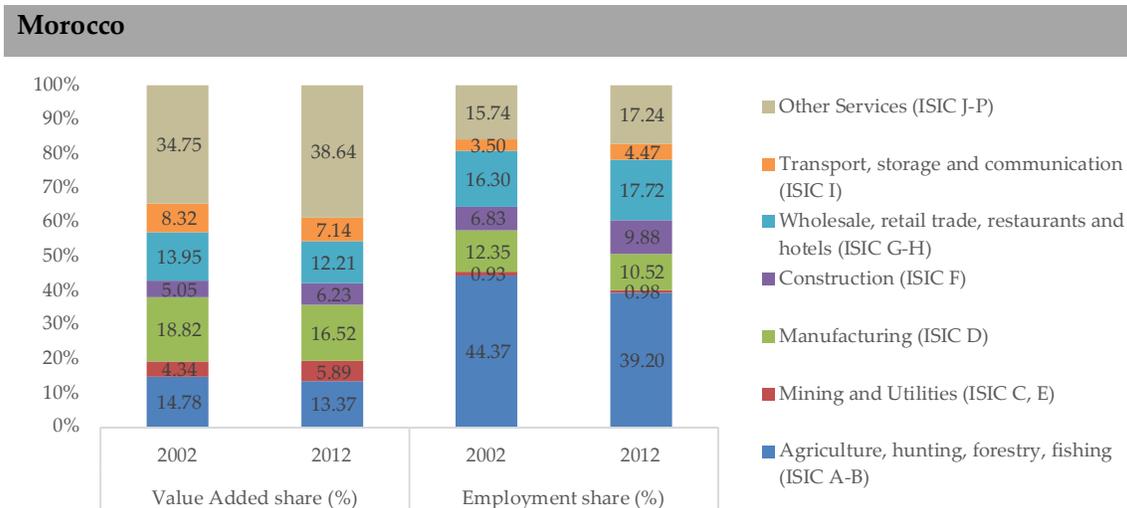
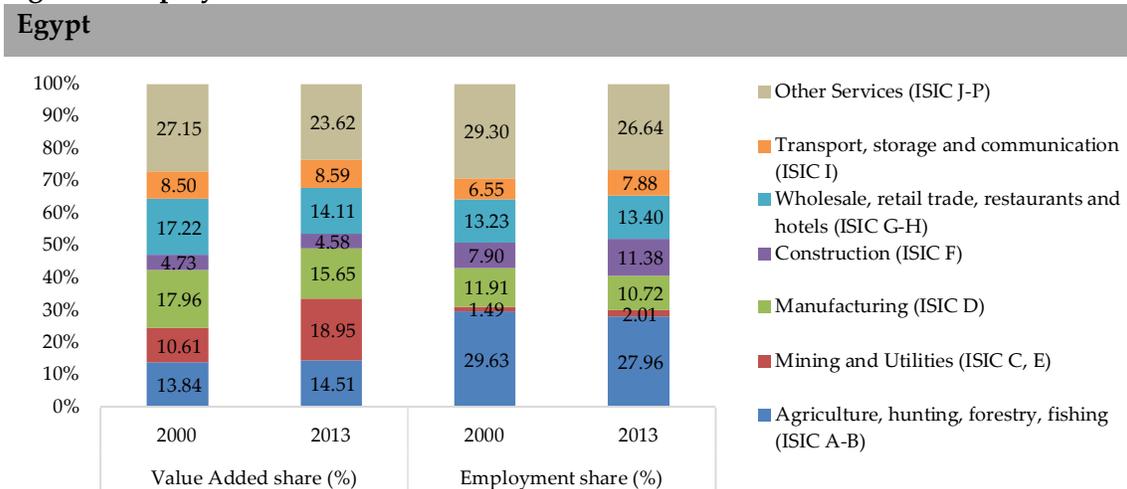


Source: Authors' calculation, based on data from UNSTATS (2016).

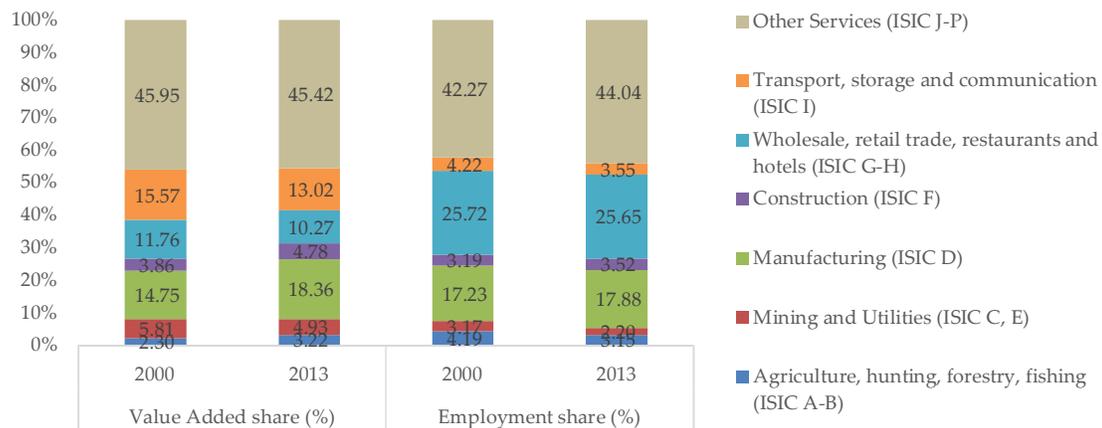
3.2 Structural Changes in the Oil-Poor Countries

An examination of employment shares and value-added shares in selected countries in the Arab region (figures 3) shows different trends for oil-poor and oil-rich countries. Egypt and Morocco, both oil-poor countries, show similar pattern of employment shares across sectors. Agriculture and “other services”, which largely falls under informal sector activities, account for the majority share of employment during 2000 and 2013. The total employment share of agriculture and “other services” is higher than their total share in value added. During the same period, the share of manufacturing employment and value added decreased in both countries. There is an increase in share of employment in construction, trade and transport sectors over the same period. Jordan is historically a relatively more diversified economy but it does not show any significant trend in structural change during 2000 and 2013. In Jordan, construction sector shows relatively high and increasing share of employment during 2000 and 2013. The employment share in construction is much higher than its share in value added during the same years. Share of agriculture employment is low. But above 40 percent of employment is accounted for by the “other services” in 2000 and 2013, which largely corresponds to its value-added shares in the same years. Manufacturing employment share and the value-added share show a marginal increase during the same period.

Figure 3: Employment and value-added shares



Jordan



Source: Authors' calculation, based on data from UNSTATS (2016) and ILO (2016).

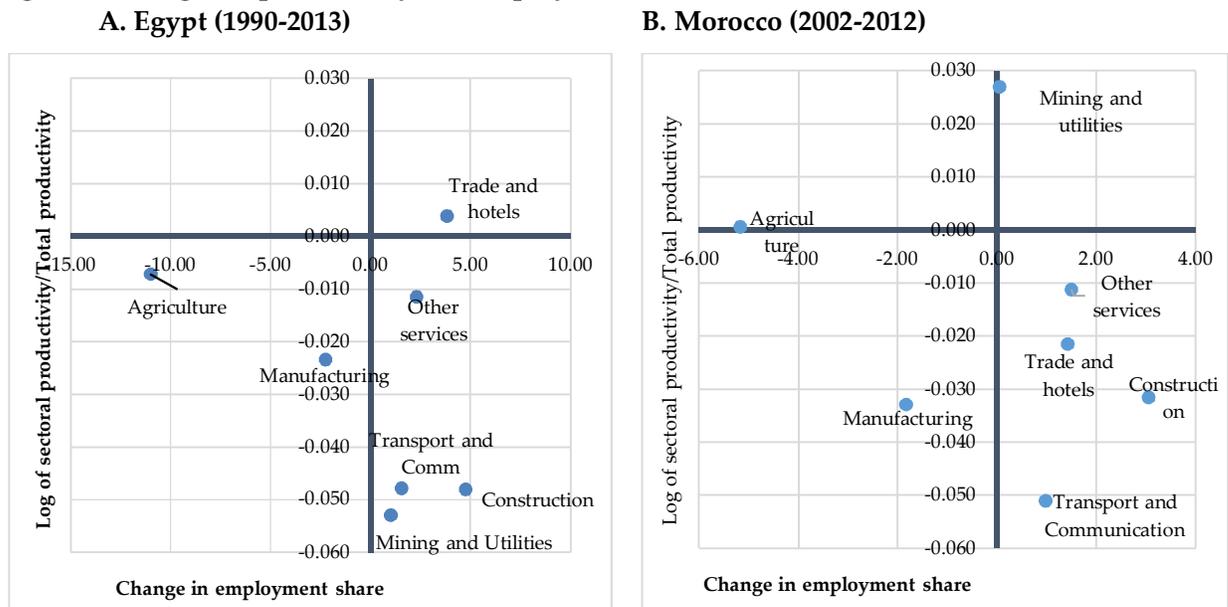
An important indicator of examining structural change is to track the pattern of change in labour productivity with change in employment shares. The figure 4 displays the pattern of changes in employment share and productivity share across sectors, using the time series information available for the period 1990 to 2013 for Egypt and 2002 to 2012 for Morocco. Agriculture sector lost the largest share of employment in Egypt during 1990-2013. In the same period, employment share declined in the manufacturing sector as well. Labour moved into other sectors, such as trade and hotels, construction, transport and communications, mining and utilities, and other services. On the other hand, during the same period, productivity changes are negative in six out of the seven sectors, except for trade and hotels. Therefore, a large share of employment shift from agriculture to construction, transport and communication, mining and utilities, and "other services" are not associated with improvement in productivity. A more disaggregated analysis would clarify the negative productivity growth in these service sectors. For instance, in Egypt, more than three-quarters of manufacturing value-added output comes from low and medium-to-low technology sub-sectors, such as food processing, basic metals and other primary products.²³ The negative productivity growth in transport and communications sector as a whole could be due to higher concentration of transport activities, which is typically lower value-added services, than the high-tech communications activities.

Similarly, in Morocco, agriculture and manufacturing have lost employment share during 2002-2012. Labour moved to construction, trade and hotels, transport and communication, and other services, but in all these sectors there has been a decline in productivity in the same period. Mining and utilities sector did not lose or gain on its employment share during the period and it is the only sector where there is positive change in productivity. The negative productivity growth in trade and hotels sector as a whole could be due to the fact that this sector in Morocco comprises of a larger share of hotels, which is relatively lower value-added services, than trade. The patterns of labour movement and productivity change in both countries, therefore, fail to convince any structural transformation although it does indicate to labour movement out of agriculture. The decline in share of employment in manufacturing

²³ Based on data from ESCWA, 2017a.

is rather worrisome, which indicates to concentration of largely low and medium-to-low technology industries.

Figure 4: Changes in productivity and employment shares across sectors



Source: Authors' calculation, based on data from UNSTATS (2016) and ILO (2016).

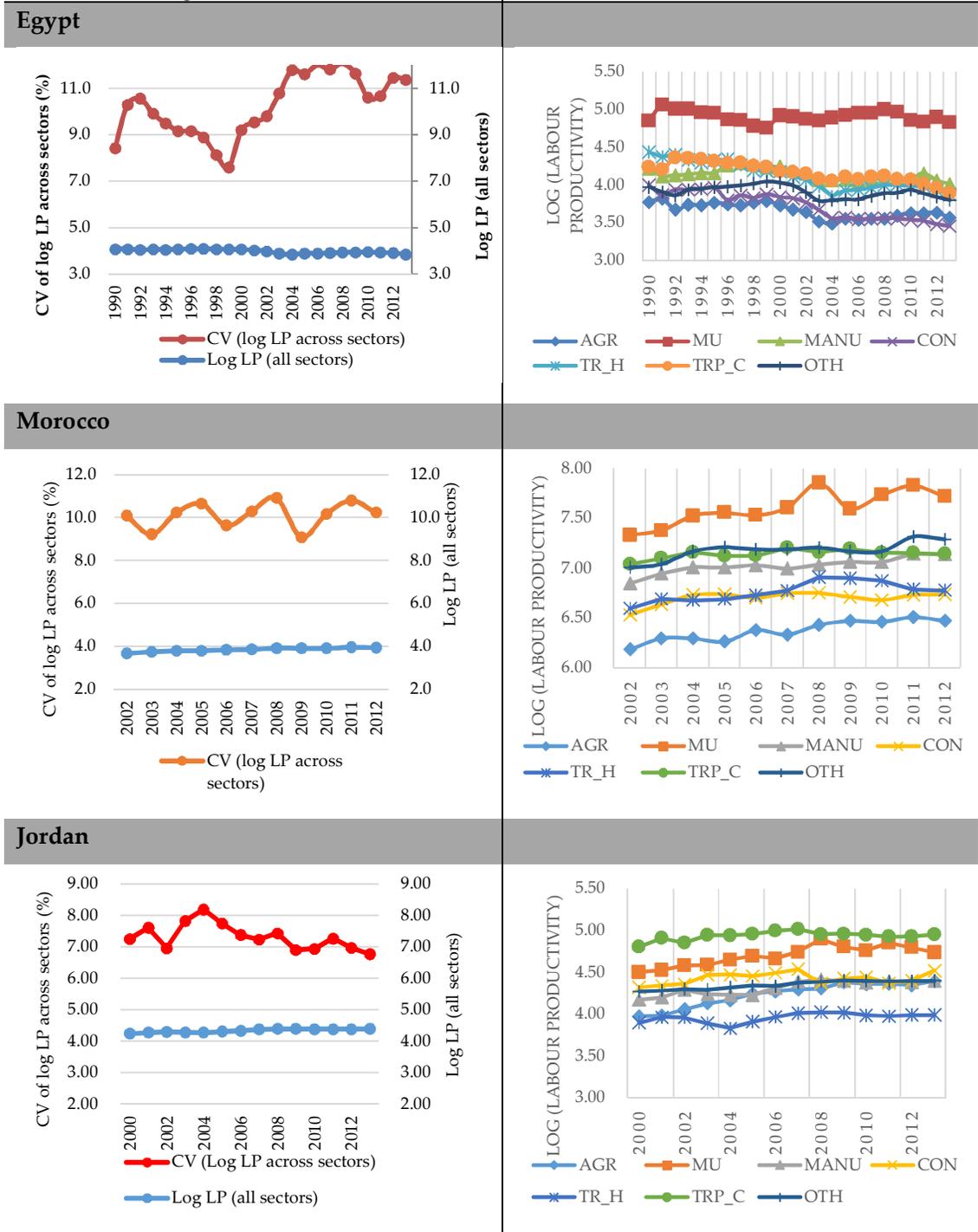
Note: The period of analysis for each country depended upon continuous years of data availability. The values are coefficients (b) for each regression equation $\text{Log}(\text{sectoral productivity} / \text{total productivity}) = a + b(\text{change in employment share})$.

Furthermore, aggregate labour productivity remained almost stagnant across the oil-poor countries (figure 5). The Egyptian labour market has seen consistently high productivity in mining, but productivity has steadily fallen in all other sectors. In Morocco and Jordan, aggregate productivity rose marginally since 2000.

The trend of variation of labour productivity across the seven sectors in Morocco and Jordan does not clearly show any significant pattern, but in case of Egypt, it does indicate to a higher variation, particularly led by mining and utilities sector. The variation in labour productivity shows ups and downs in the course of time during 2002 to 2012, indicating no clear trend in either divergence or convergence of productivity across sectors. Like in Egypt, productivity in mining is significantly higher than in other sectors in Morocco. Importantly, the productivity in the 'other services' sector exceeds productivity in manufacturing, indicating largely the underdeveloped nature of manufacturing in the country.

Figure 5: Labour productivity in Egypt
Average labour productivity and its variation among sectors

Labour productivity across sectors



Source: Authors' calculation, based on data from UNSTATS (2016) and ILO (2016)

Note: The period of analysis for each country depended upon continuous years of data availability.

Theoretically, growth of labour productivity can happen in two ways²⁴: First, due to productivity growth ‘within’ a sector through capital accumulation, technological change, or reduction of misallocation across plants. Second, due to a move of labour ‘across’ sectors, from low-productivity sectors to high-productivity sectors, thereby increasing overall labour productivity in the economy (Box 1). Evidence from the region, such as in Jordan and Morocco, suggests that the sluggish average labour productivity growth is mainly due to the pulling down effect of shifting of labour across sectors during 2001-2013. While labour productivity growth is noted positive due to “within” the sectors effect, reallocation of labour across sectors or the “structural” effect tend to show a negative influence on labour productivity growth (figure 6). Similar results are noted for Egypt as well.²⁵ This further substantiates the weak correlations between changes in employment across sectors and labour productivity growth, as discussed in the earlier section.

Box 1: Labour productivity growth ‘within’ and ‘across’ sectors

McMillan and Rodrik (2011) decompose labour productivity growth in an economy into two parts. Growth can happen in two ways: First, due to productivity growth ‘within’ a sector through capital accumulation, technological change, or reduction of misallocation across plants. Second, due to a move of labour ‘across’ sectors, from low-productivity sectors to high-productivity sectors, thereby increasing overall labour productivity in the economy.

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + \sum_{i=n} y_{i,t} \Delta \theta_{i,t} \quad eq (1)$$

Where:

Y_t and $y_{i,t}$ refer to economy-wide and sectoral labour productivity levels

$\theta_{i,t}$ refers to the share of employment in sector i

Δ refers to change in productivity or employment shares between t-k and t.

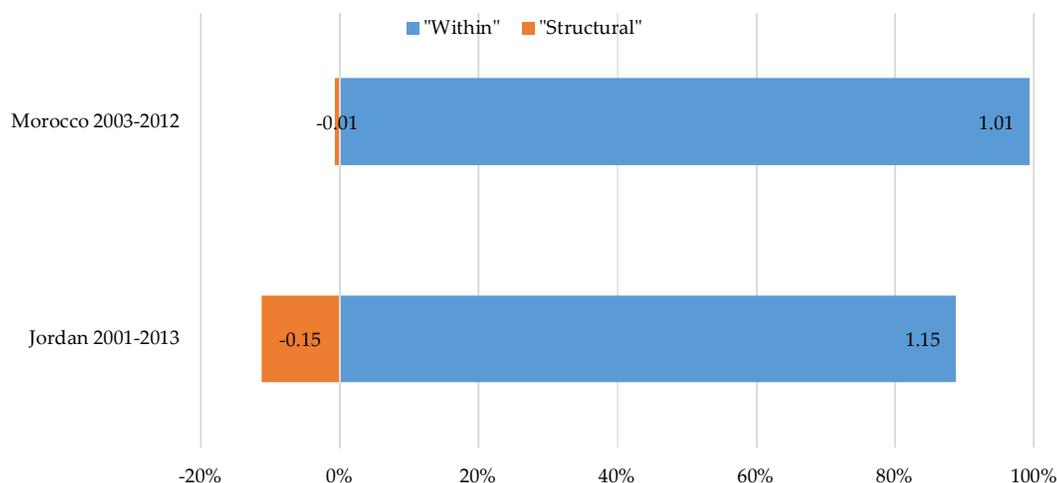
The first term in the equation (1) essentially shows the weighted sum of productivity growth *within* sectors. The weights are the employment share of each sector at the beginning of the time period. The second component captures the productivity impact of labour reallocations across sectors, which is the *structural change*. It is the product of sectoral productivity levels and change in employment shares across sectors. Intuitively, when changes in employment shares are positively correlated with productivity levels, the *structural change* will be positive and it will increase the economy-wide productivity growth.²⁶

²⁴ McMillan and Rodrik, 2011.

²⁵ Morsy et al., 2015.

²⁶ It is possible that a high rate of productivity growth within an industry can have quite ambiguous implications for overall economic performance if the industry’s share of employment shrinks. If the displaced labour ends up in activities with lower productivity, economy-wide growth will suffer and may even negative.

Figure 6: Decomposing labour productivity growth by "within" and "structural" components



Source: Authors' calculations, based on UNSTATS (2016) and ILO (2016).

To conclude, the pattern of structural change in oil-rich and oil-poor countries where shifts in employment toward non-oil sectors are often associated with declining productivity growth cannot be attributed to transformation of economies. Rather, it appears that the countries are locked in a "low productivity trap", which also negatively affects creation of decent jobs and real wage growth. Existing industries, mainly in services sector, generate a high demand for low-skilled workers and therefore it is no surprise that unemployment in Arab countries is especially high among the most educated workforce.²⁷

4. Fiscal policy, employment and structural transformation

Fiscal policy has a dominant role in supporting sustaining growth and diversification of the economy, "crowd in" private investment and generation of decent work opportunities. In many cases, public investment is associated with generating positive spillovers in the economy through the provision of infrastructure, research and innovations, as well as better human capital; and it tends to be productivity and growth enhancing. Public investment in infrastructure and high-risk long-term research enables the private investment to "crowd in". For instance, the lesson from the experience of China and Viet Nam is that successful transitions generating private sector confidence require a purposeful government with an active fiscal policy whose key element is public investment.²⁸ Encouraging public investment through establishing public-private-partnership can help boost private participation in

²⁷ ESCWA, 2013.

²⁸ Roy and Weeks, 2004.

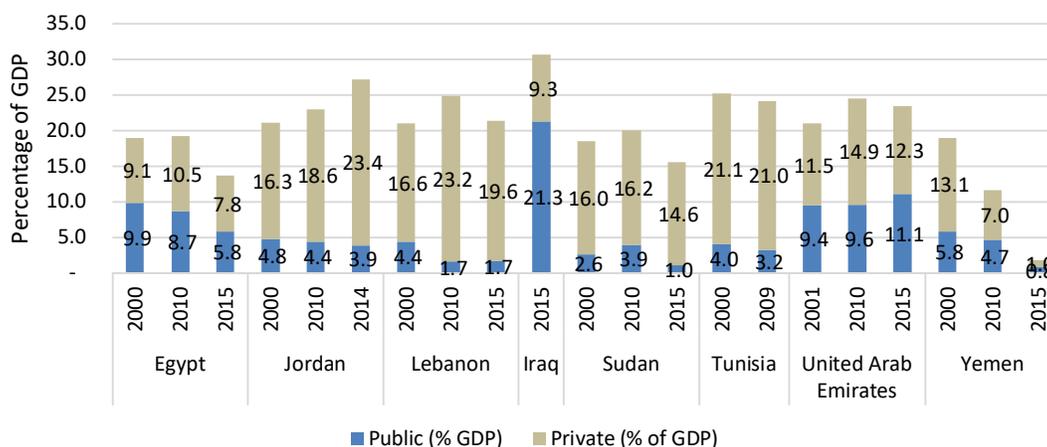
infrastructure development and scientific research. The micro-effects of public investment are associated with employment generation and poverty reduction in an economy.

4.1 Quantity vs quality of investment in fiscal policy choices

Public investment rate in the Arab region, on average, has been similar to those of other developing countries, at around seven and half per cent of GDP, during 2000-2014.²⁹ However, this masks wide differences between oil-rich and oil-poor countries; the latter being constrained by fiscal space, public investment rates were kept at relatively low levels (figure 7). Although public investment rate has been slowing down during the 2000s, private investment rate was slowly picking up in several oil-poor countries due to favourable global economic conditions and spill over of high growth in oil-rich countries led by the increase in oil price. The period since 2010, however, witnessed a decline in both private and public investment rates and, therefore, a decline in total real investment rate in most countries of the region.

Total investment rate in the region, on average, is about 23 per cent of GDP during 2000-2014, which is only 2 percentage point behind the average for that of the developing countries.³⁰ Despite that, the region suffers from the lowest productivity growth among all regions in the world,³¹ combined with lack of economic and trade diversification. Studies indicate that it is not the overall level of investment but its quality and efficiency, including careful choice of the optimal investment level and allocation across sectors that are essential for boosting economic growth.³² Fiscal policy choices has a critical role in this sense.

Figure 7. Total investment across Arab countries (gross fixed capital formation as % of GDP: public, private)



Source: World Bank, 2017.

Fiscal policy choices can be further examined by looking at current and capital expenditure across oil-rich and oil-poor countries. On average, share of capital expenditure for the oil-rich

²⁹ IMF 2016 [IMF (2016). *Investment and growth in the Arab world: A scoping note*. Annual Meeting of Arab Finance Ministers, April 2016, Manama, Bahrain.

³⁰ Ibid.

³¹ ESCWA, 2013.

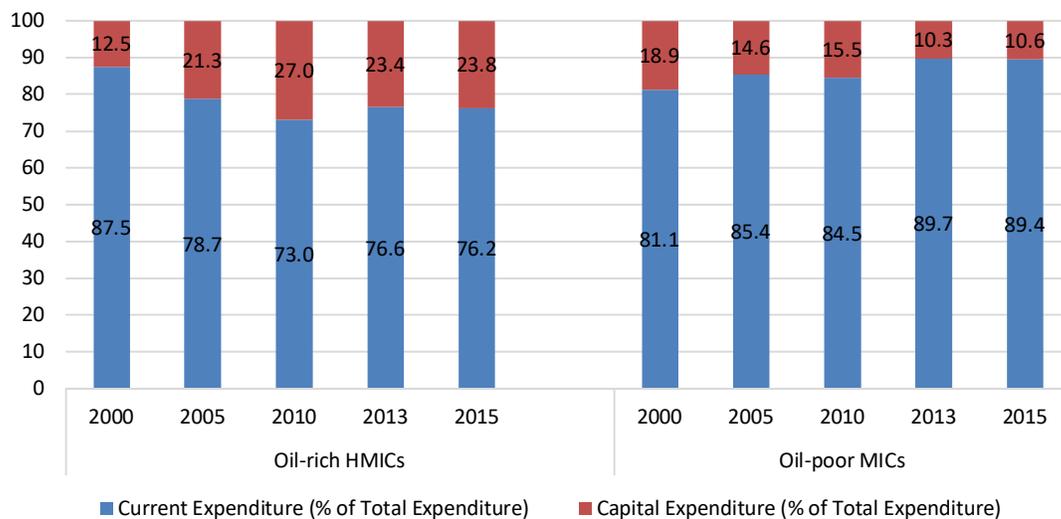
³² Devarajan et al., 1996; Sala-i-Martin and Artadi, 2003.

countries increased from 12.5 percent to 27 percent during 2000 and 2010, which can be attributed to the influence of increased oil revenues during the period. However, thereafter the share witnessed a decline in 2013 and 2015 (Figure 8). This pattern indicates that when oil revenues are under pressure, cutting capital expenditure is the easiest way to reduce expenditure. Furthermore, the investments in the oil-rich countries were not targeted to develop productive non-oil sectors, rather most of the diversification was toward construction and hotels. These sectors relied mainly on foreign low-skilled labour due to the labour scare GCC with largely low-skilled local labour force that mismatches the requirements of the private sector. Therefore, despite infrastructure creation, the effects on innovation and creation of higher productive non-oil sectors remain minimal.

Capital expenditure share in the oil-poor countries is relatively weak, particularly after the reductionary public expenditure policies adopted by these countries since the 1990s. The share continued to reduce during the 2000s and 2010s and it stands only around an average of 11 percent in 2015 (Figure 8). Furthermore, public expenditure has weighed on the side of subsidies and consumption, public sector salaries, interest payments, military expenditure and so on, which limits fiscal space for investment in productive sectors. This low investment has hampered diversification to manufacturing activities although the oil-poor countries are labour rich with improved education levels than that of the oil-rich countries.

A combined effect of oil-revenue volatility and imperfect institutions, particularly in fiscal management, pose major hindrance to sustain economic growth and economic diversification. A recent study by El-Anshasy et al (2017) argue that well strategized forward looking institutions in fiscal management and better fiscal policy can offset some of the negative effects of oil revenue volatility and help sustaining the growth and diversification of the economies. In addition, the political economy context, segmented labour market that discourages an enabling competitive environment, low absorptive capacity, and overvalued exchange rate, among others, were contributing factors.³³

Figure 8: Current and capital expenditure (% of total expenditure)



³³ See Malik, 2016; Selim and Zaki, 2014; El-Badawi and Soto, 2011.

Source: Authors' calculations, based on data from IMF Government Finance Statistics, Ministry of Finance reports of various governments.

Note: Data for Egypt, Jordan, Lebanon are taken from IMF GFS; Data for Kuwait, Oman, Qatar, Saudi Arabia, Morocco and Tunisia are taken from national sources (Ministry of Finance Reports). For calculating capital expenditure, definitions of capital expenditure was made consistent over time by using IMF manual 2001.

4.2 "Crowd in" influence of public investment remained a challenge

While public investment in the region is relatively high, it is not adequate enough to fill the development deficits, apart from influencing diversification and productivity growth. With government budgets being pressed due to oil price shocks or conflicts in many parts of the region in recent years, channelling investments to productive sectors becomes a bigger challenge. The region needs greater private investment to accelerate diversification and building modern economic sectors. Empirical studies in the past have questioned the efficiency of public investment and its relationship with "crowd in" of private investment.³⁴ However, increasing recent evidences from developing countries suggest that the relationship between public and private investment depends on quality of institutions. While countries with weak institutions tend to diminish the positive effects of public investment, those with better institutions tend to show significantly higher marginal productivity of public investment and "crowd in" effect of private investment, as well as more open to international trade and financial flows.³⁵

Given the weak institutions and poor performance of governance indicators in the region, the association between public investment and "crowd in" of private investment is rather discouraging. For the region as a whole, the ratio of private to public investment is close to 2 during the period 1974-2000, that is, private investment is twice as large as public investment. The ratio remains well below the levels of OECD economies (with ratios close to 6) or of the rapidly growing East Asian economies (with ratios close to 5).³⁶

Foreign direct investment, as a share of GDP, flows to the region were considerably lower than that of the average of the developing countries in 2015. The FDI inflow to the region has continuously been on a declining trend since the global financial crisis and the Arab uprisings that affected many parts of the region. Between 2011 and 2015, the average annual inflow of FDI, portfolio investments and other official flows into the region amounted to \$42.6 billion, compared with outflows of those about \$69.2 billion.³⁷

4.3 Weak association between growth in R&D expenditure and GDP

For the Arab region, expenditure on research and development, as a share of GDP, is only 0.6 percent in 2011, which is the lowest among all developing regions in the world (Figure 9). The

³⁴ Devarajan et al., 1996; and Sala-i-Martin and Artadi, 2003.

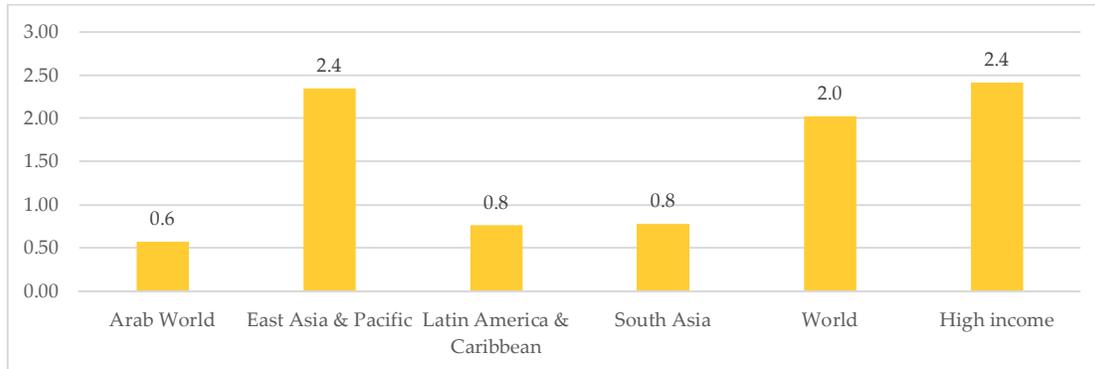
³⁵ Cavallo and Daude, 2011.

³⁶ Sala-i-Martin and Artadi, 2003.

³⁷ ESCWA 2017a.

East Asia and Pacific region, which led industrial growth in the last decade, has witnessed research and investment on average four times higher than that of the Arab region.

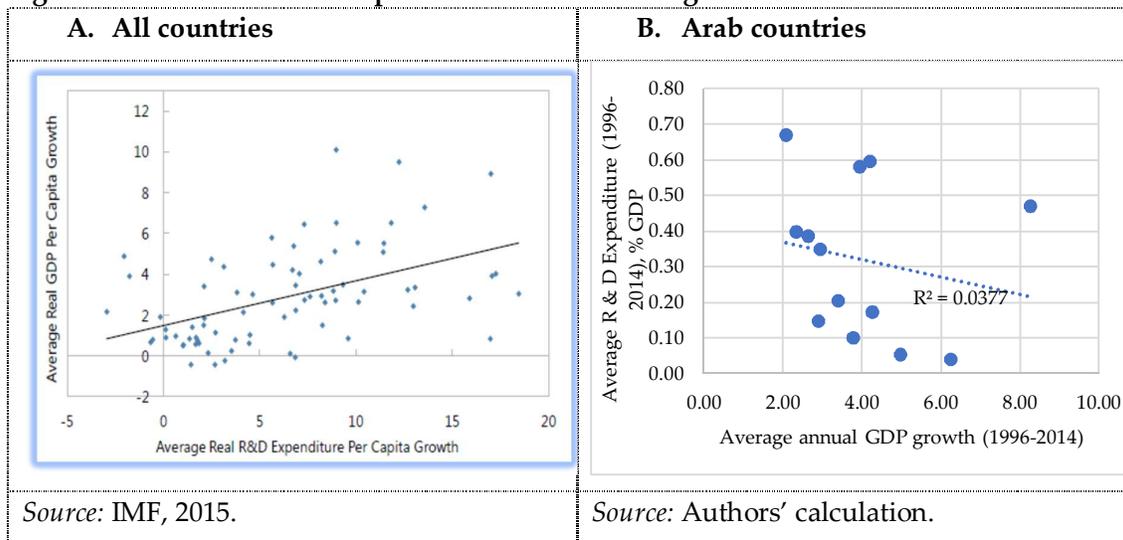
Figure 9: Expenditure on research and development (as % of GDP) across different regions in 2011



Source: World Bank (2017).

Quite clearly, the low investment in R&D in the Arab region fails to encourage the kind of innovations which are usually associated with an increase in industrialisation and economic growth. Cross-country studies have shown that typically a 1 percent increase in the R&D capital stock is associated with a rise in output of between 0.05 and 0.1 percent.³⁸ In contrast to the pattern that emerges from the countries around the world, the Arab region has a poor record of association between growth in R&D expenditure and GDP growth (Figure 10).

Figure 10: Growth in R&D expenditure and economic growth



Source: IMF, 2015.

Source: Authors' calculation.

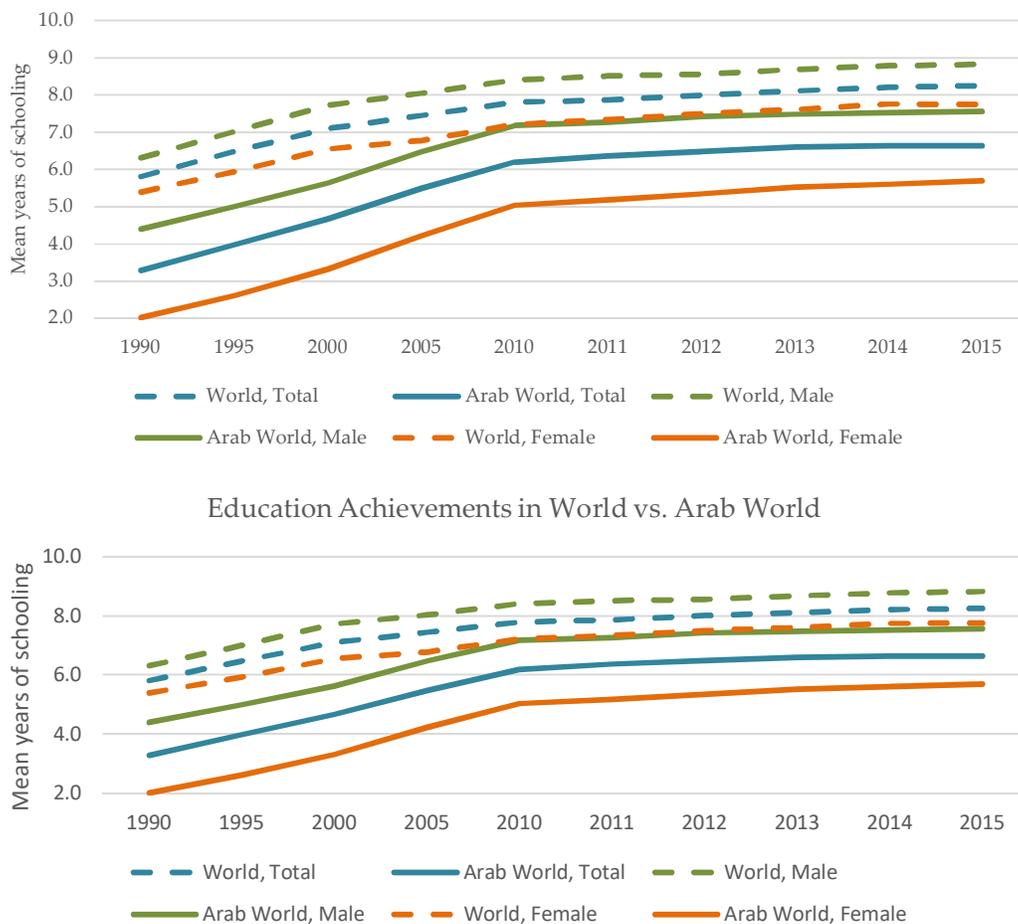
4.4 Lagging behind on quality education and advance education levels

Advance education levels or quality of human capital is an important driver of innovations that can lead to more diversification and transformation of economies. The *attained* mean years of schooling achieved by the current generation (who are 25 years or older) in the region is 7.3, against the world average of 8.4 in 2015 (figure 11). The region is significantly behind the

³⁸ See Mohnen and Hall, 2013; Cameron, 1998.

average education levels of OECD countries, which is around 12 years in 2015. In 1990, the difference in the mean years of schooling between the world and the Arab region was above 30 per cent, which reduced to about 20 per cent in 2014. Although it is showing a tendency to converge over time, it is moving at a very slow rate. Furthermore, the quality of education in the Arab region is a serious concern, as highlighted in several studies in recent years.³⁹ In this background, the public expenditure on education has an important role in advancing education levels and quality of human capital. In oil-poor countries, there has been a noticeable decline in the education expenditure, as a share of GDP, since 2008, on average, reaching 3.3 per cent in 2014. In oil-rich countries, expenditure on education and health as a share of GDP has remained almost stagnant from 1990 to 2014, varying between 4 to 5 per cent.⁴⁰ In OECD countries, health and education expenditure shares accounted for 6 per cent of GDP and 5.2 per cent of GDP respectively in 2013.⁴¹

Figure 11: Development of education achievements in world vs. Arab World over time



Source: Sarangi and von Bonin, 2017, based on data from UNDP, 2017.

³⁹ UN and LAS 2013; ESCWA, 2016.

⁴⁰ Sarangi and von Bonin, 2017.

⁴¹ OECD, 2016; OECD, 2017.

4.5 Generation of decent work remain a critical policy challenge

The biggest challenge of policy makers in the region is to generate decent work for the rapidly growing young population. Previously, it was responsibility of the governments to provide employment in the public sector, as part of the implicit social contracts in the Arab region. The Arab countries managed to continue with such agenda. Despite public expenditure cuts since the 1990s with adoption of privatisation and liberalisation policies, expenditure on public employment remained unchanged in most countries as a means of social contract to support the middle class in the region (Annex Figure 1).⁴² Thus, expenditure cuts had to happen in the capital expenditure rather than the budget on employment and wages. However, with the onset of global economic slowdown in 2008 and its consequences on the Arab region, public budgets were squeezed to generate adequate employment opportunities in the public sector corresponding to the growing number of labour force. Furthermore, the region also witnessed several episodes of instability, including conflicts, oil price slump that have regional implications and contracted their fiscal space significantly. As a consequence, the early 2010s period saw a large share of skilled labour force being unemployed, or they entered the informal sector in the absence of a vibrant private sector.

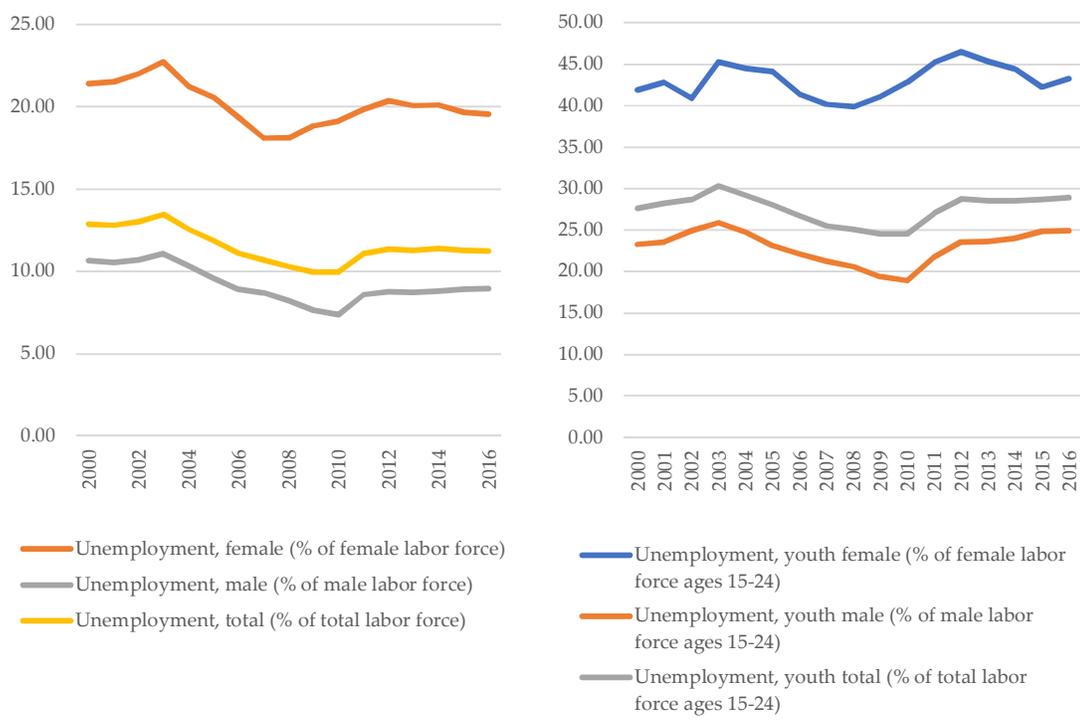
Unemployment rate, reversing the declining trend in the 2000s, started increasing from 10 percent in 2010 to 11.3 percent in 2016. During the same period, female unemployment rate stood around 20 percent, double that of the male unemployment rate, on top of the fact that female labour force participation is very low in the Arab region (figure 12). Strikingly, youth unemployment in the region stood high in general and female youth unemployment increased alarmingly from 42.3 percent in 2010 to nearly 44 percent in 2016.

Figure 12: Unemployment rate in the Arab region by sex

A. Total Unemployment Rate

B. Youth Unemployment Rate

⁴² ESCWA, 2012; ESCWA, 2014.

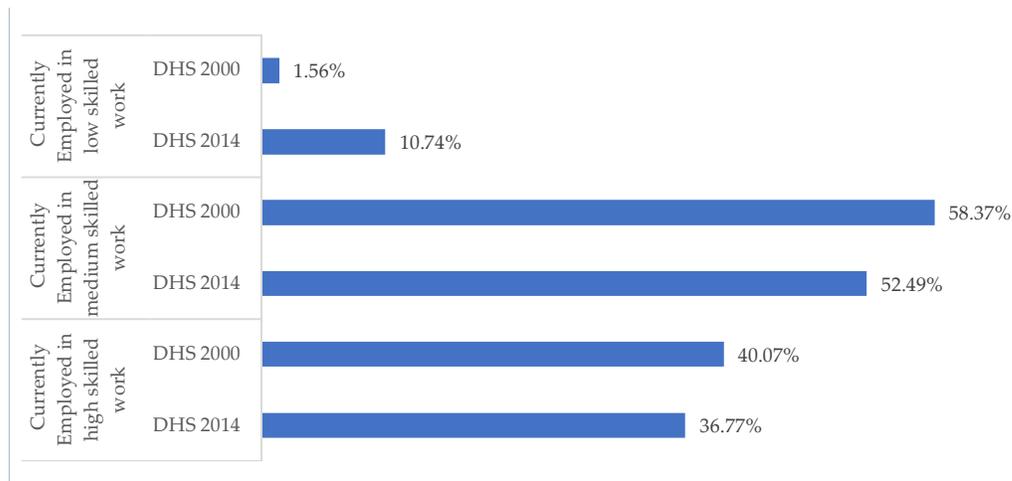


Source: World Bank, 2017

A natural consequence of high prevalence of unemployment rate in the region is that a large share of educated labour force was forced to enter into the informal sector. Estimates suggest that informal employment in non-GCC Arab countries could be up to 65 percent in 2011.⁴³ Data on informal employment is very scarce and inadequate to have a comprehensive picture of the region. However, available data from Demographic and Health Surveys (DHS) for Egypt suggest that women with secondary education faced a particularly distressing situation where they had to accept low-skilled jobs despite having secondary education. Figure 13 suggests that the share of women that have higher secondary education levels has gone up in the low-skilled jobs from 1.6 percent in 2000 to 10.7 percent in 2014.

⁴³ World Bank, 2014a.

Figure 13: Ever-married women (15-49) with secondary education



Source: DHS Survey Egypt (2000 and 2014).

The consequences on employment was expected given the fiscal choices opted by the governments in the past. Fiscal choices aimed to keep up current expenditure, mainly on salaries and subsidies, reduced fiscal space for productive expenditure in a situation where most countries adopted public expenditure cuts to increase efficiency and privatisation since the 1990s. Such public expenditure policies, without adequate well strategized macro-fiscal frameworks and institutional reforms, hardly attracted “crowd in” of private investment, rather it resulted in high pressure on public budgets and eventually led to contraction of growth when they faced fiscal shocks due to economic recession or conflicts or oil-price slumps. After all, without sustaining growth and improving quality of institutions, diversification and transformation of economies would be hard to achieve.

7. What are the pathways – Policy discussion

Fiscal policy choices are important to support sustaining growth that can lead to reduce volatility and encourage productivity-enhancing structural transformation. Particularly at the early stage of industrial development, fiscal policy interventions are crucial to build up industrial capital, or to invest in strategic sectors where the country can have a comparative advantage, or to develop new technologies and innovations. Fiscal incentives such as export subsidies, tax incentives and access to finance, in addition to trade and industrial policy incentives, are also important means to attract private sector investments. In this context, public-private coordination is an important role of government as well. France, for example, has always favoured government-sponsored economic programmes in which the public and private sectors co-ordinate their efforts to develop new technologies and industries.⁴⁴ The recent launch of white paper of British Government on the new industrial strategy advocated itself as a ‘market shaper’ in supporting enterprise and entrepreneurial activity through investing in low carbon infrastructure, supporting access to finance to starting and growing firms, fostering knowledge creation and its application, developing skills and capabilities, among others.

⁴⁴ See discussion in Lin, 2012.

Lessons from other countries and also learning from the own experience of Arab countries suggests that a key to the transformative growth will be identifying the kinds of manufacturing and services, and sub-sectoral activities that will drive growth and generate decent work. Two key ways to identify the pathways are: (a) investing in strategic sectors that have competitive advantages and are relatively high labour-intensive, and (b) investing in infrastructure, knowledge assets and innovation toward improving human capital and economy-wide productivity.⁴⁵ Higher public investment, if supported by coordinated macroeconomic and industrial policy, would lead to crowding-in of private investment toward furthering innovations, generating productive sectors and decent jobs.

7.1 Investing in higher value-added and labour-intensive sectors

A major challenge is to identify new strategic industries conducive to the country's latent comparative advantage, which evolve as the endowment structure changes.⁴⁶ A disaggregated sub-sectoral analysis can help in identifying the higher value-added and relatively high labour intensive activities for expansion and improvisation through appropriate policy incentives.

While institutional reforms are necessary in various fields, specific policies may be needed to promote specific industries, like the agro-industry and rural non-farm activities. Industries firms can be positioned at the right stage of global value chain so they can benefit from increases in international trade in intermediate and semi-finished products. Commodity based industrialization, with the aim to capitalize on the region's natural resources, and a focus on upstream linkages that replace raw materials as exports with higher-value processed goods. A recent series of policy papers on product space analysis in oil-rich and oil-poor countries provides interesting insights about competitive advantage of the countries in certain products. For instance, Egypt's product-space analysis suggests that Egypt can have higher benefits by moving away from a resource-based export basket into more complex and interconnected sectors such as chemicals and machinery.⁴⁷ For Kuwait and other oil-rich countries, chemicals, petrochemicals, machinery, and some products in the foodstuff sector can be the anchor for higher value-added industrial diversification.⁴⁸ However, this depends upon aligning appropriate industrial policies with fiscal interventions.

Arab countries are faced with few options. Even under the most optimistic scenarios a leap in low value-added non-oil exports would not be insufficient to sustain the capital good import requirements for a fast growing industrial program. Arab countries, therefore, need to follow a different path of productivity enhancement which can lead to cumulative growth processes and different patterns of specialization. Industrial policy can guide these changes. All successful transitions utilized economies of scale and productivity growth. In smaller countries, the limits of internal demand was overcome by exports.

7.2 Investing in infrastructure, research and innovations, and human capital

Exploiting industrial competitive advantages is neither possible, nor optimal, without high-quality infrastructure, knowledge and innovation and a skilled labour force. Knowledge and

⁴⁵ The section is influenced by the work of Lin, 2012.

⁴⁶ Tools like the value-chain analysis or product space analysis. See Bustos and Yildirim, 2017a; and the growth diagnostic framework suggested by Hausmann et al., 2005.

⁴⁷ Bustos and Yildirim, 2017a.

⁴⁸ Bustos and Yildirim, 2017b.

innovation have spill-over effects to the entire economy and they can ensure that new strategic sectors can be explored. The Arab region lags behind when it comes to investing in research and development. The Arab countries invest half as much as Singapore does, and a quarter as much as Israel does, in research and development. Any regional development strategy should therefore include a plan to boost its innovation potential, in particular the capacity to patent innovations, company spending on R&D, and university-industry collaborations on R&D. One way in which research and development can be fostered is to create Centres of Excellence that coordinate research programs. One example is the effort made by the EU member states to create the European Joint Research Centre created together with the Massachusetts Institute of Technology Foundation that is expected to have significant positive externalities in due course.⁴⁹

Creating an optimally skilled workforce is central to structural transformation. By enhancing education and research opportunities, Arab countries can ensure high quality human capital for both sectors where they have latent competitive advantages, and high-tech industries and services. Consequently, education policy needs to focus on reducing domestic reliance on the rest of the world for technological expertise.

Investing in technological advances is key for the region to diversify and to raise productivity and growth that is inclusive and sustainable. In addition, it is important for the region to leverage transfer of technology in the process of global value chains, in the areas of cross-border concerns such as climate change, and in essential health services. Furthermore, investing in human resources, research and innovation, and generation of decent jobs are enablers toward leapfrogging economic growth and building the virtuous nexus between growth-employment-poverty reduction.

Building fiscal space for investing in productive assets (both physical and human) is crucial for supporting structural transformation. Arab states spend, on average, 5 percent of GDP on military expenditure, twice the world's average level. It is significantly higher than that they spend on health and education. Expenditure switching, by reallocating a part of the military expenditure, is not only key to strengthening the fiscal space for building long term human capital, but it is also central to transforming the economies.⁵⁰

A successful structural transformation relies not just on public investment but also on fiscal policy coherence with monetary and exchange rate policies as well as industrial policies. Many countries in the Arab region have adopted industrial policies in an effort to encourage private sector growth and structural transformation.⁵¹ Egypt's approach to industrial policy post-independence was primarily through state investment in heavy industry and the use of regulatory powers to direct private sector investment in favored sectors. Furthermore, the 1990s onwards saw a greater role for private investment in structural transformation through the privatization of state-owned enterprises, simplification of custom procedures and business startup regulation as well as continued liberalization of the financial sector. In Morocco, industrial policy has alternated between selective targeting of benefits to certain sectors and broad based targeting to all exporters through tariffs and licenses. Syria's approach to industrial policy comprised of building industrial cities and export promotion

⁴⁹ ESCWA, 2015.

⁵⁰ ESCWA, 2013.

⁵¹ World Bank, 2014b.

agencies. Jordan also created a variety of programs such as tax incentives, creating development zones among others to support industry.

However, these efforts have not led the countries successfully toward structural change, as analysed above. Crony capitalism, market failures associated with lack of adherence to compliance, limited absorptive capacity, overvalued exchange rate, lack of proper fiscal and monetary coordination and the political economy context are among the reasons of limited progress in diversification.⁵² The region has much to learn from Korea in this sense, as Korean policies appear very much like those taken in the Arab region, yet the Arab countries have not had the same success. In Korea the far-reaching reforms in the public sector limited the extent to which leaders could abuse of their power. Also, industrial policy was accompanied by infrastructure construction and support for human capital development. Unlike in Korea, countries in the Arab region failed to properly define market failures and as such policies were not designed to address potential market failures. For instance, subsidies in Korea were tightly linked to more competitive export markets and so they were used to ensure compliance and the meeting of targets whereas in the Arab region, the efficiency of subsidies were not properly evaluated. In Egypt, for example, there was a high share of FDI into the real estate, mainly from GCC countries, which relies on cheap labour and has limited scope for technological spillovers, or productivity enhancement and decent employment generation.

⁵² Cammett et al., 2015; World Bank, 2014.

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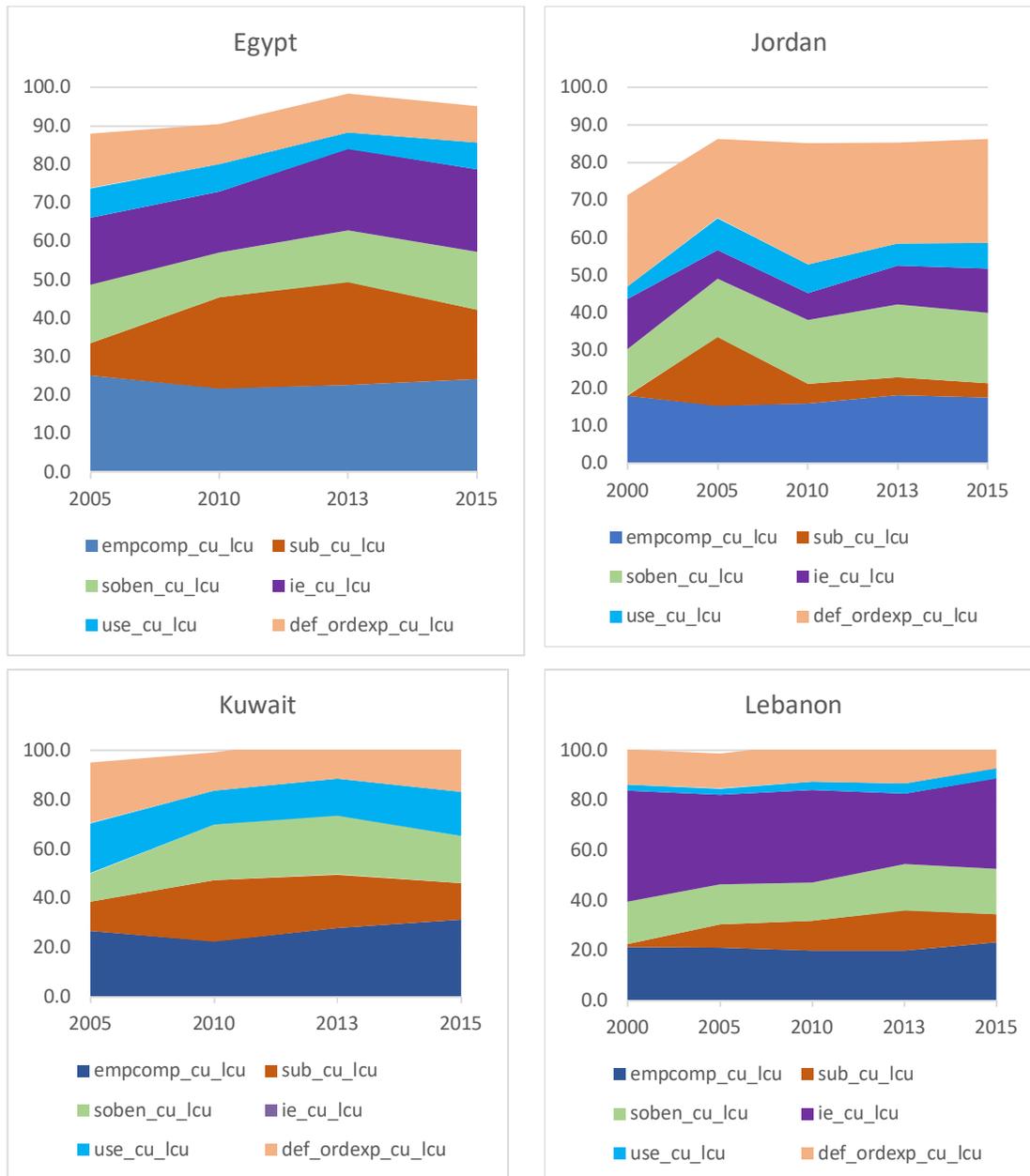
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Annex

Figure 1 – Expenditure components (% of total expenditure)



Source: Authors' calculations, based on data from IMF Government Finance Statistics reports.