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## ***Inclusive Growth in MENA: Employment and Poverty Dimensions in a Comparative Context***

**Research n°FEM35-16  
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FEMISE RESEARCH  
PROGRAMMEME

# **Inclusive Growth in MENA: Employment and Poverty Dimensions in a Comparative Context**

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**Research no FEM 35-16**

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## EXECUTIVE SUMMARY

1. Interest in the relationship between growth and equity has deep roots and a long history in economic thinking and development debates.
2. Traditionally, thinking has been divided between those who favour focusing on efficiency and growth as the best way to overcome poverty and inequality and those who advocate explicit policies to assist the poor even if this might come at the expense of a slower overall growth rate.
3. In recent years, however, thinking has evolved beyond such a presumed trade-off with calls for a better and more integrated understanding of the relationship between growth and distribution.
4. Asia's recent experience of rapid and sustained growth in recent decades has contributed to this re-thinking demonstrating that considerable poverty reduction is possible in the face of persistent, if not widening, inequalities.
5. The outbreak of mass protests against authoritarian regimes in MENA – dubbed the 'Arab Spring' – has similarly shown how a narrow focus on growth and a failure to consider its wider ramifications can have far-reaching consequences.
6. An overriding economic lesson of the decade before the Arab uprisings is arguably that it is not growth *per se* but the *type* and *pattern* of growth achieved that matters as well.
7. This report considers MENA's recent trajectory of growth and considers critically its prospects for achieving inclusive growth.
8. It is structured into **two parts**: the first part reviews the evolution of thinking on the relationship between growth and equity and considers its prospects in the MENA region from a broad macro perspective. The second part itself consists of two parts: first, it focuses on inequality aspects of inclusive growth through a detailed case study of wage adjustments and disparities during economic crises in Egypt and Jordan; second it offers a detailed study of the role of Micro and Small Enterprises (MSEs) in Egypt and in MENA.
9. **Chapter 1** starts first by reviewing the evolution of thinking on growth and distribution in economic theory and development policy showing how pro-poor growth strategies have given way to concerns about inequality in recent years
10. It then examines the concept of **inclusive growth** and its analytical aspects considering whether and to what extent it differs from pro-poor growth both analytically and in practice. This demonstrates the absence of a universally agreed notion of inclusive growth.
11. **Chapter 2** deals with a wide range of indicators pertaining to economic growth and distribution in MENA and analysing, where possible, the experience of these countries over time and in a comparative context with other developing regions.
12. It shows that overall the MENA region has fared relatively better recently both in historical terms and compared to other regions. Most MENA countries enjoyed respectable average annual real GDP growth rates of 4%-5% during the period 2000-10.
13. The same period also witnessed many other encouraging achievements: life expectancy rose, educational and health indicators improved, the number and proportion of slum dwellers declined and more people enjoyed civic amenities such as access to improved drinking water and sanitation.
14. The demographic experience of the region, however, has been an important challenge exhibiting some of the highest national unemployment rates and youth unemployment rates and the lowest female and participation in the workforce. In this respect, there is much that the countries in the region need to do to enhance their prospects for achieving inclusive growth.

15. This Chapter also offers a detailed analysis of poverty and inequality in the region. While the absolute level of poverty for each country measured on the basis of the international poverty lines may be contentious, the location and the movement of poverty relative to the international poverty curve in each country sheds light on the nature of poverty reduction in the country concerned.
16. We argue that the international poverty lines of \$2 and \$2.75 a day are unlikely to give accurate measures of poverty in any of the MENA countries, but it is plausible to maintain that the national poverty lines for the MENA countries are likely to fall between the two international poverty lines – closer to the lower line for countries such as Egypt and Morocco, and to the upper line in the case of the other countries.
17. As far as inequality is concerned, our data point out to a number of findings. Firstly, the Middle East is varied, and so are the income distributions patterns it displays. Secondly, the data tend to place the region's income distribution levels between those for Africa and Asia. Therefore it is not true that the Middle East has exceptionally low levels of income inequality. In fact it has both high and low inequality levels, and it tends to have moderately high levels of inequality overall (some countries like Egypt are on the lower end of the scale of inequality, with an income distribution closer to Asian pattern; others, such as Iran, have fairly high inequality, closer to African levels). Thirdly, a key finding is that despite huge structural changes in these economies, income distribution has not changed by much. Over the last few years, there are indications of a worsening tendency, but the trend is not noticeable when compared to worsening income distribution in fast growing Asian countries.
18. **Chapter 3** comes back to the notion of inclusive growth and its measurement. We offer a methodology for constructing a single combined score for measuring inclusive growth for comparison purposes. This is based on 13 selected indicators pertaining to broader categories of: growth, health and demographics, labour force and employment, gender, education, sanitation, inequality and governance.
19. A comparison is offered for standardised inclusive growth scores thus estimated (with a minimum = 0 and maximum = 100) for the two periods of 2000-02 and 2008-10.
20. Our data show that within the Middle East region, Iran and especially Syria follow a deteriorating trajectory in this period (with a decline of 13.1% and 19.4%, respectively). This is in contrast with all other countries where a strong trend of improvement is observed: Yemen by as much as almost 30%; Lebanon by 25% and Turkey and Israel by about 15%.
21. Further sensitivity analysis is conducted to establish the relative importance of each of the thirteen indicators included in the IG index for a select sample of five North African countries (Algeria, Egypt, Libya, Morocco and Tunisia).
22. Results show that employment indicators (both employment-to-population ratio and female workforce as a % of the total labour force) have the largest impact in all these five countries. This is especially true of Algeria (particularly in 2000-02) as well as in Tunisia. Ironically perhaps, the inclusion of the inequality indicator (Gini) improves the situation in Egypt. By contrast, almost all of these five countries do well in respect of sanitation and education indicators whose elimination lowers their IG index below 100%. Last but not least, Morocco shows a more varied pattern since its IG index shows sensitivity to the structure of employment as well.
23. These results are interesting and to a large extent reinforce our descriptive discussion of a wide range of indicators offered in Chapter 2.
24. **Chapter 4** focuses on the labour market as an important arena where inequality and social impact of economic adjustments and crisis are witnessed, but also where reforms and policy interventions can be carried to achieve inclusive targets.

25. It examines public-private, gender and education dynamics of wage inequality in Egypt and Jordan during a period of economic liberalization and crises. It draws from four comparable labour market surveys in Egypt: the 1988 Labour Sample Survey followed by three rounds of the Egypt Labour Market Panel Survey (ELMPS 1998, 2006 and 2012), and for Jordan, one also highly comparable round of the Jordan Labour Market Panel survey (JLMPS 2010).
26. The results of analysing descriptive data in these surveys point to two distinct phases in Egypt: an initial one of wage erosion and narrowing pay differentials, and a subsequent phase of recovery of real wages and decompression of the wage structure up until 2006. The onset of the financial and post-revolution crisis in Egypt seem to have coincided with a moderation in real wage rises, whereby the traditionally lower paid segments saw bigger rises. This resulted in compression of wage structure (i.e. reduced inequality), again, but still everyone's wages are low enough that there is a rise of the share of workers below the low earnings line, who can be described as the working poor, to a startling 46% of all working Egyptians.
27. Estimates from a joint model of sector allocation and wage determination based on data after the onset of the crisis period in both countries, point to a moderated rise in real pay, and a stable wage structure but very wide gender-based pay gaps in the Egyptian private sector by international standards. High returns to university education for women helped maintain a compressed gender wage differential in Jordan in comparison to Egypt.
28. The Chapter concludes by drawing implications for inclusive labour market reforms as MENA countries recover from the crisis. Such policies centre on moving away from using the public sector as a lead wage-setter and employer of last resort and towards enhancing measures that increase the equality of opportunity for modern and relevant training and education programmes systems to upgrade the quality of the labour force in the private sector.
29. **Chapter 5** utilises the 2003-2011 MSE surveys in Egypt to evaluate the characteristics of that sector in comparison to other surveys in Egypt and similar ones in MENA. It provides a situation analysis of the role, scope, challenges and opportunities related to MSEs in Egypt as presented by recent enterprise data.
30. It also examines changes over the 2003-2006 period which witnessed both global recession and domestic political upheavals leading to economic crisis. Three main conclusions and broad sets of policy recommendations are drawn from the comparative analysis in this chapter.
31. First, the structure of MSEs is relatively small and mainly concentrated in the range of 2-4 employees, and the majority of enterprises are concentrated in trade activities followed by services and manufacturing activities, so new policies should give more emphasis to manufacturing activities to increase their numbers, productivity and employability.
32. In general, the MSEs productivity, quality of products, competitiveness and ability to innovate is rather below the performance of other developing countries such as India, Thailand, Malaysia, Indonesia, Taiwan, Vietnam. Thus any development of the MSEs should involve a serious stress on various technical assistance packages for the different types of economic activities, especially those that are more competitive and have potentials for growth and expansion.
33. Second, results indicate that informality still dominates the MSE sector in Egypt. Inherently, there is a disincentive to expand beyond a certain limit and most government regulations fail to reach them. As they grow, they become visible to taxes and other regulations and so far all the institutional steps, procedures and programs that were undertaken to improve the business climate surrounding MSEs were not sufficient enough to convince them to work on a formal basis. Yet, formal enterprises have better opportunities for interacting in the market and expanding their clients' base, with the formal private and public sectors through subcontracting, and thus raising their capacities to introduce better production technologies and raise their productivity and efficiency. Thus more conducive steps should be introduced to help MSEs

become more formal and enjoy the privileges of widening the scope of their markets. Offering fiscal incentives such as tax exemptions in the first three years of starting up the business could be one step; presenting business bonus for innovation (registering patents or trademarks) and tax exemptions for all activities that involve research and development would be another step; granting certain fiscal incentives for exporting is also helpful.

34. Third, the main source of capital for MSEs comes from own savings of the entrepreneurs or inheritance. Formal loans play a very modest role in financing MSEs, therefore the government should look into the procedures adopted by the banks and try to improve and facilitate them. Up and until now, the outreach capacity of the formal lending institutions is quite limited in its ability to support MSEs with its needs for funding. This result indicates that the present financial packages are not sufficient to meet the entrepreneur's need, and are not capable to reach them. Strengthening the capacities of the existing NGOs operating in economic support to MSEs is direly needed. In addition, new NGOs should be encouraged to operate in this field. Any intervention in this respect should target the areas of weakness such as the female owned enterprises, and the micro enterprises (less than 5 workers) and rural-located MSEs.
35. Overall and in addition to boosting the small enterprises through technical assistance, providing finance, offering better work places, and opening up windows of transactions with the larger enterprises and the public sector and government purchases would act as enabling factors. Specifically, new policies should also provide fiscal incentives to large and medium sized enterprises for establishing strong business links and extending the supply chain with the MSEs, by setting standards to their products, which could be used as intermediate inputs to larger enterprises.
36. In Chapter 6 we see that like with enterprise data, results based on the latest house-hold level micro and small enterprises data in Egypt reveal that the structure of MSEs is relatively small and mainly concentrated in the range of 2-4 employees and this proportion has been drastically increasing over time, particularly as a coping mechanism in recent recessionary times. The majority of enterprises are concentrated in trade and the main source of capital for MSEs comes from own savings of the entrepreneurs or inheritance sources such as loans , as well as informal sources like family loans and ROSCAs.
37. More in-depth analysis of wealth status of households based on transition matrices for the change in wealth status across quintiles for 2006-2012 shows a definite trend towards compression with the proportion who moved up from the bottom quintiles and the proportion who moved down from the top quintile much higher than in 1998-2006.
38. Regression analysis based on cross-sectional and panel data with MSEs indicate that they are more likely to prosper the larger in size (more than 10 workers and relatively high levels of capital), and this indicates that any policy aiming to sustain and develop MSEs should help them increase their capital through providing continuous and secure access to finance and technical assistance. The positive changes in the enterprise (size, formality and capital) or the entrepreneur's characteristics (age and education) affect the household's wealth status positively. Training in areas such as domestic and international marketing, technical aspects of the production process, legal, financial and administrative procedures is required to enable the enterprise to improve their products, add new lines and innovate.
39. The results show that formal loans play a very modest role in financing MSEs, therefore the government should look into the procedures adopted by the banks and try to improve and facilitate them. They also single out one rather promising form of informal financing for household enterprises in Egypt: ROSCAs, which account for a significant proportion of sources of finance for both small and larger enterprises that exceeds both bank loans and household savings.

## INTRODUCTION

Interest in the relationship between growth and equity has deep roots and a long history in economic thinking and development debates. Traditionally, thinking has been divided between those who favour focusing on efficiency and growth as the best way to overcome poverty and inequality and those who advocate explicit policies to assist the poor even if this might come at the expense of a slower overall growth rate (Bourguignon, 2000: 2). In recent years, however, thinking has evolved beyond such a presumed trade-off with calls for a better and more integrated understanding of the relationship between growth and distribution.

Asia's recent experience of rapid and sustained growth has contributed to this re-thinking by demonstrating that considerable poverty reduction is possible in the face of persistent, and widening, inequalities. This has in turn led to a sharper differentiation between policies dedicated to fighting poverty and those aiming to improve equality, and more generally, to greater interest in making growth more 'inclusive' to benefit the widest social and economic groupings.

Recent developments in the Middle East and North Africa (MENA) too have raised similar issues relating to the nature and type of growth experienced in the region. The outbreak of mass protests against authoritarian regimes – widely dubbed the 'Arab Spring' – has shown how a narrow focus on growth and a failure to consider its wider ramifications can have far-reaching consequences. These uprisings in the main occurred against a somewhat paradoxical background of a period of relatively improved economic performance in the region. During 2000-10, for instance, MENA's real GDP growth averaged around 4%-5% a year (Hakimian, 2011) including Tunisia, Libya, Yemen and Egypt, where autocratic regimes have been swept away by mass uprisings since early 2010. Yet, the region continued to suffer from social and economic disparities with persistently high unemployment, particularly amongst the youth. A trickle-down mechanism to spread the benefits of growth was either absent or not sufficiently robust to prevent social and political unrest and strife. An overriding economic lesson of the decade before the Arab uprisings is thus it is not growth *per se* but the *type* and *pattern* of growth achieved that matters as well.

This report is an in-depth study of inclusive growth in MENA with a focus on employment and inequality dimensions. It comes in two main parts: the first part reviews the evolution of thinking on the relationship between growth and equity and considers its prospects in the MENA region from a broad macro perspective. This section also develops and offers a methodology for constructing a single combined score for measuring inclusive growth in these and a number of other Less Developed Countries for comparison purposes.

The second part itself consists of three chapters: first, it focuses on inequality aspects of inclusive growth through a detailed case study of wage adjustments and disparities during economic crises in Egypt and Jordan; second it offers a study of the role of Micro and Small Enterprises (MSEs) in Egypt and in MENA. Finally, the last part uses the panel component of three waves in the ELMPS surveys in Egypt to study factors that help enterprises perish or survive. Using transition matrices it examines whether they manage to develop their enterprises and thus raise their families' income; and if the small and successful business enterprises are capable of raising the household's socio-economic status measured by an asset-based wealth index. Policy implications to bolster the contribution of MSE's to employment creation and poverty alleviation can be highly relevant to other MENA countries.

**PART 1: LITERATURE, ANALYSIS AND MEASUREMENT OF INCLUSIVE GROWTH**

## 1. Literature Review

### 1.1 From Growth and Equity to Poverty Reduction and Back?

Concerns about growth and inequality go back a long way in economic thinking and policy debates. Early post-war thinking on the subject was influenced by Kuznets' seminal work in 1955 which posited an 'Inverted-U Hypothesis' between growth and income distribution (Kuznets, 1955). Accordingly, growth was initially expected to have a detrimental effect on inequality but this was eventually to be reversed during the course of long-term economic growth.

This influential view was to a large extent rooted in development thinking at the time which saw structural transformation and growth making differential impacts on different sectors and regions. Accordingly, given that some sectors and regions were likely to benefit first, inequality was expected to worsen initially. However, with the benefits of growth and transformation spreading to more sectors and regions, the rising trend of inequality would be expected to be reversed and equality would improve. More specifically, this process was driven by shifts in surplus labour from the poorer and less productive traditional (or subsistence) sector to the more productive (or capitalist) sector. As the weight of the sector with greater inequality (modern sector) rises and simultaneously the gap between the two sectors widens, overall inequality would deteriorate at first (McKinley, 2009:12). With inequality eventually stabilising, the impact of growth on equality would thus show up as an inverted-U shape.

While Kuznets' empirical work was based on the historical experience of three developed countries only (the US, England and Germany), his influence was nevertheless pervasive enough to elevate his contribution to something of an 'iron law' in the course of growth and development. This was despite the fact that subsequent empirical investigations failed to give a conclusive support in favour of the inverted-U hypothesis. While Barro found empirical support for it in two successive studies (2000 and 2008), other studies were more critical casting a shadow of doubt on the empirical validity of this hypothesis. For instance, some studies have pointed out to differences in Asia where rapid periods of growth (such as in the case of Korea and Taiwan between the 1970s and 1990s) were not accompanied with deteriorating income inequality (Ali, 2007a: 8). Similarly, based on a comprehensive study of the Gini index with some 682 observations for 108 countries, Deininger and Squire (1996) failed to find empirical support for Kuznets' inverted-U curve.

Empirical ambiguities aside, the wider policy implications of such a simple, and yet powerful, hypothesis were perhaps more important. At one level, the Kuznets curve seemed to imply that a degree of deterioration in inequality was inevitable at least in early stages of growth and structural transformation. On the other hand, this pessimistic and short term outlook was countered by optimism in the long run since growth would eventually pave the way for an improvement in income distribution. What delineated the two phases was a 'trickle down' mechanism or process which would ultimately kick in, spreading out the benefits of growth. This influential view – placing efficiency and growth before distribution – became dominant during the 1960s as well as during the structural adjustment reforms of the 1980s and early 1990s (Bourguignon, 2000: 3).

The 1970s, however, saw a major rethinking of the subject. This was led by another seminal work in 1974 – *Redistribution with Growth* – which sought to reposition equity at the heart of the development agenda (Chenery *et al*, 1974). Questioning the primacy of growth over distribution, the authors argued that, given the weight of the rich in GNP, a strategy of maximising growth was bound to be inherently pro-rich. It was therefore no surprise that the policies adopted to maximise growth entailed in the main a range of market- and business-friendly policies (such as lower income and corporate taxes, wage-restraint policies and low inflation policies), which have since become the norm though they have at the same time been adorned as 'pro-poor' in their impact (McKinley, 2009: 15). From this perspective, however, what was needed was not so much a redistribution of

assets in favour of the poor as the reallocation of public investment to bring about a more just distribution of resources over time (McKinley, 2009: 16).

While the influence of this book was largely limited and its main message drowned in the global economic crisis that followed the first oil shock in the mid-1970s, debates had indeed moved on and poverty was gradually moving centre stage of the development agenda. This paved the way for a more explicit formulation of the case for fighting poverty through 'pro-poor' policies. This in turn required a more holistic and strategic framework to address the inter-relationships between growth, inequality and poverty – beyond the simple growth-distribution trade-off – and the attraction of 'Pro-Poor Growth' (PPG) policies was in the fact that they seemed 'to satisfy both growth enthusiasts and equity advocates by bringing both objectives into a common analytical framework and value system' (McKinley, 2009: 3).

At a very general level, it was relatively easy to agree over the broad steer for pro-poor policies as those policies that are 'good for the poor'. Agreement over the definition of the poor was, however, more challenging given two alternative approaches. If poverty was identified in *absolute* terms (such as a simple headcount of those below an international poverty benchmark such as \$1.25 or \$2 a day), then PPG policies could be measured simply by their impact on the poor irrespective of what happened to the income of the rest of the population (those above the benchmark). In this case, both the *extent* of poverty (the proportion of the people below the poverty line) and its *depth* (how far most poor people were below that line) depended merely on the rate of growth of income for the poor alone. For instance, for two countries starting with the same benchmarked poverty ratio, the one enjoying a higher rate of income growth for its poor would be more successful in reducing the incidence of poverty (its extent and/or its depth) compared to the other where its poor experience a lower income growth rate.

A different situation arises, however, if poverty is to be defined in *relative* terms, such as in relation to a *national* poverty line (for instance as a proportion of national mean or median income). In this case, for growth to be 'pro-poor' the growth of income for the poor has to exceed the rate of growth for the income of the population as a whole (DFID, 2004). A corollary of this is, therefore that for growth to be pro-poor, income inequality as a whole must fall regardless of how the income of those below the absolute poverty line fares.

The distinction between absolute and relative notions and measurements of poverty can lead to two anomalies. First, it is easy to conceive of the fight against poverty succeeding in absolute terms while income distribution as a whole deteriorates (the rich get richer faster than the incomes of the poor improve). Second, the converse is also possible: income distribution may improve while poverty actually deteriorates (for instance during a recession, if the poor suffer less compared to the average contraction in incomes).

These two different approaches to the notion and measurement of poverty lay at the heart of the debate between Ravallion and Kakwani whose seminal works focused on relative and absolute poverty respectively (Kakwani and Pernia, 2000, and Kakwani *et al*, 2004; Ravallion and Chen, 2003, and Ravallion, 2004). Kakwani, who was more concerned with the distributional consequences of the growth process, envisaged "pro-poor growth" as being the type of growth that would reduce poverty more than it would if all incomes grew at the same rate (Kakwani and Pernia, 2000). Ravallion, in contrast, focused on poverty itself, simply defining "pro-poor growth" as growth that reduces poverty. He also went as far as arguing that rapid growth is pro-poor because it is poverty-reducing (Ravallion, 2004). This was seen, for instance, in the case of China which has managed to reduce extreme poverty through rapid growth.

While interest in pro-poor growth strategies had its obvious attractions for those concerned with poverty eradication, targeting absolute poverty was both easier and more practical from a policy point of view. This is, for instance, reflected in the Millennium Development Goal of halving income poverty by 2015 (DFID, 2004). In more recent years, however, PPG has given way to a

broader interest in growth that is more inclusive in character and not limited to just the conditions and welfare of the poor.

An important impetus behind this gradual shift of opinion came from a stark reminder that achieving growth and a substantial reduction in poverty were indeed compatible with worsening income equality. This was exemplified, for instance, in Asia's experience in the past two decades, where impressive growth rates were combined with a notable decline in poverty alongside rising income inequalities. It has been estimated that every 1% of growth in Asia has been associated with an almost 2% reduction in poverty, yet at the same time, data also indicate that income inequality has increased over time (Ali, 2007a: 2). Rapid growth between 1990 and 2005, for instance, pushed the number of those below the \$1-a-day poverty line down to 604 million from 945 million (almost halving the headcount ratio from 35% to 18%). Similarly, the number of those below the \$2-a-day poverty benchmark shrank from 2,046 million to 1,740 million reducing the headcount ratio from 75% to 52% of the total (Ali, 2007a: 2-3; see also Ali, 2007b on the extent of poverty incidence in Asia).

Much of this decline was attributed to rapid growth in China and Vietnam (in South Asia, in fact, poverty incidence remains high). Nevertheless, this experience shows that the pattern and pace of growth is indeed critical to poverty reduction, and moreover, reducing inequality and ensuring a more even and equal spread of the benefits of growth requires more than a narrow agenda to maximise growth. This was quite clear in the Asian context, where according to various indicators growth had an uneven impact on different groups. For instance, the Gini coefficient deteriorated in almost all countries (with the exception of Indonesia, Malaysia and Thailand, which were hardest hit by the Asian financial crisis). Similarly, household expenditure surveys have shown widening gaps with the growth in per capita expenditure of the top quintile far exceeding that of the bottom quintile. In China this ratio was as high as 2.5, in India 3 and in Bangladesh a staggering 25 (Ali, 2007a: 5).

By the mid-2000s, therefore, there was a growing and widespread concern that growth had to be made inclusive to ensure a more equitable spread of its benefits to the widest population possible. For instance, equity featured high on the agenda during the Indian national election in 2004, as well as subsequently, when the new government built concrete strategies into India's Eleventh Five-Year Plan (2007-12) to safeguard and promote the well-being of the poor and disadvantaged groups (Government of India, 2006; see also Klasen, 2010). Similarly, the World Bank's *World Development Report* in 2006 was devoted to 'Equity and Development', addressing the intrinsic value of equity and focusing on its positive impact on long term development (see also Ianchovichina *et al*, 2009).

Reflecting Asia's centrality to concerns about equity, the Asian Development Bank took the lead role in articulating the need for inclusive growth, going as far as adopting it as one of its 'strategic pillars'. This was formalised in ADB's *Strategy 2020* which lists inclusive growth as the first of its three key development agenda (the other two being environmentally sustainable growth and regional integration; ADB, 2008). Such commitment was also reflected in advice given by the Eminent Persons Group, which was set up to develop ADB's strategy for inclusive growth. Reflecting on the potentially harmful impact of rising disparities on economic reforms or even on political stability, the Group favoured a solution based on "...the continuation of pro-growth economic strategies – *but* with a much sharper focus on ensuring that the economic opportunities created by growth are available to all – particularly the poor – to the maximum extent possible." (ADB, 2007: 13–14).

This interest has led to wider debates and a flurry of new contributions and growing literature dealing with many aspects ranging from the conceptual and analytical complexities of inclusive growth to its measurement difficulties and applications to specific country experiences.

The next section discusses the meaning and significance of inclusive growth and examines its broader implications for growth and development before turning to an examination of its ramifications in North Africa in Section 4.

## 1.2 What is Inclusive Growth?

Although growth is widely considered a necessary element in a country's ability to raise the standard of living of its population, it is recognised that growth alone cannot be relied upon to bring about a reduction in poverty or, for that matter, a desired improvement in the welfare of all concerned. As we have seen, the quality of such growth, its sustainability as well as the degree to which its benefits may extend to the widest sections of the society have increasingly become of interest. This has led to greater attention being given to inclusive growth as a way of addressing equity considerations underlying the growth process in recent years (see Tandon and Zhuang, 2007; Ali, 2007a and 2007b; Rauniyar and Kanbur, 2010; Klasen, 2010; and Felipe, 2010; Ianchovichina *et al*, 2009, among others).

Concern about equity has had two main intellectual drivers. First, those who believe in an intrinsic value of equality view it as a matter of human rights and consider its violation as unethical or immoral. In this view, equity should form an integral part of the development agenda to ensure it is not sacrificed to concerns for higher growth and efficiency in practice. Second, greater equality is also deemed by some to have an instrumental value for long term and sustainable growth. From this perspective, inequality poses a risk to growth in a number of ways. For instance, 'it leads to inefficient utilization of human and physical resources, lowers the quality of institutions and policies, erodes social cohesion, and increases social conflict.' (Ali, 2007b: 10).

Looked at from either perspective, inclusive growth now presents a favourite theme for growth and development in many regions and there is a wide call for growth to be made 'broad-based across sectors and inclusive of the large part of a country's labour force.' (ADB, 2011: 12). A number of specific reasons support this call.

First, high growth and greater equity are seen as essential ingredients of the fight against poverty. Second, and as mentioned above, widening income disparities are seen as a threat to long term growth and prosperity, and last, but not least, inclusive growth is needed to address a more complex development agenda capable of transcending poverty eradication and embracing 'economic, social and political inequality' (Ali, 2007a).

Despite this interest, the main difficulty is that there is not a universally agreed definition of 'inclusive growth'. While growth is easier to define and measure, specifying what makes it 'inclusive' is much more contentious. There is some broad agreement that inclusive growth is growth for 'the benefit of most and not just the poor', but ambiguities and disagreements abound beyond this general notion and it seems that this approach too has encountered some of the conceptual and measurement challenges that the Pro-Poor-Growth debates confronted previously.

Taking a somewhat narrow approach, inclusive growth can be characterised as 'growth plus declining income disparities' (Rauniyar and Kanbur, 2010). In this formulation, inclusive growth comes close to the notion of PPG in *relative* terms with the difference perhaps that its notion of equality is more embracing and reaches beyond the poor. This definition, it must be noted, excludes non-income considerations and, therefore, lends itself much more easily to measurement (Klasen, 2010: 5).

Contrasting this and at another extreme, inclusive growth is also sometimes loosely referred to as 'growth that benefits everyone'. In this – perhaps its broadest sense – the concept seems to imply that growth should 'benefit all stripes of society, including the poor, the near-poor, the middle income groups, and even the rich' (Klasen, 2010: 2). But this is equally problematic and highlights

the fact that it is not just *who* is to benefit from growth but the *extent* and *distribution* of such benefits are important as well and cannot be overlooked.

If income distribution is to be improved and inequalities are indeed to be reduced (a presumed aspiration behind the search for inclusive growth), then the poor and the rich should not be expected to benefit proportionately from growth (by an equal percentage rise in their incomes). Narrowing disparities would indeed require a progressive distribution of the benefits from growth in favour of the poorer sections of the society. From this perspective then inclusive growth comes close to the relative version of PPG with the difference that the definition of the 'poor' needs to be widened to allow broader social groups (lower and middle income groups) to benefit from growth. We shall come back to this later on.

Both the narrow and broad definitions referred to above face some complications. For instance, both are focused on income and emphasise outcomes only. More recent formulations have sought to address these by taking into account non-income elements of the growth process as well as characterising inclusive growth as a *process* and not just an *outcome* (Klasen, 2010).

For instance, some recent contributions have stressed the role of *opportunities* in generating inclusive growth. This is the case with the ADB's Eminent Persons Group which – as we saw earlier – refers to inclusive growth as 'economic *opportunities*' that are 'available to all – particularly the poor – to the maximum possible extent' (ADB, 2007: 13-14; emphasis added). Several other ADB contributions have similarly characterised inclusive growth as 'growth coupled with equal opportunities' (Ali and Zhuang, 2007; Ali and Son 2007) or even more specifically, 'inclusive growth focuses on both creating opportunities and making the opportunities accessible to all' (Ali and Zhuang, 2007: 10). Accordingly, this depicts inclusive growth as a process – rather than an outcome – whereby individuals are provided with improved opportunities to benefit from growth.

There is, however, some ambiguity over the precise role of the state in the inclusive growth process. For instance, are market forces to be relied upon to spread the benefits of inclusive growth (through improved opportunities for all) or is state intervention justified to enable individuals to improve their outcomes? The former approach, which is arguably a 'trickle down' version of the inclusive growth approach, is seen in the World Bank's 2006 Development Report on 'Equity and Development', which defines equity broadly as 'equal opportunities to pursue a life of one's choosing.' In a similar light, Ianchovichina *et al* emphasise that inclusive growth is about 'raising the pace of growth and enlarging the size of the economy' and not about 'redistributing resources' (2009: 3).

For others, however, the provision of public and social goods as well as safety nets and social protection are important elements of the inclusive growth package. Accordingly, Ali and Son (2007) refer to the provision of social opportunities (such as access to health and education) and how these may vary with income levels. Similarly, the World Bank's Commission on Growth and Development talked of inclusiveness as a concept encompassing 'equity, equality of opportunity, and protection in market and employment' (World Bank, 2008).

Matching this desire to improve opportunities, attention has inevitably been drawn to understanding and recognising the roots of unequal opportunities. Roemer (2006) ascribes differences in outcomes (such as income differentials for individuals) to two broad sets of factors: differences in individual *efforts* (which can be controlled by individuals themselves) and differences in their *circumstances* (which cannot be helped by them alone). The latter – differences in circumstances – may in turn be understood at two sub-levels: individual-level circumstances (e.g., gender, size of household, one's parental education and income, rural/urban and regional location, ethnic and religious backgrounds, etc) and wider circumstances relating to institutional setting and social policies in force (such as gender or ethnic discrimination, social exclusions, etc). As individuals cannot exert any direct influence over their circumstances, such differences are 'not only ethically unacceptable', they are indeed wasteful and should be 'addressed through public policy

interventions' (Ali, 2007a: 9; Velez *et al*, 2012, offer an applied framework for measuring equality of opportunity for children in Egypt).

In this formulation, therefore, inclusive growth can improve individuals' incentives to work harder and to look for new opportunities mainly through their own efforts. What is required to achieve inclusive growth is accordingly a double process: one of creating better opportunities and another of 'ensuring equal access' to these opportunities for all segments of the society (Ali, 2007a, 10).

Focus on *process* helps to broaden the scope of the debate to include social and institutional aspects of growth and development. But it also throws up new challenges. One of these is how to deal with a trade-off between processes and outcomes. Is growth more - or less - inclusive when improved processes result in poorer economic outcomes? This can happen, for instance, when improvements in civil rights and greater mass participation in social and political affairs following a social movement or revolution may lead to a setback to economic outcomes caused by short-term instability and turmoil. A converse scenario is equally possible: if better outcomes are secured in the absence of any improvements in process, does that make the experience of growth undesirable *per se*? This can happen, for instance, under an autocratic regime when it experiences a period of economic boom in the absence of any real reforms or improvements in governance.

These two scenarios are not entirely hypothetical and resonate well with the recent Arab uprisings. In countries such as Egypt and Tunisia, for instance, inevitable turmoil and instability associated with regime changes worsened the short term economic outlook just as popular expectations for better governance and a more representative political and civil order have substantially escalated. Conversely, 'stable' periods associated with the autocratic regimes of Mubarak in Egypt and Ben Ali in Tunisia were associated with higher GDP growth and better macroeconomic performance compared to the period since their downfall (at least so far). In the former case, we see growth but not inclusivity (with the old regimes); and in the latter case, the process is arguably more inclusive yet the economic outcome is far from assured.

This issue could be better addressed if we had a commonly agreed indicator for measuring inclusive growth (see McKinley, 2010). But, the conceptual difficulties and challenges we discussed above are inevitably mirrored in measurement difficulties and problems, too. If the benefits of growth are envisaged in terms of outcomes only (for instance, in terms of better income and/or access to social goods and safety net), measurement is generally easier given that such outcomes are more readily quantifiable. However, when access to and benefits from growth are envisaged in terms of *processes*, measurement becomes harder and more complex. According to Klasen (2010) the absence of universally agreed notion of inclusive growth has led to a wide range of measurement indicators which vary from 'unclear' to 'straightforward' and 'technically difficult'. We shall come back to this issue in Section 5 below when we offer a methodology for computing a single combined score for the measurement of a country's inclusive growth.

To sum up this section, we can see that growing interest in inclusive growth has not been matched by success over a universal definition that can help both implement and monitor policies for inclusive growth. A variety of approaches have emerged with emphases on different aspects of the concept. Narrower concepts stress outcomes (e.g., growth plus equity) and are easier to measure and monitor. Wider concepts are multi-dimensional and hence more ambitious in scope: they stress improved opportunities for achieving better outcomes; they differentiate between processes and outcomes in inclusive growth and they widen outcomes to include non-income aspects (social goods and safety nets). An implicit risk is that an overambitious notion of inclusive growth becomes both meaningless and impractical if it comes to implying 'everything for everyone'.

In the next section, we deal with some of the main economic and social indicators in North Africa over the past two decades. We will examine whether and to what extent the experience of growth in this period has been inclusive from a broad *macro* perspective. We will provide

comparisons with other regions and focus on the main economic outcomes and opportunities by examining a variety of different indicators relating to growth and transformation on one hand and access to social and public goods, on the other.

## 2. Inclusive Growth in the MENA Context

### 2.1 Growth and Structural Change

The recent economic performance of the Middle East and North Africa indicates a much improved record compared to the 1980s, when ‘slow growth’ posed a threat ‘to social development’ in the Arab world. For instance, GDP per capita in the median Arab country in the period 1985-94 was as low as 1.1% per annum only (Elbadawi, 2005; see also Esfahani, 2009). In contrast, real GDP growth rate for the Arab countries (and the MENA region as a whole) rose markedly after the mid-1990s to reach around 4%-4.5% per annum and was sustained thereafter (Table 1). In comparative terms too, this was an encouraging reversal of past trends. In the last decade preceding the outbreak of the Arab uprisings (2000-10), the region’s growth rate was almost double that of the world average (2.2%) and compared favourably with most other regions (it lagged only behind South Asia’s growth which exceeded 7%).

**Table 1: Real GDP and Real GDP Per Capita and Growth Rates**

	Real GDP growth (average annual %)					Real GDP per capita growth (average annual %)				
	1991-1995	1996-2000	2001-2005	2006-2010	2000-2010	1991-1995	1996-2000	2001-2005	2006-2010	2000-2010
<b>Arab World</b>	3.8	4.0	4.4	4.5	4.4	1.4	1.8	2.1	2.1	2.1
<b>East Asia &amp; Pacific</b>	3.5	2.7	3.5	3.9	3.7	2.2	1.6	2.7	3.2	2.9
<b>Latin America &amp; Caribbean</b>	3.3	3.2	2.7	4.1	3.4	1.6	1.6	1.3	2.9	2.1
<b>MENA</b>	4.1	4.1	4.2	4.4	4.3	1.8	2.1	2.1	2.3	2.2
<b>South Asia</b>	5.0	5.4	6.5	7.7	7.1	2.9	3.5	4.9	6.2	5.5
<b>Sub-Saharan Africa</b>	1.2	3.5	4.6	5.0	4.8	-1.5	0.8	2.1	2.4	2.2
<b>World</b>	2.3	3.4	2.8	2.3	2.5	0.8	2.0	1.5	1.1	1.3
<b>Algeria</b>	0.3	3.1	4.9	2.5	3.7	-1.9	1.6	3.4	1.0	2.2
<b>Bahrain</b>	6.9	4.3	6.1	7.1	6.5	4.2	1.6	3.4	-5.4	0.1
<b>Egypt</b>	3.4	5.2	3.5	6.2	4.9	1.6	3.4	1.6	4.3	3.0
<b>Iran</b>	3.5	4.1	5.6	4.5	5.1	1.8	2.2	4.2	3.2	3.8
<b>Iraq</b>		18.4	-2.0	4.4	1.2		14.9	-4.4	1.4	-1.5
<b>Jordan</b>	7.3	3.2	6.4	5.9	6.1	1.5	0.5	3.9	3.6	3.7
<b>Kuwait</b>	15.8	1.9	8.4	4.8	7.3		-1.6	5.1	0.8	3.9
<b>Lebanon</b>	12.8	1.5	3.8	6.6	5.2	9.3	-0.1	2.2	5.7	3.9
<b>Libya</b>		3.7	4.3	4.5	4.4		1.8	2.3	2.3	2.3
<b>Morocco</b>	1.1	4.0	5.0	4.9	4.9	-0.6	2.5	3.8	3.8	2.8
<b>Oman</b>	5.9	3.4	3.5	6.6	4.9	2.2	3.1	2.1	3.7	2.8
<b>Qatar</b>			8.5	19.9	13.5			1.6	1.4	1.5
<b>Saudi Arabia</b>	2.9	2.6	3.8	2.7	3.2	0.2	0.9	0.1	0.0	0.0
<b>Syria</b>	8.0	2.3	5.0	4.9	4.9	5.0	-0.1	2.0	2.8	2.4
<b>Tunisia</b>	3.9	5.6	4.4	4.6	4.5	2.0	4.2	3.4	3.6	3.5
<b>Turkey</b>	3.3	4.1	4.7	3.3	4.0	1.6	2.5	3.3	1.9	2.6
<b>UAE</b>	3.8	5.6	5.4	3.2	4.3	-1.5	0.3	-0.6	-8.7	-4.6
<b>WB &amp; Gaza</b>	6.0	6.2	-1.2		-1.2	1.4	2.1	-4.6		-4.6
<b>Yemen</b>	5.6	5.5	4.2	3.5	3.9	0.7	2.3			0.8

Source: Calculated from WDI (2012).

Taking into account the region's continued high population growth rates, however, modifies the above overall growth picture. Even so, an annual real GDP per capita growth rate of just over 2% still confirms an improving trend line as well as an overall performance that is at least comparable to other regions (it was only outpaced by South Asia's 5.5% and East Asia and the Pacific's 2.9% annual growth rates).

The growth experience of individual countries within the region, too, confirms this broad pattern: an improved trend-line since the mid-1990s which is moderated considerably in per capita terms by persistent high population growth rates in many countries. This is specially clear in the GCC states where high GDP growth rates are significantly eroded by rapid population growth resulting in a variety of per capita outcomes ranging from contraction (UAE), to stagnation (Saudi Arabia and Bahrain), to low growth (Qatar) and an above average growth rate (Oman and Kuwait). In the case of more diversified economies of the region, GDP per capita generally grew either at about regional average rates (Algeria, Syria and Libya) or above that (Egypt, Iran, Jordan, Lebanon, Morocco and Turkey).

What is further interesting is that the generally better record of economic performance during 2000-10 also holds true for the Arab countries that have been affected by the recent political upheavals and uprisings. For instance, Egypt, Libya, Tunisia and Syria all exhibited real growth rates of about 4.5% in the decade before their recent upheavals (averaging around 4.5%) and sometimes even better (Egypt's growth rate for 2006-10 was 6.2% on average; Table 1, see also Hakimian, 2011). It was thus not so much absence of growth that may shed light on why these uprisings occurred, but the pattern and type of growth that was experienced may be just as important and deserves closer examination.

**Table 2: Average Annual Sectoral Growth (%)**

	Agriculture					Industry					Services				
	1991-1995	1996-2000	2001-2005	2006-2009	2001-2010	1991-1995	1996-2000	2001-2005	2006-2009	2001-2010	1991-1995	1996-2000	2001-2005	2006-10	2001-2010
Algeria	4.5	3.9	7.3	1.6	4.8	-0.5	4.0	4.1	1.6	3.0	1.0	2.2	5.1	5.4	5.2
Bahrain															
Egypt	2.7	3.4	3.4	3.4	3.4	6.9	5.1	3.0	7.5	5.3	1.6	5.7	4.3	6.1	5.2
Iran	4.5	2.2	5.5	5.4	5.5	3.8	4.2	6.5	7.4	6.7	4.4	3.8	5.2	6.3	5.5
Iraq		4.2	-3.6		-3.6		25.7	-15.9		-15.9		-14.7	10.9		10.9
Jordan	3.6	-3.2	10.0	7.7	8.9	8.3	2.6	9.1	5.9	7.5	5.7	4.1	5.4	6.2	5.8
Kuwait		1.6	14.9		14.9		0.3	3.1		3.1		3.8	10.7		10.7
Lebanon	11.	1.8	1.2	0.3	0.8	4.7	-0.8	3.5	5.1	4.3	4.0	1.7	3.0	7.5	5.3
Libya															
Morocco	-	10.6	7.7	9.3	8.5	2.1	3.7	4.1	3.3	3.7	3.6	3.6	5.1	4.3	4.7
Oman	6.3	1.9	2.6		2.6	4.9	3.3	-0.1		-0.1	6.8	3.6	6.3		6.3
Qatar															
Saudi	2.2	2.0	1.4	0.8	1.1	4.6	1.9	4.2	1.1	2.6	1.4	3.5	3.8	4.4	4.1
Syria	6.9	6.4	9.1		9.1	9.5	6.8	-1.2		-1.2	4.4	1.6	3.6		3.6
Tunisia	-	8.9	2.2	1.2	1.7	4.4	4.1	2.6	3.5	3.1	4.9	6.0	6.5	6.3	6.4
Turkey	0.7	2.4	1.8	1.0	1.4	4.7	4.2	4.8	3.9	4.3	3.3	4.4	5.2	3.5	4.3
UAE			-1.5	-5.5	-3.5			4.2	4.0	4.1			10.2	3.8	7.0
WB & Gaza															
Yemen	4.5	6.0	0.4		0.4	7.0	8.0	-0.4		-0.4	5.8	3.9	8.4		8.4

Source: Calculated from WDI (2012).

To understand the nature of growth and structural changes in this period, we next look at the sectoral growth rates for various countries in the MENA region. Table 2 shows that in general the services sector has been the main source behind the recent growth phase in MENA. In nine countries

out of fifteen for which data is available, real value-added growth rate in the services sector exceeded those of agriculture and manufacturing (these were: Algeria, Egypt, Iraq, Lebanon, Oman, Saudi Arabia, Tunisia, UAE and Yemen). In four other countries, agricultural growth outpaced the other two sectors (Jordan, Kuwait, Morocco and Syria). Manufacturing growth was superior in only three countries in the region: in one (Iran), it was the fastest growing sector and in two others (Egypt and Turkey), it matched growth in services. We shall come back to this issue later to examine the contribution of these sectors to employment and job creation.

## 2.2 Demographic Trends and Characteristics

Tables 3 and 4 give an overview of the demographic changes and dynamics in the MENA region compared to the rest of the world. It can be seen that the region as a whole has benefited from improvements in life expectancy combined with a sustained decline in infant mortality rates. Since 1990, the under-5 mortality rate in the MENA region has more than halved (from 71 to 31 per 1,000) helped by significant falls in Egypt, Turkey, Morocco and, to some extent, Iran. Similarly and reflecting this, life expectancy at birth in the MENA region has now risen to just above the world average (72.2 years against 69.4) bringing it close to those of East Asia and Latin America (73-74 years). Improvements in the Arab world, however, have lagged behind MENA as a whole due to slow progress in Yemen and Iraq.

**Table 3: Demographic Trends in the MENA Region, 1990-2009**

	Life Expectancy at Birth, Total (years)			Mortality rate, under-5 (per 1,000)			Fertility Rate, Total (births per woman)		
	1990	2000	2009	1990	2000	2010	1990	2000	2009
<b>Arab World</b>	<b>63.2</b>	<b>67.4</b>	<b>69.9</b>	<b>84.9</b>	<b>64.1</b>	<b>51.4</b>	<b>5.1</b>	<b>3.8</b>	<b>3.3</b>
East Asia & Pacific	69.0	71.0	73.0	53.4	37.2	23.0	2.5	1.9	1.8
Latin America & Caribbean	68.2	71.6	73.9	54.4	34.5	23.3	3.2	2.6	2.3
<b>MENA</b>	<b>64.8</b>	<b>69.8</b>	<b>72.2</b>	<b>70.7</b>	<b>46.1</b>	<b>31.3</b>	<b>4.8</b>	<b>3.2</b>	<b>2.7</b>
South Asia	58.5	61.9	65.0	120.3	88.8	67.0	4.2	3.3	2.8
Sub-Saharan Africa	49.6	49.8	53.8	174.6	154.8	121.2	6.2	5.6	5.0
World	65.4	67.2	69.4	89.9	74.7	57.9	3.2	2.7	2.5
Algeria	67.1	70.0	72.6	67.6	48.9	36.0	4.7	2.6	2.3
Bahrain	72.5	73.8	74.9	17.0	12.2	10.2	3.7	2.7	2.6
Egypt	62.0	69.1	72.7	93.5	46.5	21.8	4.4	3.3	2.8
Iran	61.9	69.7	72.5	64.8	43.9	25.8	4.8	2.2	1.7
Iraq	67.5	70.7	68.1	46.1	42.8	38.6	6.0	5.3	4.8
Jordan	70.4	72.1	73.2	38.3	29.4	21.7	5.8	3.9	3.8
Kuwait	72.7	73.8	74.5	15.4	12.6	11.1	2.6	2.6	2.3
Lebanon	68.7	70.6	72.2	38.3	29.3	22.1	3.1	2.4	1.8
Libya	68.1	72.5	74.5	44.5	27.2	16.9	4.8	3.1	2.6
Morocco	64.1	68.7	71.6	85.9	55.3	35.5	4.0	2.7	2.3
Oman	70.6	74.1	73.0	47.2	21.5	9.3	7.2	3.6	2.4
Qatar	74.1	76.3	77.9	20.8	12.7	8.2	4.2	3.1	2.3
Saudi Arabia	68.8	71.5	73.6	44.6	25.8	17.5	5.8	4.0	2.9
Syria	71.1	74.0	75.6	38.2	23.0	16.0	5.3	3.6	3.0
Tunisia	70.3	72.6	74.5	49.3	28.4	16.1	3.6	2.1	2.1
Turkey	63.1	69.4	73.4	79.8	42.7	17.6	3.0	2.4	2.1
UAE	72.1	74.6	76.4	21.5	12.4	7.1	4.4	2.6	1.8
WB & Gaza	68.0	70.9	72.5	44.7	30.6	22.3	6.5	5.4	4.5
Yemen	56.1	59.7	64.6	128.0	99.5	77.0	8.7	6.5	5.3

Source: Calculated from WDI (2012).

Table 3 also shows that after a significant delay, the region's demographic transition has at last taken effect, marked by a slow reduction in fertility rates. Although significantly lower than in 1990 (5 births per woman), the region's fertility rates in 2009 still stand above that of other regions and comes second after Sub-Saharan Africa (around 3 births per woman compared to Africa's 5 births per woman). Within the MENA countries, there is wide variation: Iran, the UAE and Lebanon have the lowest fertility rates (below 2 births per woman and on par with East Asia) in contrast to Yemen, the West Bank and Gaza and Iraq, which have the highest (between 4.5 and 5.3 children per woman).

**Table 4: Median Age and Age dependency Ratios, 1990-2010**

	Age Dependency Ratio (% Working Population)						Median Age		
	(over 65)			(under 15)					
	1990	2000	2010	1990	2000	2010	1990	2000	2010
<b>Arab World</b>	6.3	6.7	6.6	80.0	65.7	54.3	-	-	-
<b>East Asia &amp; Pacific</b>	9.1	10.7	12.0	45.4	39.5	30.2	26.3	30.8	35.5
<b>Lat America &amp; Caribbean</b>	8.3	9.2	10.6	61.4	51.0	42.7	22.0	24.5	27.6
<b>MENA</b>	6.7	7.2	7.0	80.9	61.8	46.9	-	-	-
<b>South Asia</b>	6.6	6.9	7.5	68.4	59.9	49.6	20.3	22.0	24.6
<b>Sub-Saharan Africa</b>	5.7	5.7	5.9	87.4	82.7	78.0	17.3	17.9	18.6
<b>World</b>	10.2	11.0	11.6	53.7	48.1	40.9	24.4	26.7	29.2
<b>Algeria</b>	6.7	6.7	6.7	80.9	55.5	39.6	18.1	21.7	26.2
<b>Bahrain</b>	3.4	3.6	2.6	50.0	40.5	25.7	25.4	27.4	30.1
<b>Egypt</b>	6.8	7.4	7.9	74.2	60.5	49.7	19.4	21.4	24.4
<b>Iran</b>	6.7	7.4	7.3	89.8	57.8	31.9	17.1	20.8	27.1
<b>Iraq</b>	7.7	7.1	6.1	92.9	82.4	80.6	16.6	18.0	18.3
<b>Jordan</b>	7.1	5.8	6.7	93.6	70.0	64.0	16.4	19.4	20.7
<b>Kuwait</b>	2.4	4.4	3.5	56.7	37.9	37.7	22.4	28.3	28.2
<b>Lebanon</b>	8.9	10.8	10.7	61.4	48.6	36.5	21.7	25.6	29.1
<b>Libya</b>	4.8	5.3	6.6	80.6	50.4	46.6	17.7	21.9	25.9
<b>Morocco</b>	6.8	7.6	8.3	70.4	54.4	42.1	19.7	22.6	26.3
<b>Oman</b>	4.3	4.1	3.6	87.4	60.4	38.6	17.6	21.0	25.3
<b>Qatar</b>	1.7	2.3	1.2	40.2	36.1	15.8	28.8	30.3	31.6
<b>Saudi Arabia</b>	4.8	5.8	4.4	78.2	66.6	45.5	19.4	20.9	25.9
<b>Syria</b>	6.8	6.5	6.7	93.5	71.2	62.4	16.4	19.1	21.1
<b>Tunisia</b>	8.0	10.0	10.0	66.5	47.2	33.7	20.8	24.7	28.9
<b>Turkey</b>	6.3	8.0	8.8	60.7	47.9	39.0	21.7	24.5	28.3
<b>UAE</b>	1.7	1.4	0.5	45.8	34.9	20.6	26.5	28.1	30.1
<b>WB &amp; Gaza</b>	4.3	4.6	5.0	96.4	94.1	77.6	15.9	16.2	18.1
<b>Yemen</b>	4.9	5.3	4.8	118.4	100.3	83.1	13.9	15.5	17.4

Source: Calculated from WDI (2012) and UN Population database (2010).

The fast pace of population growth in the region in the past few decades is also reflected in a number of other ways and characteristics. Table 4 shows that the age structure of the region continues to be heavily skewed in favour of those under 15 years of age. While those above 65 account for a stable portion of the working population (6%-7%), the young (under 15) make up for more than half of the working population as a whole. Thus, overall dependency ratios have been gradually declining (the combined share of those below 15 and above 65 was around 53-60% in 2009 against 86% twenty years earlier). Whilst this implies a favourable change in the structure of the population in favour of producers as opposed to consumers overall, as we shall see below the rise in

the number of those within the working population group has posed serious challenges to the dynamics of the labour force and employment in the region and this is likely to continue for a while.

The young age structure of the region is also clear from the region's strikingly low median age where in some countries the median age is among the lowest in the world and generally comparable to that for the Sub-Saharan Africa: Iraq (18.3), Syria (21.1); West Bank and Gaza (18.1) and Yemen (as low as 17.4).

## 2.3 Labour Force and Employment

Table 5 highlights the twin features of the MENA region's labour markets: very high labour force growth rates combined with limited employment and job opportunities.

As seen above, high population growth over the past few decades has created a demographic momentum that continues to swell the size of the workforce in the region. Although gradually moderating over the last two decades, annual labour force growth in the Arab world and the MENA region as a whole has been consistently the highest in the world (exceeding all regions including the Sub-Saharan Africa). Within MENA, small GCC states have experienced the fastest labour force growth rates boosted by incoming migration: the size of the workforce in the UAE, Qatar and Bahrain, for instance, grew at double digit rates between 2006 and 2009. But most others too have seen a considerable and sustained additional growth in the size of their workforce: Yemen, Saudi Arabia, Oman, Egypt and Algeria are among the notable ones.

**Table 5: Labour Force Growth and Employment-to-Population Ratios, 1990-2009**

	Labour Force Growth, Average Annual (%)				Employment-to-Population Ratios (% of population aged 15+)				
	1991- 1995	1996- 2000	2001- 2005	2006- 2009	1991- 1995	1996- 2000	2001- 2005	2006- 2009	2001- 2009
<b>Arab World</b>	<b>3.6</b>	<b>3.1</b>	<b>3.4</b>	<b>2.6</b>	<b>28.1</b>	<b>28.1</b>	<b>27.2</b>	<b>27.7</b>	<b>27.4</b>
<b>East Asia &amp; Pacific</b>	1.4	1.3	1.1	0.8	63.7	58.1	53.8	51.7	52.9
<b>Latin America &amp; Caribbean</b>	3.0	2.7	2.6	1.4	48.2	46.2	44.5	45.1	44.8
<b>MENA</b>	<b>3.6</b>	<b>3.5</b>	<b>1.8</b>	<b>2.4</b>	<b>28.0</b>	<b>28.2</b>	<b>28.0</b>	<b>28.5</b>	<b>28.2</b>
<b>South Asia</b>	2.2	2.2	2.3	1.5	46.1	44.0	42.6	42.1	42.4
<b>Sub-Saharan Africa</b>	3.2	3.1	3.0	2.3	48.8	48.7	48.8	49.4	49.1
<b>World</b>	1.6	1.7	1.7	1.1	51.5	47.9	45.7	45.1	45.5
<b>Algeria</b>	5.4	4.5	3.6	2.2	23.7	22.9	27.6	36.3	31.5
<b>Bahrain</b>	3.5	3.2	3.2	13.0	32.3	32.6	32.6	30.7	31.8
<b>Egypt</b>	2.2	2.4	2.5	2.1	23.9	27.3	26.7	25.3	26.1
<b>Iran</b>	2.8	4.9	4.8	1.7	31.4	30.9	32.4	32.3	32.4
<b>Iraq</b>	3.6	3.6	2.6	2.3	20.8	19.7	16.2	18.0	17.0
<b>Jordan</b>	9.3	3.1	3.3	1.5	18.3	21.1	19.5	19.3	19.4
<b>Kuwait</b>	1.5	5.5	3.4	2.3	33.6	34.1	32.4	29.9	31.3
<b>Lebanon</b>	5.8	2.1	2.8	1.6	24.3	23.4	23.7	23.2	23.5
<b>Libya</b>	5.2	4.8	3.3	1.8	25.8	26.9	28.6	28.9	28.7
<b>Morocco</b>	3.3	2.6	2.4	1.3	39.8	39.5	35.6	34.9	35.3
<b>Oman</b>	7.7	0.5	2.8	3.2	27.4	28.2	27.8	28.5	28.1
<b>Qatar</b>	1.0	3.1	13.4	19.1	49.0	42.6	48.9	61.7	54.6
<b>Saudi Arabia</b>	3.7	2.7	6.3	2.6	22.1	22.1	23.1	20.3	21.8
<b>Syria</b>	5.8	2.8	3.3	2.4	39.7	36.8	32.3	34.3	33.2
<b>Tunisia</b>	3.4	2.5	2.0	1.3	27.8	25.6	23.7	22.7	23.2
<b>Turkey</b>	1.2	0.4	1.3	1.1	44.3	40.8	33.4	30.4	32.1
<b>UAE</b>	7.9	6.4	9.9	13.1	44.1	43.3	44.3	40.9	42.8
<b>WB &amp; Gaza</b>	4.6	4.5	5.9	4.3	19.3	20.9	15.9	17.2	16.4
<b>Yemen</b>	6.9	4.0	4.7	3.4	45.4	45.5	45.8	46.5	46.1

Source: Calculated from WDI (2012).

Clearly, such supply-side demographic developments pose a serious challenge to the region's ability to provide employment and jobs to the ever rising number of those entering the labour market every year.

What is also notable is that Table 5 also shows that the regions' fastest labour force growth goes hand in hand with some of the lowest employment-to-population ratios compared to other regions. Again the Arab world and the MENA region as a whole exhibit some of the lowest ratios indicating the combined effects of both a large pool of job-seekers and limited employment opportunities. We can see that for the region as a whole only about 28% of the population over 15 years is employed and this ratio has been remarkably constant over the past twenty years (even slightly declining in the Arab countries). This compares poorly with the rest of the world, where similar ratios range between 42.4% (South Asia) and nearly 53% (East Asia). Again, there is considerable variation within MENA itself. For some of the countries the employment-to-population ratios are strikingly lower: Iraq (17%), Jordan (19.4%), Saudi Arabia (21.8%), Tunisia (23.2%) and the West Bank and Gaza (16.4%). These numbers clearly confirm the size of the employment challenge that the region as a whole and various countries within it face.

**Table 6: Labour Force Statistics (Period Averages)**

	Labour Participation Rate (% of population aged 15+)					Labour Force, Female (% of total labour force)				
	1991- 1995	1996- 2000	2001- 2005	2006- 2009	2001- 2009	1991- 1995	1996- 2000	2001- 2005	2006- 2009	2001- 2009
<b>Arab World</b>	51.1	51.5	51.4	52.0	51.7	23.0	23.8	24.2	24.5	24.3
<b>East Asia &amp; Pacific</b>	74.9	74.2	72.7	71.4	72.1	43.6	43.6	43.6	43.7	43.7
<b>L America &amp; Caribbean</b>	62.3	62.9	63.9	65.3	64.5	35.6	37.2	38.8	40.2	39.4
<b>MENA</b>	50.5	50.9	51.1	51.6	51.3	22.4	23.9	24.5	25.0	24.7
<b>South Asia</b>	60.5	59.5	58.8	58.8	58.8	28.1	28.0	27.9	28.7	28.3
<b>Sub-Saharan Africa</b>	69.4	69.7	70.2	70.5	70.3	42.2	42.7	43.2	43.3	43.2
<b>World</b>	66.2	65.6	65.0	64.8	64.9	39.5	39.6	39.7	40.0	39.8
<b>Algeria</b>	51.0	54.2	56.5	58.1	57.2	24.6	27.0	29.6	31.2	30.3
<b>Bahrain</b>	65.4	65.3	65.0	64.1	64.6	18.1	19.9	21.2	18.6	20.1
<b>Egypt</b>	50.1	49.2	48.3	48.1	48.2	25.8	24.7	24.0	23.7	23.9
<b>Iran</b>	51.4	51.2	52.3	52.1	52.2	23.3	27.1	28.3	29.6	28.9
<b>Iraq</b>	41.7	41.6	41.6	41.4	41.5	14.1	15.1	16.1	16.5	16.3
<b>Jordan</b>	47.6	49.6	49.0	49.4	49.2	17.9	20.1	21.3	22.4	21.8
<b>Kuwait</b>	66.7	70.2	70.2	68.7	69.5	24.2	23.2	24.5	24.4	24.5
<b>Lebanon</b>	44.0	44.6	45.1	45.5	45.3	22.3	22.7	23.8	25.0	24.3
<b>Libya</b>	47.7	49.7	51.7	52.4	52.0	16.7	20.5	22.6	22.7	22.7
<b>Morocco</b>	53.0	53.8	52.0	52.3	52.1	24.6	26.2	25.1	26.0	25.5
<b>Oman</b>	58.1	58.8	57.0	55.9	56.5	12.3	14.6	18.3	18.1	18.2
<b>Qatar</b>	79.7	76.2	79.5	83.6	81.4	14.7	14.8	16.0	13.3	14.8
<b>Saudi Arabia</b>	53.6	53.9	54.6	54.7	54.6	11.0	13.3	14.9	15.8	15.3
<b>Syria</b>	51.5	51.3	49.3	50.3	49.8	20.5	21.1	19.6	20.5	20.0
<b>Tunisia</b>	48.2	48.3	47.8	48.0	47.9	22.6	24.3	25.6	26.6	26.0
<b>Turkey</b>	55.3	52.7	49.1	47.4	48.3	28.5	27.9	27.1	26.1	26.7
<b>UAE</b>	73.8	75.2	76.3	77.4	76.8	10.9	12.0	13.4	14.4	13.8
<b>WB &amp; Gaza</b>	38.9	39.1	39.7	42.6	41.0	14.1	13.6	14.9	18.0	16.3
<b>Yemen</b>	45.4	45.5	45.8	46.5	46.1	18.6	18.8	19.8	20.9	20.3

Source: Calculations from WDI (2012).

Table 6 shows that the prognosis for the region's employment problem could indeed be even more challenging in the years to come. This indicates that the current population bulge within the working age groups comes against some of the lowest overall labour force participation rates

(LFPR) in the world. The region's LFRP is around 51%-52% compared to 60%-70% in other regions. As more of the population become active, this can only add to pressures on jobs and employment in the future.

**Table 7: Employment by Economic Sector (Period Averages - % Total)**

	Agriculture				Industry				Services			
	1991-1995	1996-2000	2001-2005	2006-2009	1991-1995	1996-2000	2001-2005	2006-2009	1991-1995	1996-2000	2001-2005	2006-2009
Algeria			21.0				24.8				54.1	
Bahrain	2.4		1.5		28.5		28		68.6		67.8	
Egypt	34.8	30.1	29.7	31.5	22.3	22.4	20.6	22.4	42.9	47.3	49.6	46.0
Iran		23	24.7	22.4		30.7	30.3	32.0		44.3	44.8	45.6
Iraq			17.0	22.7			17.8	19.2			65.1	56.8
Jordan		4.9	3.9	3.0		21.8	21.7	19.5		72.8	74.2	77.4
Kuwait	2.1		1.4		22.9		19.5		73.9		78.9	
Lebanon												
Libya												
Morocco	11.4	5.6	36.9	42.1	32.8	34.0	22.1	21.0	55.5	59.8	41.0	36.7
Oman	9.3	6.85			7.5	9.5			81.6	83.5		
Qatar		3.7	2.5	2.65		33.1	39.6	46.7		62.9	57.4	50.4
Saudi		6.2	5.35	4.5		20.5	21.0	19.4		73.3	73.5	76.1
Syria	27.8	26.2	29.6	19.1	28.4	29.2	26.5	29.1	43.9	44.5	43.8	51.8
Tunisia												
Turkey	44.3	40.3	34.0	24.4	21.9	23.5	23.3	26.1	33.8	36.2	42.8	49.6
UAE	8.0	7.9	4.9	4.2	33.6	33.4	39.8	24.3	58.2	58.6	54.4	71.0
WB &		13.2	14.5	15.0		34.7	25.9	24.5		51.5	58.5	59.5
Yemen	53.1	55.2			11.1	10.9			32.9	33.3		

Source: Calculations from WDI (2012).

Indeed, the region's low LFPR is in the main due to very low female labour force participation rates – again the lowest by world standards. In general, female workers make up only about a quarter of the workforce in the MENA region, whereas the norm elsewhere is over 40% (Table 6). In some of the Arab countries, females account for an even lower share of the total workforce: in Qatar (14.8%), Saudi Arabia and Iraq the proportion of females in the labour force is only 15%-16% and in Oman and Bahrain 18%-20%. Thus a rise in the economic activity of women in the coming decades can only boost labour supplies intensifying competition over scarce jobs. This means that supply-side forces will be in operation for years to come compounding the region's employment challenge already strained by demand-side factors and its limited ability to boost demand for new jobs.

To analyse the changing nature of jobs, the next two tables disaggregate employment data by sector and status. Table 7 shows that, as expected, for most countries in the region, the services sector is the largest provider of jobs and has been growing in importance over time. This is true of the more populous countries such as Egypt, Iran, Turkey, Syria and Algeria, where around 40%-50% of jobs are concentrated in the services. In some of the GCC states (Saudi Arabia and UAE) as well as in Jordan, this sector accounts for as high as three-quarter of all jobs. The share of industrial sector in some of the largest countries of the region (Turkey, Egypt, Iran, Saudi Arabia, Morocco, Algeria and Jordan) reaches 20%-30% of all employment.

Table 8 shows that with the exception of Morocco and Turkey, family workers account for a very low share of overall employment in the MENA region and the bulk of employment is made up

of self-employed and wage and salaried workers. Self-employment is relatively high in Egypt, Iran, Lebanon, Syria, Turkey, Yemen and Morocco, although its share has been broadly constant or falling in the last two decades. In some of the smaller GCC states (UAE, Qatar and Kuwait) almost all employment is taken up by those in the wage and salaried workers category (their share in total employment is as high as 96%-99%). Elsewhere, too, high ratios probably reflect the predominance of the public sector and its importance in providing the bulk of jobs. For most other countries (including Iran, Turkey, Algeria, Lebanon, Syria and Egypt) the ratio is around 50%-60%.

**Table 8: Employment Status (% Total Employed)**

	Contributing Family Workers				Self-Employed				Wage and Salaried Workers			
	1991-1995	1996-2000	2001-2005	2006-2009	1991-1995	1996-2000	2001-2005	2006-2009	1991-1995	1996-2000	2001-2005	2006-2009
Algeria			7.8				36.8				55.9	
Bahrain												
Egypt	13.7	10.1	11.8	13.6	43.6	37.3	40.8	39.9	56.4	62.1	59.2	60.2
Iran		5.5	12.9	9.7		45.2	36.2	47.5		51.7	50.3	52.3
Iraq												
Jordan			0.9	0.5			10.4	10.7			82.0	83.9
Kuwait							2.7				97.3	
Lebanon			3.3	4.4			36.9	37.3			62.1	62.1
Libya												
Morocco	19.2	21.5	25.8	25.1	51.5	48.5	55.2	55.3	48.5	47.4	42.4	44.1
Oman					13	12.1			85.8	87.2		
Qatar						1.2	1.1			98.7	98.8	
Saudi												
Syria			16.5	8.9			50.8	46.3			49.2	53.7
Tunisia	0.9	7.6	7.9		29.2	31.1	33.4		70.2	68.3	66.5	
Turkey	29.3	25.4	19.8	13.4	59.5	54.9	49.5	40.5	40.5	45.1	50.5	59.5
UAE			0	0			3.1	4.2			96.9	95.8
WB & Gaza		9.5	10.4	10.2		36.6	40.8	37.3		63.4	59.2	62.7
Yemen		0.3					58.4			41.6		

Source: Calculations from WDI (2012).

Table 9 shows that MENA's unemployment rate has been consistently in double digits in the past twenty years and continues to exceed the rate for other regions (around 12% during the period 2000-2009 against 4%-8% elsewhere). Within the region itself, the GCC states are again the exception to the rule with much lower unemployment rates (averaging 1.5%-5.5% during 2001-09). Elsewhere, the pattern is very different: the highest rates are seen in the West Bank and Gaza, Iraq and Algeria (19% or above), with Iran, Jordan, Turkey and Yemen in the lower teens (10%-15%).

Official unemployment data most probably underestimate real unemployment in many MENA countries and even if they could be taken at face value, a significant portion of those 'employed' fall into the 'vulnerable employment' category (those either self-employed or working as contributing family workers). This category of employment lacks the formality that goes with wage and salaried jobs and consists of many informal occupations. For the MENA region as a whole, over one-third of all those employed can be considered as being 'vulnerable' (lack formal jobs). Given the precarious nature of some of these jobs, they can pose an additional threat to unemployment figures. Within the region, the share is even higher for some countries such as Iran, Morocco, Turkey, Syria (40%-50%). As we have already seen (in Table 8 above), only in the small GCC states is the share of vulnerable employment almost negligible (UAE, Qatar and Kuwait) thanks to the predominance of the wage and salaried workers.

**Table 9: Unemployment**

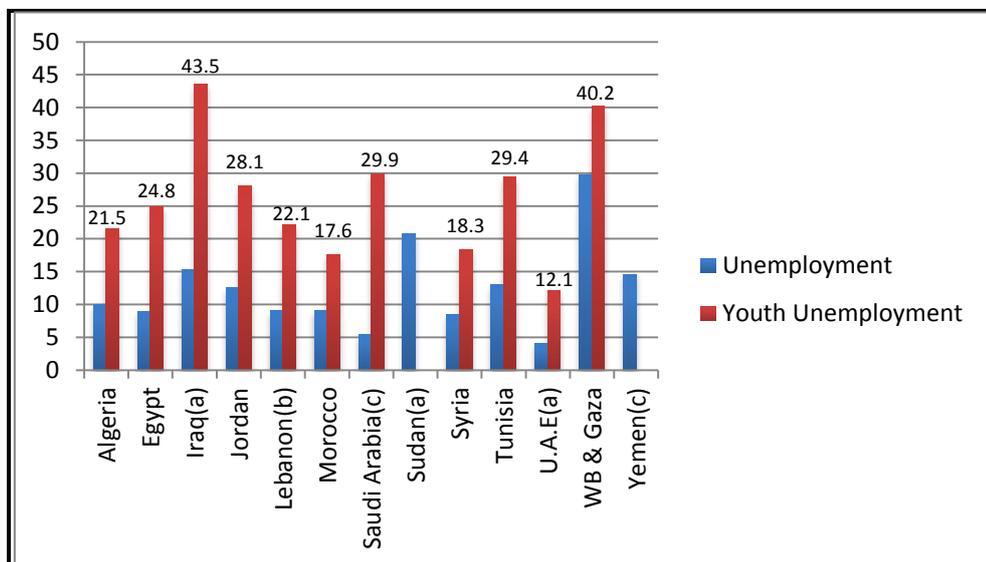
	Unemployment Rate, Total (% of total labour force)					Unemployment with Tertiary Education (% of total unemployment)					Vulnerable Employment (% of total unemployment)				
	1991- 1995	1996- 2000	2001- 2005	2006- 2009	2001- 2009	1991- 1995	1996- 2000	2001- 2005	2006- 2009	2001- 2009	1991- 1995	1996- 2000	2001- 2005	2006- 2009	2001- 2009
<b>Arab World</b>			<b>14.9</b>	<b>10.9</b>	<b>12.2</b>										
<b>East Asia &amp; Pacific</b>	2.8	3.6	4.7	4.7	4.7										
<b>Latin America &amp; Caribbean</b>	7.2	8.6	8.9	7.3	8.2			11.8	12.3	11.9		32.7		30.3	30.3
<b>MENA</b>	<b>12.6</b>		<b>13.0</b>	<b>10.5</b>	<b>11.7</b>									36.7	36.7
<b>South Asia</b>	3.3	3.4	4.6		4.6	26.1	28.0	31.1		31.1					
<b>Sub-Saharan Africa</b>															
<b>World</b>	5.3	5.4	6.4		6.4										
<b>Algeria</b>	23.8	27.6	22.5	12.5	18.7	10.8		10.0		10.0			31.6		31.6
<b>Bahrain</b>	6.3		5.5		5.5		18.0	19.6	33.6	24.2					
<b>Egypt</b>	10.4	8.5	10.4	9.4	9.9						27.0	23.7	23.8	26.1	24.4
<b>Iran</b>	11.1	9.1	11.7	10.6	11.3			19.6		19.6		41.1	43.2	42.4	42.6
<b>Iraq</b>			24.3	17.5	22.6										
<b>Jordan</b>	17.15	13.7	14.95	12.9	14.1								3.0	3.9	3.4
<b>Kuwait</b>	0.7	0.7	1.4		1.4	6.3	2.7	9.9	9.6	9.9			2.1		2.1
<b>Lebanon</b>		8.5	7.9	9.0	8.5								31.8	27.8	29.8
<b>Libya</b>															
<b>Morocco</b>	18.0	16.3	11.6	9.8	10.8	11.9	17.9	20.2		20.2	47.5	47.0	51.6	51.4	51.5
<b>Oman</b>							4.4								
<b>Qatar</b>		2.3	2.7	0.5	2.0		21.5					0.7	0.4		0.4
<b>Saudi Arabia</b>		4.5	4.9	5.6	5.4		16.8	19.3	35.0	29.8					
<b>Syria</b>	7.2	8.4	11.2	8.4	10.5			9.8		9.8			42.4	37.8	40.1
<b>Tunisia</b>		15.9	14.6	14.2	14.5	1.7	4.9	9.2		9.2	20.9				
<b>Turkey</b>	8.4	6.9	10.1	11.4	10.7	5.4	8.4	11.0	12.4	11.4		48.6	44.4	34.8	40.1
<b>UAE</b>	1.8	2.3	3.1	4.0	3.6	20.3		21.6		21.6			1.6	1.2	1.4
<b>WB &amp; Gaza</b>		16.9	27.5	23.9	25.4		18.5	17.2	22.4	18.7		31.1	36.6	32.5	34.8
<b>Yemen</b>	8.3	11.5	16.2	15.4	15.7							31.3			

Source: Calculations from WDI (2012).

Table 9 also shows that one important feature of MENA’s unemployment is that those with tertiary education feature prominently among the ranks of the unemployed. Although data is patchy, in several countries they account for as high as one-fifth of total unemployment (as in the UAE, Saudi Arabia, Morocco, Iran and Bahrain). Elsewhere (Algeria, Kuwait, Syria, Tunisia and Turkey) their share is still around 10%.

Another well-known and marked feature of unemployment in the region is very high youth unemployment rates. Despite the region’s improved growth experience in the last decade, it appears that MENA’s Achilles heel has been its inability to translate such growth into productive jobs especially for its young population (see Dhillon, 2009, and Radwan, 2006 on MENA youth unemployment). As we have already seen, MENA’s population is generally very young. The working-age youth (those between 15 and 29 years of age) account for about one-quarter to one-third of the total population across countries in the region. Unfortunately, the youth bulge in the region suffers unemployment rates that are well above the national average rates, which is high by world standards, as we saw earlier. Figure 1 shows that the youth unemployment rate in 2010 was at least twice as high as the overall national average rates in most Arab countries for which recent data is available. In Iraq and the West Bank official youth unemployment rate exceeded 40%, followed by Saudi Arabia (30%), Tunisia (29.4%), Jordan (28%) and Egypt (25%). Elsewhere at least one of out of five youth was unemployed (Algeria, Lebanon, Syria and Morocco). Given the absolute size of the youth bulge, it is not surprising that the youth make up a significant bulk in total unemployment figures. According to ILO figures (KILM, 2009), these range from one-third in Turkey (2009), to two-fifth in Morocco (2009), to half in Saudi Arabia and Iran (2008) and as high almost two-thirds (63%) in Egypt (2007). Figure 1 also shows that in Arab countries, somewhere between two and four out of ten people aged 15 to 25 years are unemployed.

**Figure 1: Total Unemployment and Youth Unemployment Rates\* (%) Selected Arab Countries (2010)**



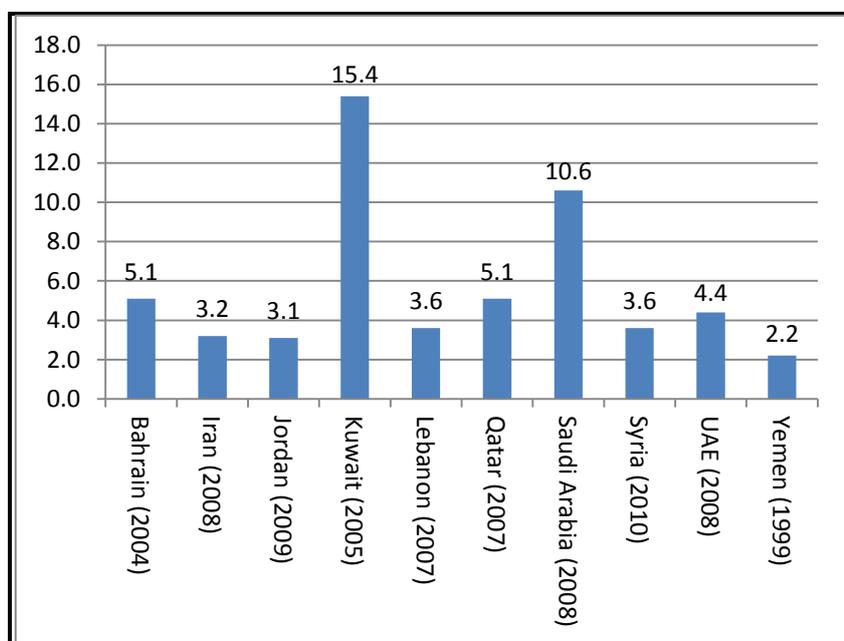
Notes: \* Youth unemployment refers to those aged 15-24 years; (a)-2008; (b)-2007; (c)-2009

Source: ILO (2011).

Figure 2 confirms the serious nature of youth unemployment in MENA indicating that these rates exceed the national rate by several-fold. The greatest gaps are seen in the GCC states with

Kuwait topping the list, where youth unemployment is 15 times higher than the national unemployment rate, followed by Saudi Arabia (10 times) and Bahrain and Qatar (5 times). Elsewhere, this ratio varies between 2.2 and 3.6 (Yemen and Lebanon, respectively).

**Figure 2: Ratio of Youth Unemployment Rate to Adult Unemployment Rate in MENA (1999-2009)**



Source: KILM (2011).

**Table 10: Employment Elasticities**

	Total				Male				Female			
	1992-1996	1996-2000	2000-2004	2004-2008	1992-1996	1996-2000	2000-2004	2004-2008	1992-1996	1996-2000	2000-2004	2004-2008
Algeria	0.87	1.01	1.29	1.53	1.45	1.69	1.63	2.18	0.68	0.76	1.15	1.24
Bahrain	0.68	0.66	0.44	0.34	1.02	1.25	0.49	0.47	0.61	0.52	0.42	0.30
Egypt	0.67	0.48	0.82	0.57	0.66	0.66	1.30	0.87	0.67	0.44	0.69	0.49
Iran	0.84	1.44	0.59	0.56	2.14	1.88	0.74	0.83	0.46	1.30	0.54	0.46
Jordan	1.99	0.36	0.69	0.58	2.58	0.68	1.15	0.80	1.90	0.31	0.61	0.54
Kuwait	0.02	2.93	0.41	0.46	0.05	3.16	0.51	0.65	0.02	2.87	0.38	0.40
Lebanon	0.69	0.92	0.52	0.37	0.81	1.31	0.68	0.46	0.65	0.80	0.47	0.34
Libya	-0.82	2.00	0.49	0.38	-1.51	3.49	0.66	0.62	-0.68	1.62	0.44	0.32
Morocco	0.54	0.56	0.50	0.40	0.89	1.00	0.50	0.31	0.43	0.41	0.50	0.43
Oman	1.21	0.63	0.50	0.42	1.02	2.07	1.25	0.86	1.24	0.41	0.36	0.33
Qatar	0.37	0.28	1.26	1.03	1.56	0.46	0.54	0.85	0.20	0.25	1.37	1.05
Saudi Arabia	1.99	1.74	1.00	0.68	2.85	3.10	1.48	1.25	1.89	1.55	0.93	0.58
Syria	0.69	2.99	0.65	1.03	0.62	4.96	0.76	1.41	0.70	2.65	0.63	0.94
Tunisia	0.79	0.40	0.55	0.42	1.30	0.61	0.89	0.46	0.64	0.34	0.43	0.40
Turkey	0.43	0.16	0.06	0.20	0.24	-0.31	-0.16	0.11	0.51	0.34	0.14	0.23
UAE	1.38	1.33	0.88	0.51	1.93	1.60	1.22	0.76	1.31	1.29	0.83	0.47
Yemen	1.09	0.60	1.12	1.05	1.51	0.87	1.93	1.34	0.98	0.52	0.88	0.96

Source: KILM (2009).

Our discussion of MENA economies' ability to generate jobs has so far concentrated on three common indicators: unemployment rates, labour force participation rates and employment-to-population ratios. While these are useful indicators, we can also gain further insight into the dynamics of employment creation and its relationship to economic growth by examining employment elasticities (Kapsos, 2005; see Saget, 2000 for a discussion of the relationship between growth and employment in general). This concept indicates the employment intensity of growth or net new job creation for each 1% growth in GDP and can help us analyse the extent to which growth may be attributed to gains either in labour productivity or in increases in labour supplies. An early study for the period 1991-2003 found that MENA and Sub-Saharan Africa had the highest of all regions' overall employment elasticities indicating that growth was in the main driven by rising labour supplies in these two regions rather than by gains in productivity (Kapsos, 2005: 19).

ILO computations for individual MENA countries in more recent years are summarised in Table 10 for the period 1992-2008 broken down into four-yearly sub-periods and disaggregated by gender (KILM, 2009). It can be seen that overall employment elasticities have been declining in most MENA countries (albeit after a rise in the middle period in some cases). A second point worth noting is that female employment elasticities are generally higher than those for males in each of the sub-periods reported. As we saw before (Table 6), women's participation rates in the labour force in the region tends to be limited and therefore higher female elasticities could simply indicate the scope for catching up with the males in this regard.

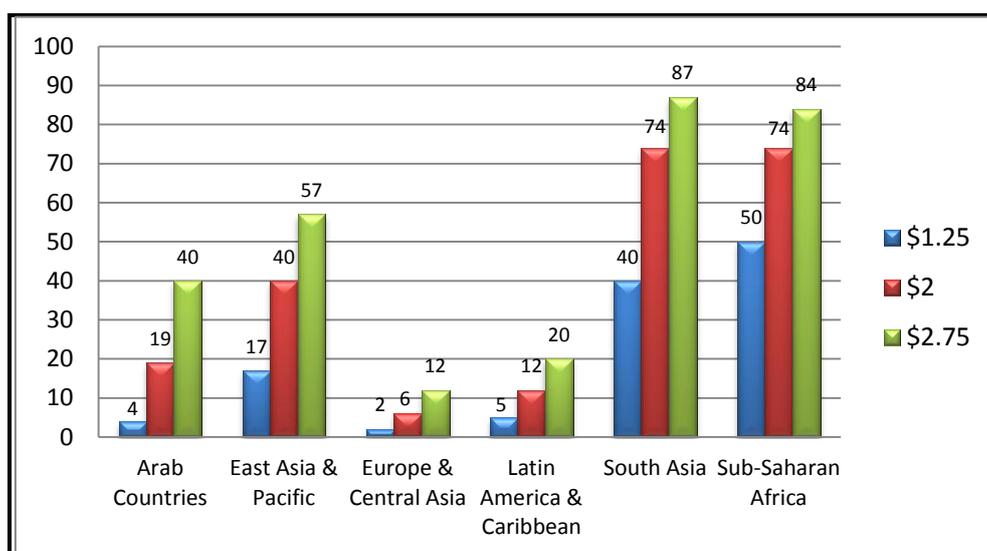
## 2.4 Poverty

Judged by international standards, MENA's poverty rates appear to be notoriously low and, if focused on narrowly, pro-poor growth strategies risk missing out on large numbers of low income people who fall above fixed international poverty thresholds (on MENA poverty and inequality, see Bibi and Nabli, 2009; Adams and Page, 2003; and Bargawi and McKinley, 2011). Figure 3 shows that in the Arab region those living on less than \$1.25 a day (in 2005 PPP US\$) add up to only 4% of the total population. This is in line with the much richer Latin American headcount ratio (5%) and a mere fraction of that for other developing regions such as South Asia (40%) and Sub-Saharan Africa (50%). Although raising the benchmark to \$2 a day and \$2.75 a day does make a significant and disproportionate difference in the Arab countries (more so than anywhere else), the overall poverty picture still seems comparatively favourable in the region, if judged by fixed international poverty lines (19% live below \$2 a day and 40% below \$2.75 a day).

Although patchy, limited data available for a number of MENA countries seems to support this overall picture. Against a background of generally low poverty headcount ratios, Table 11 shows Yemen to be an exception with the highest poverty ratios in the region and a deteriorating trend: in 1998, 13% of the Yemenis lived below \$1.25/day. By 2005 this had risen to 17.5%. Similarly, the headcount ratio for those below \$2/day was in excess of one-third of the total and rising to about one-half in the same period. In Tunisia and Morocco, where poverty ratios were slightly above the regional norms in the mid-1990s, the trend has been sharply downwards (falling from around 6.5% to 2.5% for the lower benchmark of \$1.25 a day). Elsewhere, poverty ratios seem to be very low and generally falling (Jordan) or very low and stable (Egypt, Iran and Turkey).

Again, raising the benchmark to \$2/day does make a considerable difference but in most cases these headcount ratios appear as either stable (Egypt, Iran, and Turkey) or falling noticeably (Jordan, Morocco and Tunisia). In general, even at this higher threshold, the MENA countries for which data is available match poverty incidence favourably at well below that of East Asia (40%) and just over that for Latin America (12%; see Figure 3).

**Figure 3: Regional Poverty Headcount Ratios at \$1.25, \$2 and \$2.75 a Day (in 2005 PPP Dollars, % of Population)**



Source: UNDP (2012: 22).

**Table 11: Poverty Headcount Ratios at \$1.25 and \$2 a Day in Selected MENA Countries**

	Survey Period	Population (%) below \$1.25 a day		Population (%) below \$2 a day	
		Earliest Survey	Latest Survey	Earliest Survey	Latest Survey
Algeria	1995	6.8		23.6	
Egypt	2000-2005	1.8	2.0	19.3	18.4
Iran	1998-2005	1.3	1.5	8.3	8.0
Iraq	2007	4.0		25.3	
Jordan	1997-2006	1.5	0.4	11.5	3.5
Morocco	1998-2007	6.8	2.5	24.4	14.0
Syria	2004		1.7		16.8
Tunisia	1995-2000	6.5	2.6	20.4	12.8
Turkey	2002-05	2.0	2.7	9.6	9.0
Yemen	1998-2005	12.9	17.5	36.3	46.6

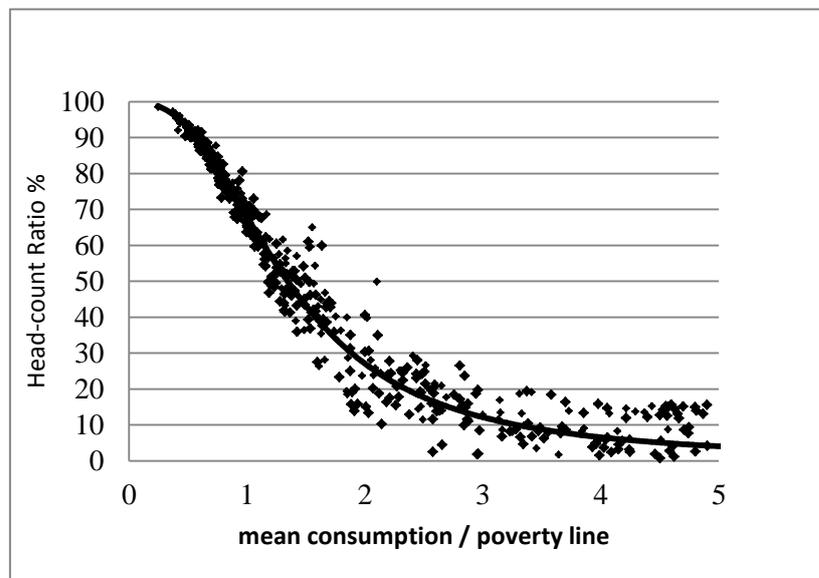
Source: KILM (2011).

Although it appears that MENA poverty headcount ratios are highly sensitive to the choice of the benchmark applied, there are good reasons to believe that the underlying issue may be whether fixed international poverty lines can be appropriate guides for estimating the real incidence of poverty in the region. A number of authors have questioned the methodology of the international poverty estimates in the MENA context. For instance, the application of universal PPPs may not be representative of relative price levels faced by very poor consumers, leading to distorted comparisons of poverty or deprivation across countries in the MENA region (Sabry, 2010, for instance argues that household expenditure surveys indicate a much worse poverty situation in Egypt). Based on an alternative methodology which takes into account per capita consumption expenditures, UNDP re-estimates new poverty lines dismissing that the \$1.25/day benchmark as being far too low and favouring the \$2.00/day line as ‘a more appropriate benchmark’ for global poverty measurement (2011: 24).

In the case of the MENA countries the appropriateness of the international poverty line of \$1.25 a day used by the World Bank has been questioned by many. To avoid some of these controversies, in this section we compare the poverty trends in the MENA countries with international norms as depicted by the international poverty curve in Figure 4.

The poverty curve is based on the relationship between headcount poverty and mean income (or mean consumption in case of countries discussed in this section) normalized by poverty line ( $y/z$ , where  $y$  is mean income or consumption and  $z$  is the poverty line). The analytics of the relationship are discussed in Karshenas and Pyatt (2012) where it is shown that this relationship remains invariant to the choice of the poverty line and the metric which is chosen to represent average well-being in different countries, as long as the same distribution scales are used. Similarly, the poverty curve in Figure 4 remains invariant to the choice of poverty line, be it the \$1.25 or \$2.0 dollar a day international poverty lines, or any national poverty line which may be deemed appropriate. Each observation in Figure 4 depicts headcount poverty in a particular country for a given poverty line. The poverty lines used in this Figure are the 2 and 1.25 dollar a day poverty lines, and the metric used for average well-being is per capita consumption based on survey results plus observations based on national accounts consistent survey means (see, Karshenas, 2012, and Karshenas and Pyatt, 2012).

**Figure 4: International Poverty Curve**

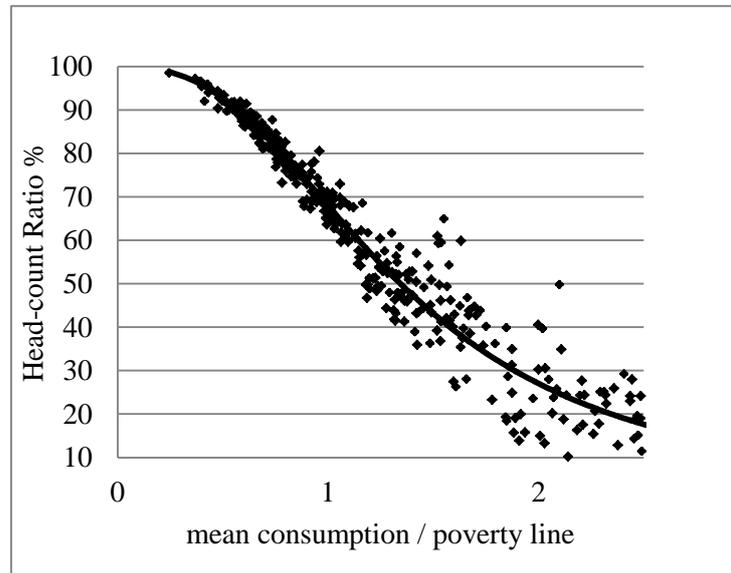


Source: Karshenas and Pyatt (2012).

The poverty curve fitted to this data can be imagined to depict the case of a hypothetical country starting with very high levels of poverty and following the downward trend along its development path, assuming that at each stage its income distribution is equal to the average for countries at a similar level of development. The slope of this curve can show the sensitivity of headcount poverty to increases in per capita income/consumption at each level of development. The vertical distance between this poverty curve and the actual observations, therefore, can be viewed as the deviations of headcount poverty in a particular country at a particular time from this average country. The slope of the poverty curve is particularly steep in cases where per capita income or consumption is less than two and a half times the poverty line. In this upper range of the poverty curve, which relates to the poor countries with what may be called generalized poverty, the fit of the curve to actual country experiences is also very close. On the other hand, along the lower

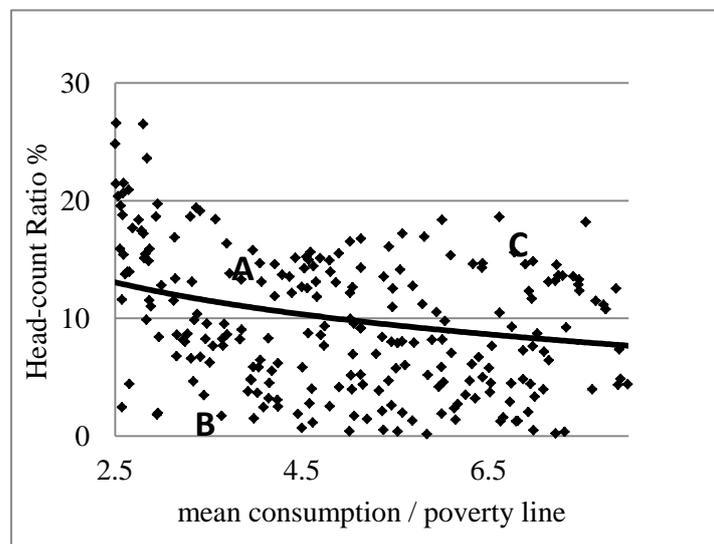
ranges the poverty curve becomes almost flat, with the variations resulting from distributional differences across the observations explaining a much higher proportion of the change in poverty than the changes in per capita income.

**Figure 5: International Poverty Curve (generalized poverty)**



Source: Karshenas and Pyatt (2012).

**Figure 6: International Poverty Curve (the lower tail)**



Source: Karshenas and Pyatt (2012).

The two cases are shown separately in Figures 5 for the case of generalized poverty, and Figure 6 for what may be called the ‘normal’ poverty situation. In the case of the poor countries under generalized poverty, where average incomes are close to or below the poverty line growth will clearly be necessary to lift the mass of the population above the poverty line. Under such circumstances which have not been uncommon in some of the poorest countries under the international poverty line of 1 dollar a day defined by the World Bank, growth appears to be a

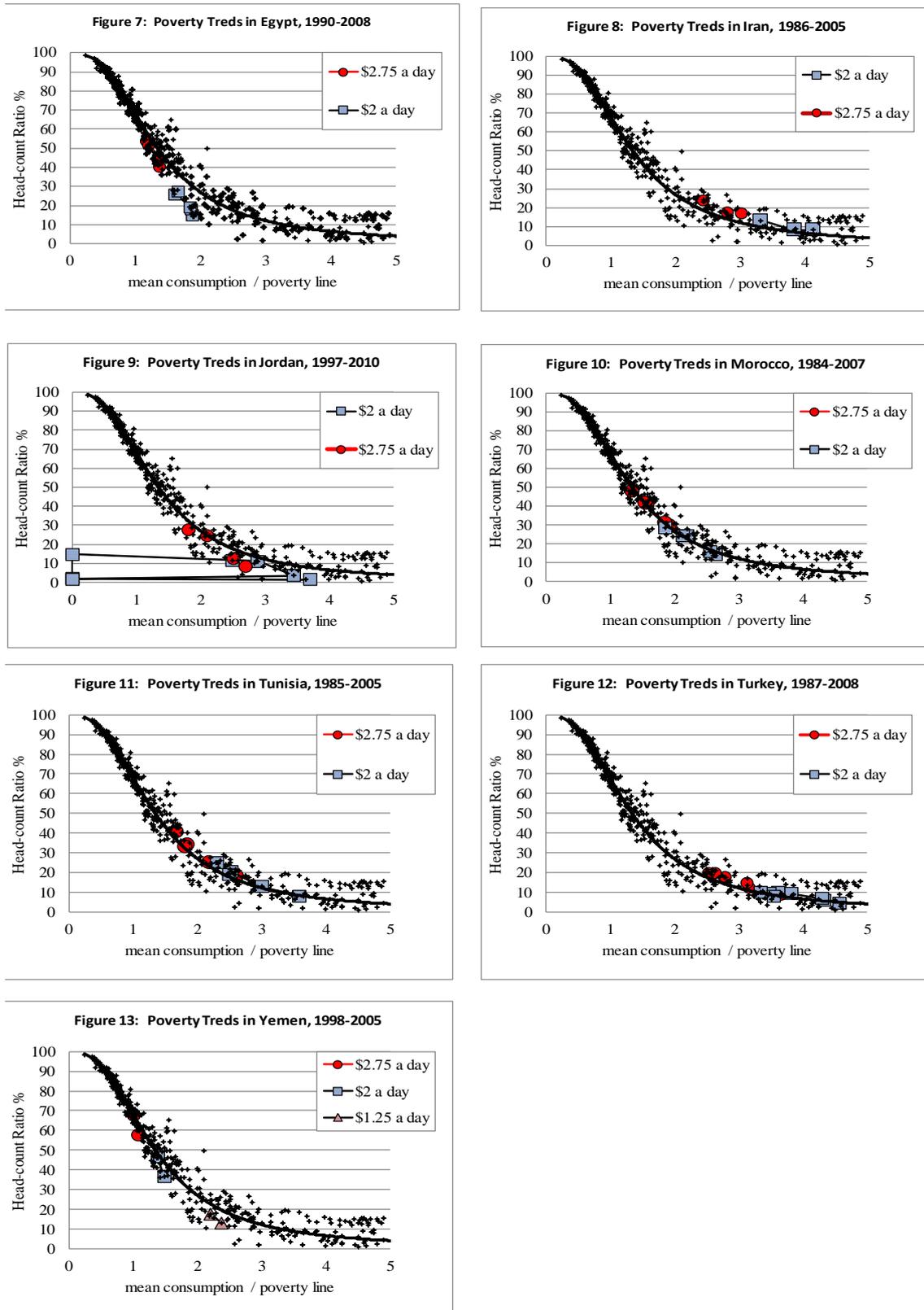
precondition for reducing poverty. Average incomes are simply too low to allow significant changes in headcount poverty by a redistribution of income. In extreme circumstances where average incomes are below the poverty line ( $y/z < 1$ ) a redistribution of income can even increase headcount poverty. In the case of middle income countries with 'normal' levels of poverty shown in Figure 6, however the major part of variations in poverty seem to be explained by variations in income distribution rather than income growth. In these cases growth appears to be neither necessary nor sufficient for poverty reduction. Growth is not sufficient, because a country at point 'A' in Figure 6 can more than double its per capita income and nevertheless reach point 'C', with even higher poverty levels. It is not necessary, because country 'A' can half its poverty levels to reach the situation such as country 'B' without the need for any growth in average incomes. The fact that variations in income distribution at lower poverty levels explain such a large part of the variations in poverty is not inconsistent with the overall Gini coefficient remaining stable. Changes in poverty are sensitive to variations in income distribution at lower tail of the distribution which can be much more volatile than the overall Gini coefficient.

It may be argued that the distinction between generalized and normal poverty is really a matter of the choice of the poverty line and with a high enough poverty line all countries can be characterized by generalized poverty, or vice versa. It is however sobering to consider that the international one dollar a day poverty line defined by the World Bank relates to the average of the official poverty lines in the poorest countries in the World and hence generalized poverty is more real than may appear. In the case of the middle to high income developing countries, which characterize most MENA countries with the exception of Yemen, average income and consumption levels are likely to be well over double the poverty line and one would be mainly dealing with 'normal' poverty rather than generalized poverty.

The issue of the international poverty lines in the context of MENA countries has created plenty of controversies. Clearly the \$1.25 a day international poverty line is not very relevant to most MENA countries, with possible exception of Yemen. The low poverty measures often reported using this poverty line are by no means a sign of equal income distribution in the MENA region as some times argued. It is rather due to the high average incomes in the region and hence the inappropriateness of the dollar a day poverty line. To identify the poor for the sake of national policy making it is essential to use appropriate national poverty lines. However for the sake of comparability and due to lack time series data we use the \$2 a day poverty line to compare the trends in poverty in MENA countries. National poverty lines in most MENA countries are unlikely to be higher the \$2 a day international poverty line, but in case of higher income countries such as Turkey, Tunisia, Jordan and Iran, even higher poverty lines may be appropriate. For this reason we report trends in headcount poverty for the MENA countries for both the \$2 a day and \$2.75 a day poverty lines.

Figures 7 to 13 the trends in poverty in MENA countries against the backdrop of the international poverty curve for both the \$2 and \$2.75 a day poverty lines. While the absolute level of poverty for each country measured on the basis of the international poverty lines may be contentious, the location and the movement of poverty relative to the international poverty curve in each country sheds light on the nature of poverty reduction in the country concerned. The comparison of poverty levels between the two poverty lines for each country indicates that relatively small changes in poverty line can lead to substantial increases in headcount poverty. This phenomenon has been discussed in the literature highlighting the vulnerability of large groups of population, which though may not counted as poor, have standards of living close to the poverty line and can fall into poverty as a result of relatively small economic fluctuations. Strictly speaking, inclusive growth is necessary for the absorption of this low income group into the economic development process in order to prevent the development of a situation akin to generalized poverty observable to the prevailing conditions in the least developed countries. The poor on the other hand require additional targeted policies, both to alleviate their condition of poverty and to be

enabled to take advantage of the possibilities presented by the development process in order to lift themselves out of their poverty. This also highlights the importance of a clearly defined national poverty line in order to identify the poor for specific anti-poverty policies.



Source: Karshenas and Pyatt (2012).

Amongst the MENA countries Egypt has poverty levels which clearly are below the international norms, and it also seems to have the steepest decline in headcount poverty relative to the international poverty curve over the 1990-2008 period (Figure 7). The former phenomenon is consistent with Egypt's relatively low levels of Gini coefficient, but the latter does not seem consistent with the stability of Egypt's Gini coefficient over this period. If this evidence can be trusted, then it appears that in Egypt despite the constancy of the overall Gini coefficient, the income of the poorest deciles has been growing faster than average. Another anomaly in the case of Egypt is that at least in the case of the \$2 a day poverty line it appears to have the most pro-poor income distribution in the world, as it is the limiting country with the lowest poverty for its level of average consumption. This may give credence to those who have been questioning the accuracy of Egyptian data indicating the missing poorest families in the household surveys.

The case of Iran in Figure 8 is consistent with its having the largest Gini coefficient in the MENA region, being the only country that is consistently above the poverty curve. There is some indication that over time Iranian income distribution has become more pro-poor, as poverty has tended to gradually gravitate towards the international poverty curve over time.

## 2.5 Inequality

In this section, we examine the empirical evidence on regional inequality, and show that there is at best a tendency for stagnation – if not worsening – income distribution in MENA. Analysis here is based on Gini coefficients of per capita expenditure, because virtually all MENA surveys cover consumption or expenditure, and hardly any collect data on income distribution. Therefore, almost all the data analysed here are from the World Bank database on Development Indicators for April 2012 and from Povcal.net. Most are based on country surveys of household expenditures. The main exception is Iran: the series of Gini of per capita consumption in Salehi-Isfahani (2007) is preferred, because it relies on detailed unit record data from annual household surveys, and because of its accuracy and comprehensiveness. MENA countries here are compared to countries whose inequality measurements also derive from consumption surveys. Hence, the dataset is restricted to a selection of Asian and African countries (Latin American countries are excluded). This section proceeds in three parts: first we look at regional patterns of income distribution, then we consider the patterns displayed by income deciles, before zooming in on country level development.

### 2.5.1 Regional Patterns

Figure 14 plots income distribution for countries in Asia, Africa, and the Middle East, placing the region in an international context. Two major patterns are immediately visible. Firstly, MENA countries are not the worst in the world,<sup>1</sup> but they are certainly not the best. In other words, they are in the middle, and they are far from exhibiting low levels of income inequality. This means that they are better than most African countries included in the graph. Examples of Gini indexes for 2005/6 are the coefficients of 47.7, 43.7, and 39.2 corresponding to Kenya, Uganda and Senegal respectively. On the other hand, the region displays more inequality than most of its Asian counterparts: in 2004-2005, India, Pakistan and Indonesia had Gini coefficients of 36.8, 31.2, and 39.4. In 2005-2006, Egypt, Jordan and Turkey had Gini coefficients of 32, 37.7, and 43.3, respectively.

MENA's intra-regional ranking is also confirmed when we look at regional means and medians. The overall regional means for Asia, Africa and MENA are 35.1, 44.9, and 41.1 (39.2 using the World Bank Iran data). The medians show a similar ranking, at 34.3, 43.9, and 42.9 respectively. Furthermore, it is quite clear from Figure 14 that those regional rankings have not changed over

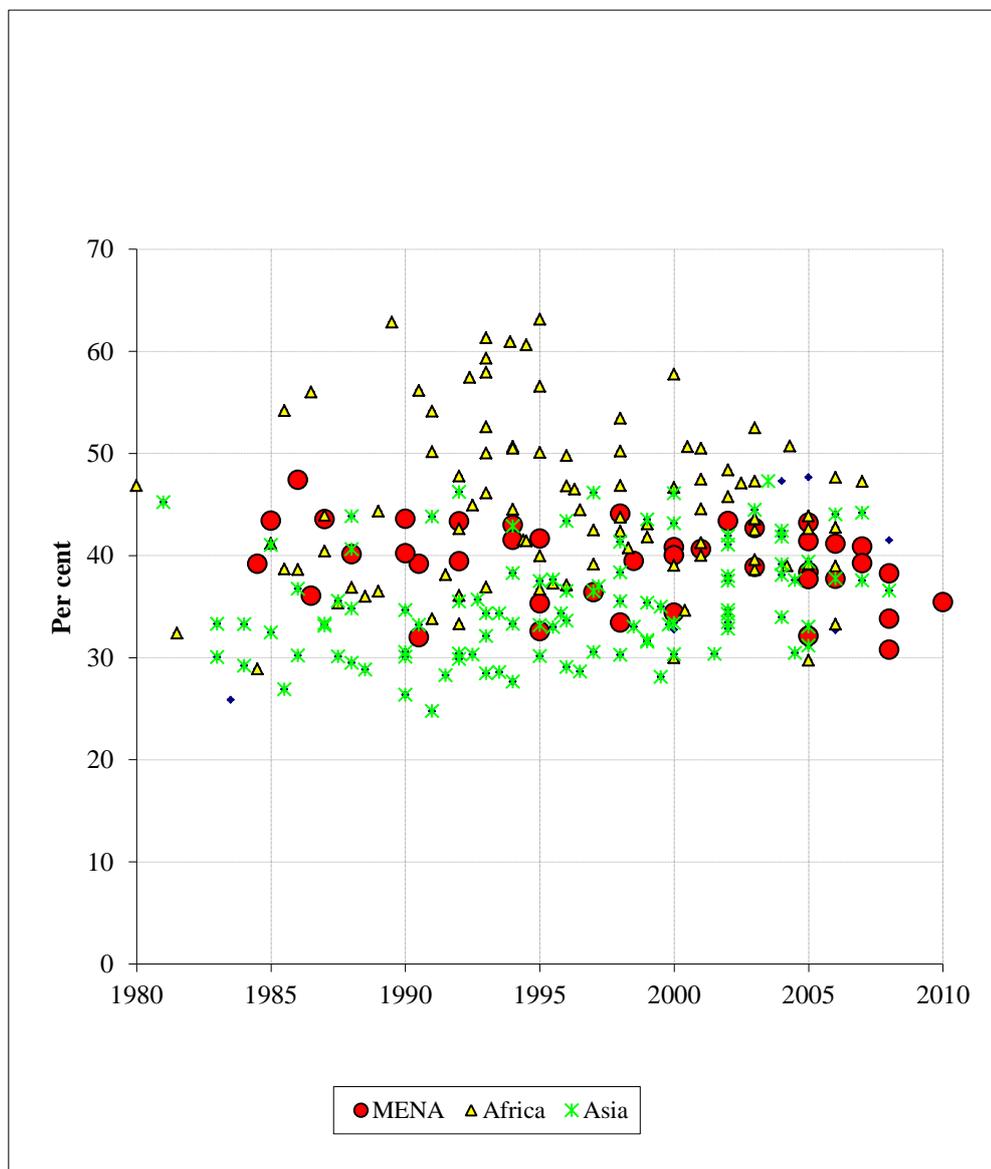
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<sup>1</sup> Most notably, they are below Latin American levels. In 2006, the Gini coefficients for Colombia, Chile and Argentina stood at 58.5, 52 and 48.

time, with MENA remaining firmly in the middle between the lower Asian inequality Ginis and the higher African Ginis.

The second striking common trend according to our data is that MENA countries have not displayed a significant improvement for the last two to three decades. It is true that the majority of Gini coefficients in the region have fallen significantly since the early surveys of the 1950s and 1960s, when they commonly scored over 50. However, in the last three decades, they have not displayed a clear or significant trend over time. Figure 15 shows that the regional range has just narrowed from 45-32 to 44-32. Indeed the average for the whole region merely slipped back slightly from 39.9 in the late 1980s to 39.2 in the mid -2000s. Even when countries saw significant changes at one point, these tended to be reversed, leaving overall levels mostly unchanged, or displaying changes of 5% or less in the Gini levels.

**Figure 14: Gini Coefficients of per capita Consumption Expenditure, MENA, Africa and Asia**

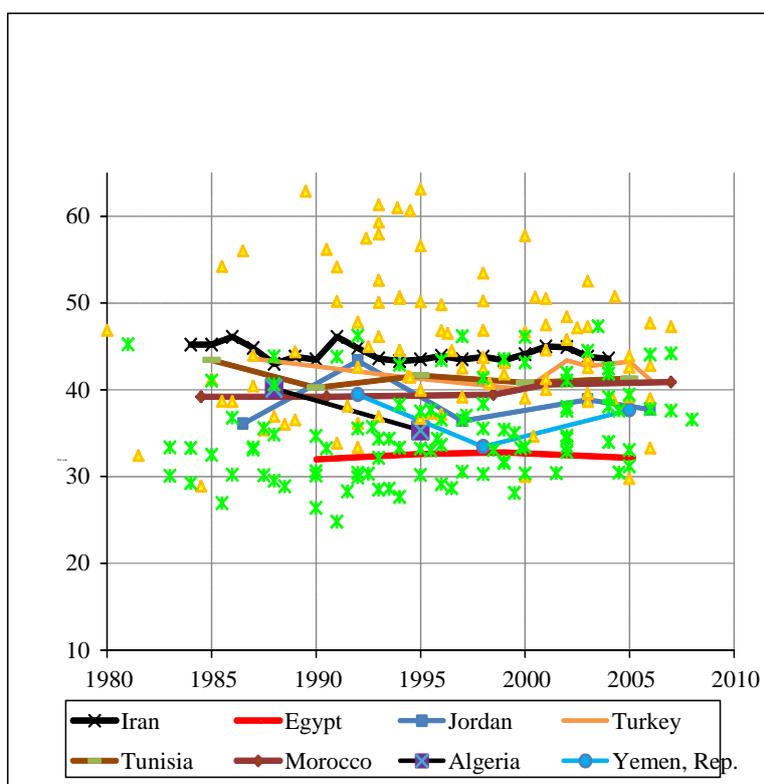


Source: WDI (2012).

In terms of intra-regional ranking, Figure 15 shows that regional rankings have not changed much. Means for Iran, Tunisia, and Turkey are above the regional average, while Algeria, Jordan, Egypt and Yemen are below the average. The highest levels are displayed by Iran, while the lowest levels are displayed by Egypt. Looking at country averages, Morocco is very close to the regional average. This makes the patterns and trends displayed by the Iran and Egypt particularly useful points of references within which the rest of the analysis can be framed.

The overall message of no significant change tallies with the conclusion of Bibi and Nabli (2009). Having surveyed the literature, and tested the statistical significance of changes in a couple of cases, the authors conclude that the overall regional inequality is 'stable', or in most cases, failing to display statistically significant changes. Ali (2009) would disagree, claiming that inequality has been increasing in the Arab region since the 1990s, because Gini coefficients rose from 36.2% for 1995 to 38.8 for 2004.

**Figure 15: Gini Coefficient of per capita Expenditure in MENA Countries**

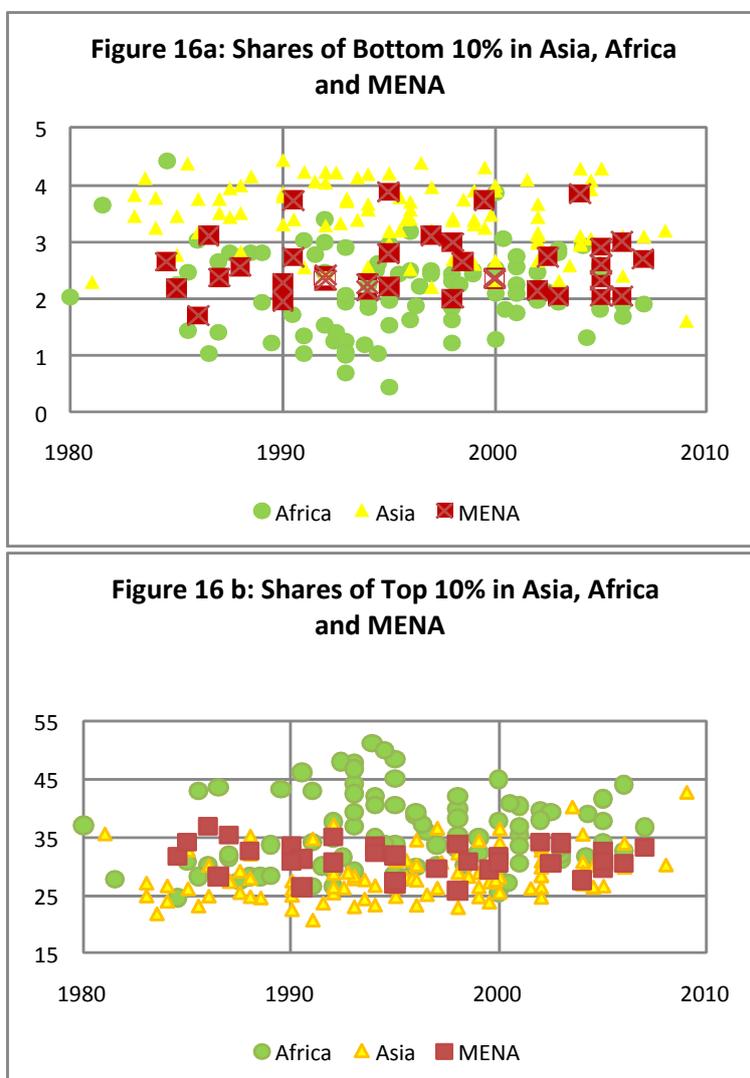


Source: WDI (2012).

## 2.5.2 Distribution by Income Groups

Of course, Gini coefficients are only one measure of income distribution. However, the above patterns concerning the position of the Middle East *vis-a-vis* other regions, as well as the patterns of intra-regional rankings tend to be repeated when we consider data for income distribution by income groups. Beginning with income deciles, Figure 16a and Figure 16b clearly show that the richest 10% in MENA recently ranged between 30% and 35%, higher than the more equal Asian pattern of 23%-30%, but lower than the African range of 32%-40%. The bottom income deciles in

MENA tended to vary between 2%-3%, and whereas Asian values typically stood between 3% and 4.5%, with the shares of African deciles ranging between 1% and 3%. Again, values for MENA are very much in the middle. The figures also point to a trend of static distribution of total consumption.



Source: WDI (2012).

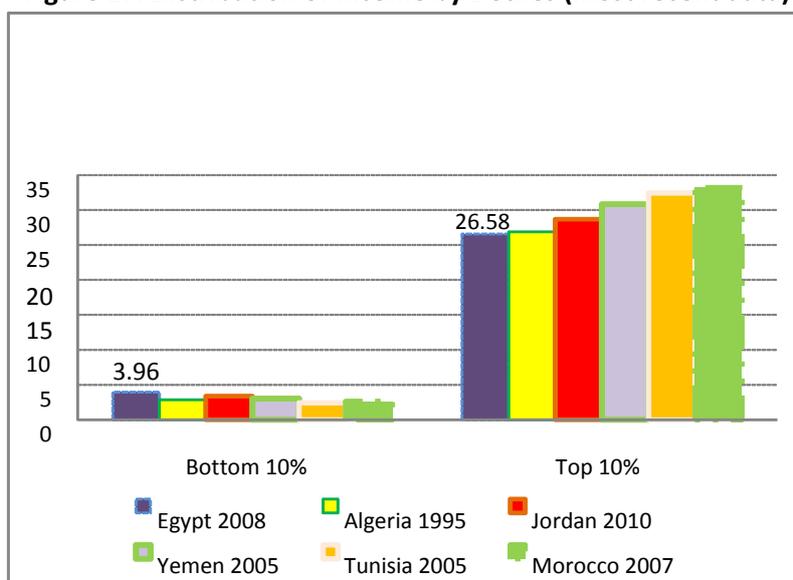
Regional rankings are also preserved when data for the lowest and highest income quintiles are considered. Figure 17 shows the striking similarities between the income distributions of the region. The average share of the bottom in 2000 stood at 2.6% to 2.8%, with only Egypt distinctly higher at well over 3% most of the time, and Iran distinctly lower at below 2%. The range for the top deciles averaged 30% in 2000s, with Iran and Turkey at the top with 34%, and a low of under 28% for Egypt.

Table 12 confirms the typical absence of clear or strong trends over time. The table shows that the poorest 20% of the population accounted for 5.5% to 9% of the distribution through most of the period, while the top 20% accounted for just under half of total consumption, typically ranging from 40% to 50%. Yemen and Morocco indicate some worsening (i.e. an expansion of the share of

the richest 20%), while Algeria, Tunisia and Turkey showed an improvement. Patterns in Jordan and Egypt were less clear.

The table also shows that the ratios of the top quintiles to the bottom quintiles range from a low of over 4 in Egypt to a high of over 8 in Tunisia. The ratios for deciles are larger at 6.7 and 13.4, respectively. Finally, according to the latest surveys, the bottom 60% of the population accounted for a low of 30.8% of total consumption in Tunisia and over 38.6% in Iraq and Egypt.

**Figure 17: Distribution of Income by Deciles (most recent data)**



Source: WDI (2012).

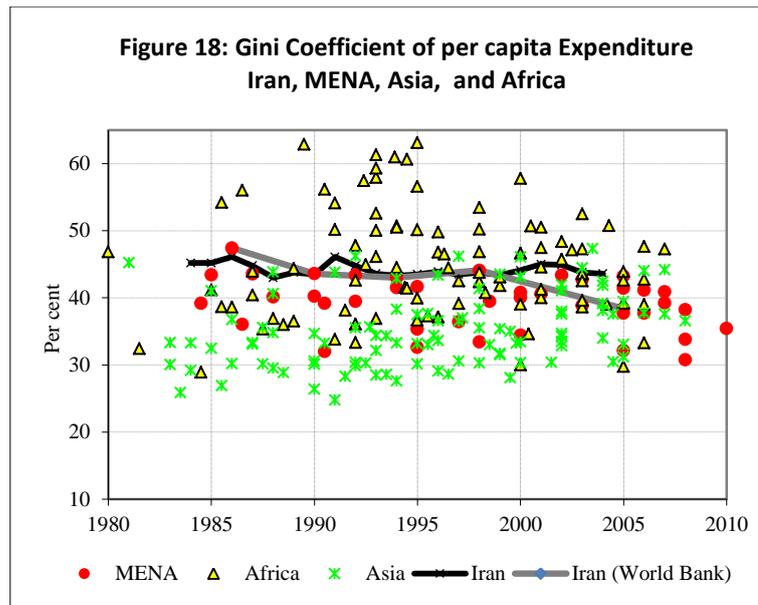
### 2.5.3 Country Level Trends

Figure 18 plots the first of individual country trends, namely data for Iran from the World Bank and Salehi-Isfahani (2007). The two sets indicate inconsistent trends: there is a clear improvement if we use the World Bank data, since despite stagnation in the 1990s, the Gini would have fell by 10 percentage points to a moderately high level of 38 in 2005. The gains are not significant in the data tabulated by Salehi-Isfahani (2007), since the Gini merely inches down from 0.45 in 1984 to 0.435 twenty years later. Yet the trend is far from stagnant: there were improvements in inequality following the Revolution, a worsening after the war, which the reforms of the 1990s reversed. This was followed by a small increase between 1999 and 2002, which was reversed in recent years. In other words, overall inequality has not worsened. It also did not improve, although there were clear gains in the terms of poverty reduction. Salehi-Isfahani suggests that it may well be that increased insecurity – especially in urban areas, polarisation, and concerns about oil wealth distribution, have led to a perception of rising inequality.

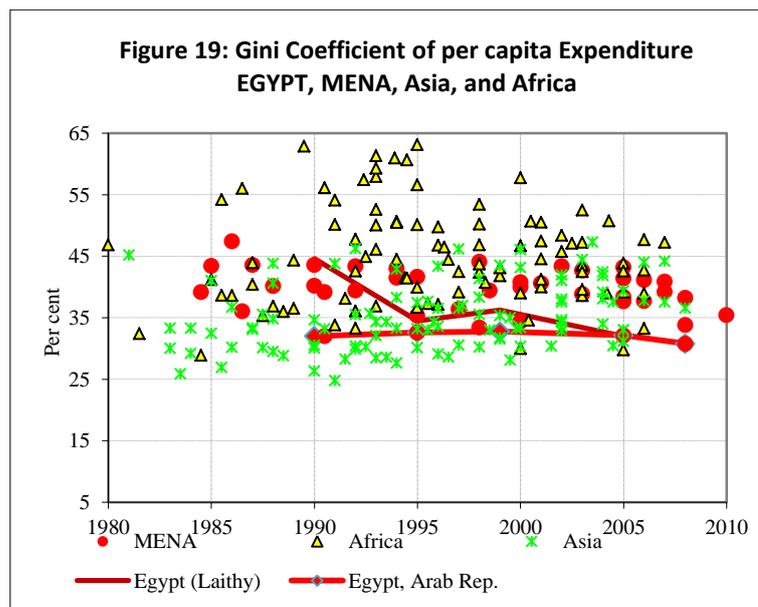
**Table 12: Shares of Income Quintiles**

Country	Year	Bottom 20%	Top 20	Ratio Top/bottom	Share of bottom 60%
<b>Algeria</b>	1995	7.0	42.6	6.1	<b>34.8</b>
	1988	6.5	47.2	7.2	<b>32.2</b>
<b>Egypt</b>	2008.3	9.2	40.3	4.4	<b>38.6</b>
	2004.5	9.0	41.5	4.6	<b>37.7</b>
	1999.8	9.0	42.1	4.7	<b>37.3</b>
	1995.8	9.5	39.9	4.2	<b>38.9</b>
	1990.5	8.7	41.1	4.7	<b>37.5</b>
<b>Iraq</b>	2006.8	8.7	39.9	4.6	<b>38.1</b>
<b>Jordan</b>	2010	7.7	43.6	5.7	<b>35.0</b>
	2008	8.1	42.3	5.2	<b>36.0</b>
	2006	7.3	45.5	6.2	<b>33.5</b>
	2002.5	6.7	46.1	6.9	<b>32.5</b>
	1997	7.6	44.4	5.9	<b>34.5</b>
	1992	6.0	50.0	8.3	<b>29.7</b>
	1986.5	7.3	43.8	6.0	<b>34.2</b>
<b>Morocco</b>	2007	6.5	47.9	7.3	<b>31.5</b>
	2000.8	6.5	47.7	7.4	<b>31.2</b>
	1998.5	6.5	46.5	7.1	<b>32.0</b>
	1990.5	6.6	46.3	7.0	<b>32.0</b>
	1984.5	6.6	46.2	7.0	<b>33.0</b>
<b>Syria</b>	2004	7.7	43.9	5.7	<b>34.6</b>
<b>Tunisia</b>	2005	5.9	47.9	8.1	<b>30.8</b>
	2000	6.0	47.3	7.9	<b>31.1</b>
	1995	5.7	47.9	8.5	<b>30.3</b>
	1990	5.9	46.3	7.9	<b>31.5</b>
	1985	5.5	49.6	8.9	<b>29.4</b>
<b>West Bank and Gaza</b>	2009	7.4	43.4	5.8	<b>34.8</b>
	2007	6.5	45.6	7.0	<b>32.6</b>
<b>Yemen</b>	2005	7.2	45.3	6.3	<b>33.8</b>
	1998	7.4	41.2	5.6	<b>36.3</b>
<b>Iran</b>	2005	6.4	45.2	7.0	<b>32.9</b>
	1998	5.2	49.9	9.7	<b>28.7</b>
	1990	5.2	49.4	9.5	<b>29.2</b>
	1986	4.6	52.7	11.5	<b>26.6</b>
<b>Turkey</b>	2008	5.7	45.1	7.9	<b>32.5</b>
	2003	5.4	49.3	9.2	<b>29.5</b>
	1994	5.8	47.7	8.2	<b>30.8</b>
	1987	5.9	50.0	8.5	<b>29.7</b>

Source: PovcalNet.



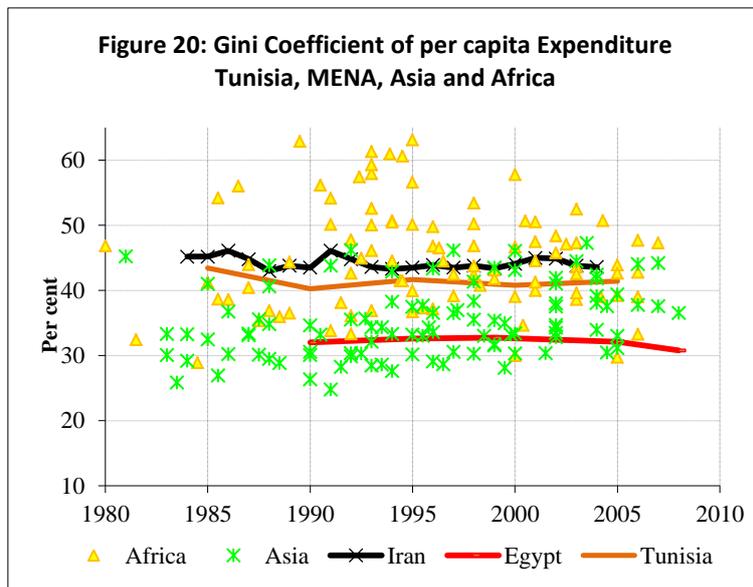
Source: WDI (2012) and Salehi-Isfahani (2007).



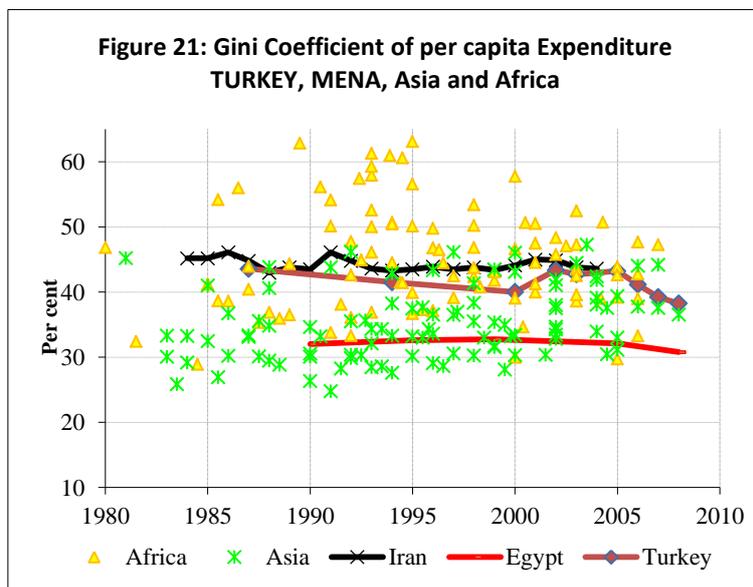
Source: WDI (2012) and Kheir-El-Din and El-Laithy (2006).

Trends for Egypt shown in Figure 19 are also ambiguous. World Bank data show rather stagnant levels. However, according to Kheir-El-Din and El-Laithy (2006), who use household survey data, Egypt's per capita Gini fell by a fifth from over 44 to 34 in the 1990s, worsened again with economic recession, but improved to 32 by 2005 and to 30.8 by 2008, the lowest level in the region. Adams and Page (2003) also indicate a clear worsening in the 1990s. The overall improvement is in line with the fact that poverty has declined considerably over time, but still remains significant. Not all regions shared the reduction in poverty, particularly where per capita income failed to grow (Lokshin et al, 2010). Thus a pervasive problem of poverty remains, and it is yet to be addressed systematically (Berenger, 2009), and equity-enhancing policies (for instance, supporting agriculture) may still be needed (Kheir-El-Din and El-Laithy, 2006). Cherkaoui et al (2009) find that in 2005-2008

growth was not equitable. All these point to a non-inclusive pattern of growth and possibly an increased vulnerability of the poor in the 2000s, which would make a fall in inequality unlikely.



Source: WDI (2012).

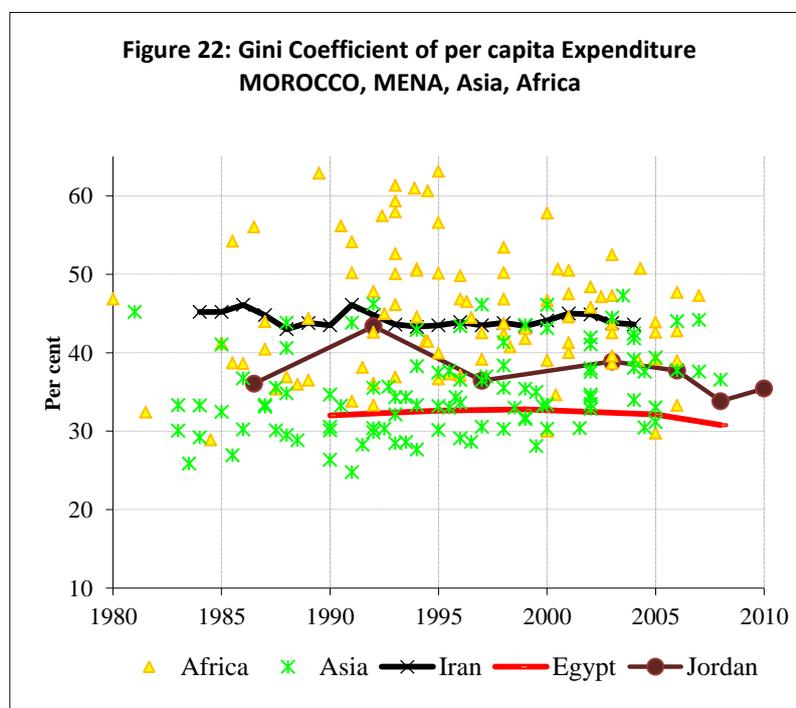


Source: WDI (2012).

Figure 20 depicts inequality trends in Tunisia, which shows a small but insignificant improvement since 1985, but not compared to 2000. The Tunisian Gini fell by around 2 percentage points in the 1980s, probably due to the reduction in the inequality of food expenditure (Zouari-Bouattor and Jallouli, 2001). It then worsened by over one percentage point in the late 1990s during the adjustment years. The pattern is repeated in the 2000s, with the effects of the pro-poor growth seem to be weakening. Likewise, in Lahouel (2008), redistribution effects of growth are important

for poverty reduction in the second half of the 1980s, while by the end of 1990s, poverty reducing effects of growth are reduced by rising inequality particularly in urban areas. Research and data on the last decade are very scarce, so the picture for the 2000 is uncertain. But on the whole, despite its image as a progressive society, Gini coefficients place Tunisia as having one of the most unequal distributions of consumption in MENA. In particular, regional and rural/urban disparities have not narrowed.

Figure 21 considers the country with the second highest inequality after Iran, namely Turkey. Turkey has had the strongest economic growth in the region, averaging 3.1% in 1970-2008. In the 1990s, this growth was accompanied by a clear decline in inequality. With the recession of the 1990s, this gain was partially reversed, leaving the mid-2000s Ginis hardly lower than in the 1980s. Turkey's social profile improved (better access to health, improved educational attainment indicators), and its GDP has tripled in the 2000s, but progress has been uneven and pockets of poverty remain.

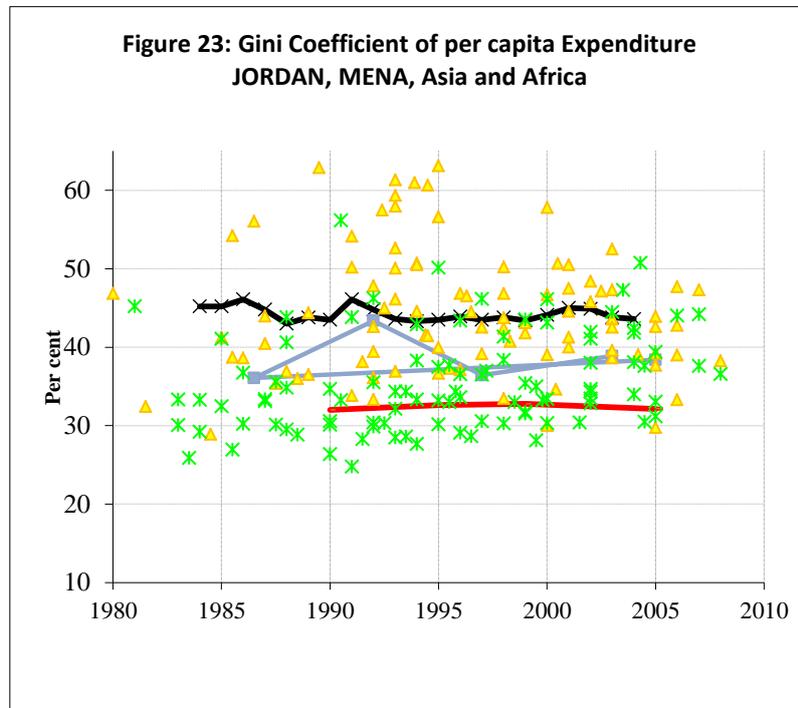


Source: WDI (2012).

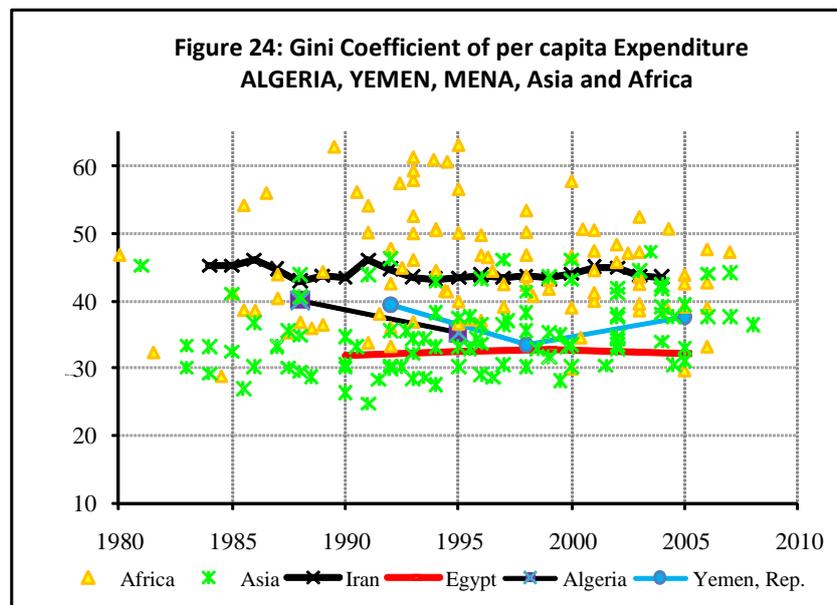
Figure 22 outlines the trends of Morocco, the country closest to the regional averages. Here, the trend has been stubbornly static: the Gini coefficient hovered just over 39 in the 1990s, inching up to just nearly 41 in 2007. To go with this unrelenting inequality, Morocco continues to have a substantive proportion of its people in absolute poverty, although this has declined as growth picked up in the 2000s. Other studies similarly point to the persistence of high overall Gini levels, not just in income (Abdelkhalek and Rockmore 2007). But as with Egypt, this was not a static picture, particularly in terms of rural/urban or inter-regional contrasts. Furthermore, according to Cherkaoui et al (2009), growth was not poverty reducing in 1985-2001, although the poorest did benefit, while in 2001-2007, there was continued reduction in poverty, and the poor did benefit, but not more than other groups.

Figure 23 shows an overall trend of insignificant improvement of inequality in Jordan. However, the trend here is more dramatic: inequality shot up significantly during the economic crisis

of the late 1980s/early 1990s. It improved a little thereafter, but it rose again to 37-39 in 2003-2007, before easing at the end of the period at 35.43 in 2010. Adams and Page (2003) indicate a similar pattern for the 1990s, while Shahateet (2006) picks up a worsening between 1997 and 2002.



Source: WDI (2012).



Source: WDI (2012).

Finally, Figure 24 plots the trends for the countries with the lowest inequality levels after Egypt. The first is Yemen, which saw an insignificant overall improvement. The Gini coefficient clearly

drops in the late 1990s, but by rising again around 2000, it is only less than 2 points lower in 2005. But Yemen has seen the clearest and worst story of mass impoverishment in the region: using the \$2 headcount, poverty shot up from 17.3% in 1992 to 50% in 2005 (Bibi and Nabli 2009). The second is Algeria. Here, we are limited by the fact that only two observations are available. These indicate a clear improvement between 1988 and 1995. Despite being an oil economy, Algeria's income growth was hardly noticeable through most the 1980s and 1990s, only picking up in the mid-2000s.

Finally, new data suggest Gini levels in Iraq and West Bank and Gaza at around 31 and 35-39 respectively, placing the former towards the bottom of the regional inequality ranking and the latter in the middle. Only one estimate is available for Syria, namely a Gini of 35.8 in 2004. David and Marouani (2009) suggest a slightly higher Gini of 37.4 for 2004 based on survey data. They also show that while inequality did not increase significantly at the national level, in some regions it worsened significantly.

To sum up, three MENA countries (Tunisia, Turkey, Yemen) show a slight, mostly insignificant improvement in inequality. Two other countries (Jordan, Morocco) indicate insignificant worsening, despite very different paths. Finally, two countries (Iran and Egypt) seem to indicate overall lack of change.

#### **2.5.4 Overall Trends and Data Issues**

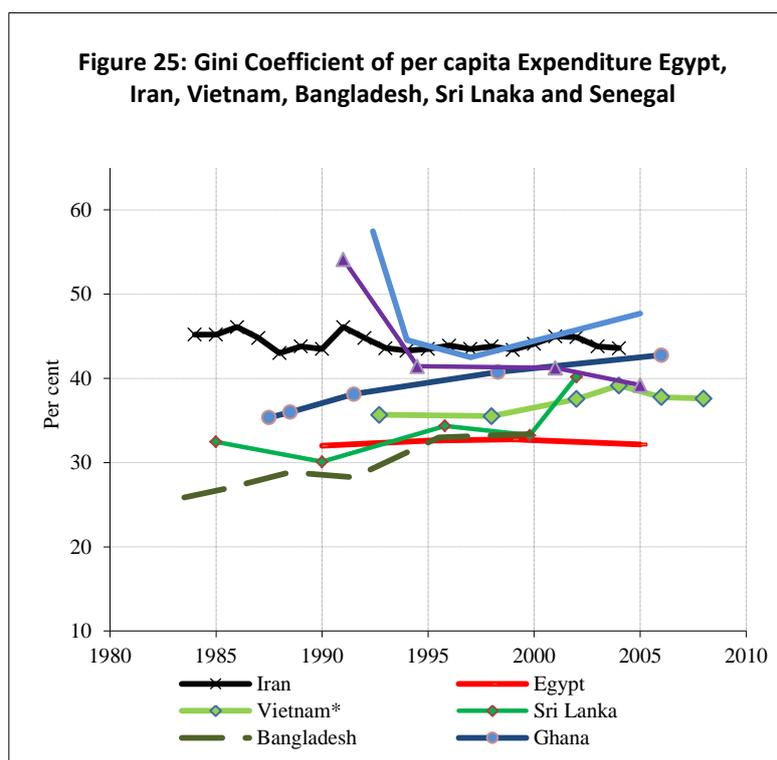
Data in the previous section point out to a number of findings. First, the Middle East is varied, and so are the income distribution patterns it displays (for some countries no data are available, such as Libya).

Second, the data tend to place the region's income distribution levels between those for Africa and Asia. Therefore it is not true that the Middle East has exceptionally low levels of income inequality. In fact it has both high and low inequality levels, and it tends to have moderately high levels of inequality overall. Some countries like Egypt are on the lower end of the scale of inequality, with an income distribution closer to Asian pattern. Others, such as Iran, have fairly high inequality, closer to African levels.

Third, a key finding of the exercise is that despite huge structural changes in these economies, income distribution has not changed by much. Over the last few years, there are indications of a worsening tendency, but the trend is not noticeable when compared to worsening income distribution in fast growing Asian countries. The relative stability of MENA pattern can be clearly seen in Figure 25, which also shows visible and significant changes for other developing countries. For example, inequality worsened clearly in Sri Lanka, beginning a Gini coefficient of over 30 in 1985, and rising to over 40 after 2000. On the other hand, levels narrowed significantly for Senegal and Kenya, from 55 and over in the first half of the 1990s to 40 and 44 by 2005, respectively.

Sri Lanka, like China, is an example of successful developing economies that have grown rapidly and lifted much of their population out of poverty. And while income inequality has worsened, they have made great improvements in social and human development. But MENA has been characterised by stagnating income distribution, suggesting that the region has not done enough for its poor people.

The relative positions of MENA's income distribution levels *vis-a-vis* other regions flies in the face of claims by some MENA economists that MENA has displayed 'relative equality'. Furthermore, since income distributions here are not exceptionally low, and are moderately high in some cases, there cannot be 'cultural and religious factors' at work in the region that are either specific or exclusive to the region. Further, given these special factors, inequality should have fallen or shown a tendency to fall more clearly, which is not the case. Therefore a more relevant question is why has inequality in MENA been so stagnant?



Source: WDI (2012).

It is worth pointing out to a couple of features of regional data that contribute to these observed levels. First, an important factor contributing to the underestimation and/or stagnation of MENA's levels of inequality are measurement errors and the nature of the data (see Nabli and Bibi 2009). We have already pointed out to the contradictions between datasets concerning Iran and Egypt. More generally, a key reason for the region's medium levels of inequality is the use of consumption surveys. By contrast, Latin America's larger Ginis are based on income distribution, and these tend to show much larger differences than those displayed by consumption. In fact, Bibi and Nabli (2009) remind us of Dininger and Squire's study in 1996 finding that income-based Ginis tend to be larger than consumption Ginis by 6.6 percentage points.

More recently, the *Arab Development Challenges Report 2011* (see UNDP, 2011) has argued that it is very likely the 'enigma of inequality' is due to the fact that the highest deciles are excluded from surveys, which would explain the large differences between household expenditures in household surveys and those in national accounts. The differences between the two in the 2000s ranged between 61% in Egypt and 11% in Morocco. The authors argue convincingly that it is very likely that this is due to the exclusion of the highest deciles, and that the Ginis are almost certainly seriously underestimated (at least in Egypt, Syria, Tunisia, Jordan and Yemen). Therefore, it is entirely possible that while the elites were getting richer compared to the rest of the population, income distribution amongst the general population was found to be rather stagnant. Any corruption and embezzlement at the top deciles would have sharpened perceptions of economic injustice, contributing to the current explosions.

Similarly, if one considers a typical MENA basket included in the surveys, these baskets include subsidies (e.g. on food or fuel) and exclude many large items (rent, private education, repairs). The effect of these two measurement issues is to narrow the differences between the

richest and poorest consumption baskets, thereby under-estimating both poverty and inequality. An in-depth study on this matter in the case of Egypt has been conducted by Sabry (2009), who shows, for example that: surveys do not reflect the absence of services such as school or sanitation in some areas; and the measured non-food budgets excludes many essential categories (medication, repairs to drains; water connections, etc.). In other words, the poor are *not* actually coping with the cost of living, and current estimates of their spending grossly under-estimate their deprivation.

## 2.6 Access to Social Goods and Services

### 2.6.1 Health

As we saw above (Tables 3 and 4), in recent years the region's demographic transition has been marked by improvements in life expectancy combined with a sustained fall in infant mortality rates. Table 13 provides other selected health indicators for which comparative data are available. It can be seen that in the last decade, maternal mortality ratios in MENA have fallen steeply reaching levels that are now comparable to those of East Asia and Latin America (to 74 per 100,000 live births in 2009, down from 200 per 100,000 live births in 2000). The experience of the Arab world has lagged somewhat behind the region as a whole weighed down by the persistence of high maternal mortality rates in Libya and Yemen (100 and 200 per 100,000 live births, respectively, in 2009).

**Table 13: Selected Health Indicators (2000-09)**

	Maternal Mortality Ratio (per 100,000 live births)			Incidence of Tuberculosis (per 100,000 people)		
	2000	2005	2009	2000	2005	2009
<b>Arab World</b>	<b>360</b>	<b>290</b>	<b>230</b>			
East Asia & Pacific	210	120	78	167	136	114
Latin America & Caribbean	140	100	80	88	61	43
MENA	200	120	74	56	50	38
South Asia	620	410	220	215	215	192
Sub-Saharan Africa	850	740	500	210	276	271
<b>World</b>	<b>400</b>	<b>320</b>	<b>210</b>	<b>144</b>	<b>141</b>	<b>128</b>
Algeria	220	140	97	66	87	90
Bahrain	23	22	20	28	34	23
Egypt	230	100	66	34	26	18
Iran	120	48	21	36	32	17
Iraq	89	78	63	64	64	64
Jordan	110	79	63	16	8.4	5.4
Kuwait	11	9	14	16	30	41
Lebanon	52	38	25	32	17	17
Libya	300	170	100	40	40	40
Morocco	99	67	58	147	109	91
Oman	110	51	32	30	15	13
Qatar	15	11	7	45	54	38
Saudi Arabia	44	27	24	17	20	18
Syria	240	120	70	61	35	20
Tunisia	130	84	56	29	24	25
Turkey	67	39	20	58	46	28
UAE	24	14	12	4.5	5.5	3.1
WB & Gaza				8.7	9.4	4.9
Yemen	610	380	200	137	116	49

Source: Calculations from WDI (2012).

Similarly, the incidence of tuberculosis has shown a sustained decline. Whilst generally low by world standards, by 2009 such cases were on average affecting 38 per 100,000 people in MENA (down from 56 per 100,000 a decade earlier and only a quarter of the average global rate at 128 per 100,000). Within the region itself, incidence was highest in some North African countries: in Morocco and Algeria rates were around 90 per 100,000, while the GCC states exhibited some of the lowest rates.

Table 14 provides data on health expenditures and the share of the public sector in such expenditures. We can see that the share of total (public and private) health expenditure in MENA's GDP over the last decade has been generally low at around 4%-5%, which is about half of the world average (which includes developed countries). This ratio falls between that for East Asia and Latin America on one hand (7%) and South Asia on the other (4%). Within the region, high relative shares are seen in Jordan and Lebanon (7%-8%) in contrast to small GCC states (Kuwait, Qatar and Oman) with much lower shares (2%-3%).

**Table 14: Expenditure on Health (2000-09)**

	Total Health Expenditure (% GDP)			General Government Expenditure on Health (% Total Government Expenditure)			General Government Expenditure on Health (% Total Expenditure on Health)		
	2000	2005	2010	2000	2005	2010	2000	2005	2010
Arab World	4.2	3.8	4.7				57.2	60.8	60.9
East Asia & Pacific	6.6	6.7	6.9				72.4	67.8	69.5
Latin America & Caribbean	6.6	6.9	7.7	9.8			48.9	47.2	50.2
MENA	4.7	4.4	5.1				54.2	58.3	57.8
South Asia	4.3	3.9	3.9	3.8	3.5	3.5	28.1	24.4	30.0
Sub-Saharan Africa	6.0	6.6	6.5		10.00		40.0	39.3	45.3
World	9.2	9.9	10.4				57.8	58.6	62.8
Algeria	3.5	3.4	4.2	8.9	9.9	9.2	73.3	75.8	77.9
Bahrain	3.9	3.7	5.0	10.0	10.0	11.4	67.5	69.0	77.3
Egypt	5.4	5.2	4.7	7.3	6.7	5.7	40.5	40.6	37.4
Iran	4.6	5.7	5.6	8.4	8.9	10.5	41.6	44.2	40.1
Iraq	1.3	4.4	3.9	1.3	3.3	9.0	30.1	73.4	81.2
Jordan	9.7	8.9	8.0	11.0	12.0	18.6	48.3	53.3	67.7
Kuwait	2.6	2.4	2.6	5.5	7.1	6.9	73.8	77.9	80.4
Lebanon	10.7	8.4	7.0	8.0	11.9	9.5	30.4	43.8	39.2
Libya	3.3	2.5	3.9	6.0	5.5	5.5	57.2	61.8	68.8
Morocco	4.2	5.1	5.2	4.0	4.8	6.6	29.4	28.7	38.0
Oman	3.1	2.6	2.8	7.1	6.1	6.2	81.8	82.4	80.1
Qatar	2.3	3.3	1.8	5.0	8.2	5.5	68.8	81.2	77.5
Saudi Arabia	4.3	3.5	4.3	9.2	8.8	7.0	71.6	72.8	62.9
Syria	4.9	4.1	3.4	6.5	6.8	5.6	40.4	50.5	46.0
Tunisia	6.0	6.2	6.2	8.1	9.2	10.7	54.9	51.5	54.3
Turkey	4.9	5.4	6.7	9.8	11.3	12.8	62.9	67.8	75.2
UAE	3.2	2.7	3.7	7.6	8.6	8.8	76.6	66.9	74.4
WB and Gaza									
Yemen	4.5	4.9	5.2	8.3	4.8	4.3	53.8	33.9	24.2

Source: Calculations from WDI (2012).

A regional comparison of the relative importance of government spending on health (judged by its share in government budget) is not possible due to lack of data, but within the region, in

Turkey and Jordan public expenditure on health are highest as a share of total government expenditure (13% and 19% respectively).

The relative importance of public sector provision of health services is seen much more clearly from the composition of the total health expenditures. The share of public sector in MENA's total health spending (private and public) has been edging up to reach around 58%-60% in 2010 (in comparative terms, it is only below East Asia's 70%). A closer look at the region, however, shows a dual pattern. In Egypt, Iran, Lebanon, Morocco private health spending exceeds public spending. In most other cases, the public sector takes the lion's share in health spending. This reaches as high as three-quarters to four-fifth of all health spending in Algeria, Iraq, Kuwait, Turkey, UAE, Qatar and Bahrain. The trend appears to be upwards for most, although in Yemen public spending has been giving way rapidly to private health spending in recent years (falling to 24% from 54% in 2000).

## 2.6.2 Education

Table 15 shows that gender parity in both secondary and tertiary education in MENA has been improving significantly in the past decade. In secondary education, the rise in the female to male enrolment ratios has been particularly marked in Turkey: reaching 91.5% in 2009, up from 73% in 2000. Many other countries in the region too have attained similar ratios in excess of 90%. The only exceptions are Yemen and Iraq with dismal ratios of 41% and 62%, respectively, in 2000 – the latest year for which data is available.

**Table 15: Education Indicators, 2000 and 2009**

	Ratio of Female to Male Enrolment (%)				Private Secondary Enrolment	
	Secondary		Tertiary		(% of Total Secondary)	
	2000	2009	2000	2009	2000	2010
<b>Arab World</b>	<b>88.7</b>	<b>91.4</b>	<b>80.1</b>	<b>96.3</b>		
<b>East Asia &amp; Pacific</b>	95.6	104.7	84.4	104.0		15.8
<b>Latin America &amp; Caribbean</b>	106.8	108.1	118.5	126.0	17.2	18.1
<b>MENA</b>	<b>90.1</b>	<b>92.7</b>	<b>82.6</b>	<b>100.7</b>		
<b>South Asia</b>	74.2	88.4	64.2		49.1	
<b>Sub-Saharan Africa</b>	81.0	79.2	65.2	63.3		
<b>World</b>	91.6	96.6	99.1	108.2		
<b>Algeria</b>		101.8		144.2		0.1
<b>Bahrain</b>	108.8				14.3	19.9
<b>Egypt</b>	92.2					
<b>Iran</b>	93.8	94.4	86.3	107.0		
<b>Iraq</b>	62.1		54.3			
<b>Jordan</b>	104.4		115.1	112.3	16.5	
<b>Kuwait</b>	103.8				27.5	30.8
<b>Lebanon</b>		111.1	104.6	118.9		58.7
<b>Morocco</b>	79.3		72.3	87.1	5.0	
<b>Oman</b>	99.2	99.0		135.2	0.9	7.5
<b>Qatar</b>	115.0	129.4		541.7		38.4
<b>Saudi Arabia</b>		89.8	126.6	123.7		
<b>Syria</b>	91.9	100.7			4.9	3.8
<b>Tunisia</b>	103.4	105.8		150.5	7.6	4.1
<b>Turkey</b>	72.9	91.5	66.9	79.3		
<b>UAE</b>	105.7		370.7		31.8	54.3
<b>West Bank and Gaza</b>	104.4	106.9	89.8	130.2	4.6	5.1
<b>Yemen</b>	40.9		27.3			

Source: Calculated from WDI (2012).

The rising trend of female participation in education has been even more marked in the tertiary sector. Although following a worldwide trend, the ratio of female to male enrolment in this sector has jumped significantly by almost a quarter in less than ten years to reach parity in MENA (up from 83% to 100.7%) and near parity in the Arab countries (up from 80% to 96.3%) in the same period. Even more significantly perhaps, in many MENA countries female students are now comfortably outnumbering male students in tertiary education. The only exceptions are Turkey and Morocco, but at the other extreme, in Qatar there are more than five females for each male tertiary sector student (Table 15).

**Table 16: Public Expenditure on Education (period averages)**

	Public Expenditure on Education (% of GDP)			Public Expenditure on Education (% of Total Government Expenditure)			Public Expenditure per Pupil (% of GDP per capita)		
	1998-2001	2002-2005	2006-2009	1998-2001	2002-2005	2006-2009	1998-2001	2002-2005	2006-2009
Algeria			4.3			20.3			
Bahrain			3.1			12.0			
Egypt		4.8	3.8		15.9	12.2		18.1	
Iran	4.4	4.8	5.0	19.1	20.0	19.7	14.0	17.2	19.7
Iraq									
Jordan	4.9			20.6					
Kuwait	6.6	5.8	3.8		13.7	12.9	25.6	24.8	
Lebanon	2.3	2.6	2.3	10.2	12.0	8.7	6.9		7.8
Libya	2.7								
Morocco	5.5	5.7	5.5	25.1	27.1	25.9	25.7	24.6	24.1
Oman	3.8	4.0	4.1	20.3	23.1	31.1	16.8	15.1	16.0
Qatar	3.6	2.1	2.4			8.2	16.5	10.0	15.9
Saudi Arabia	7.3	6.7	6.1	24.5	24.0	20.1		20.9	22.4
Syria			5.1			17.6			
Tunisia	6.2	6.4	6.4	17.8	19.9	22.2	21.4	22.5	23.5
Turkey	2.8	3.0	2.9				12.3	12.7	12.2
UAE	1.4	1.2	0.8	22.5	25.4	25.4	6.9	6.6	8.3
WB & Gaza									
Yemen	9.7		5.2	32.8		16.0	44.3		

Source: UNESCO (2012).

While an encouraging trend, the rising trend for female participation in tertiary education, however, should be seen against a background of generally limited opportunities for women in social and economic spheres. As we saw earlier, women's labour force participation rates in the MENA region (particularly in the Arab world) are among the lowest in the world: female workers make up only about a quarter of the workforce in the region, whereas the norm elsewhere is over 40% (Table 6). Women also have fewer opportunities for studying abroad and are generally also over-represented among the unemployed. As we have argued before, should improvements in education and skills for female workers boost their LFPRs in due course, this can only increase the supply of women in the labour market and exacerbate the region's unemployment challenge.

Although data is patchy, the same table also indicates an expanding role of the private sector in secondary education. This trend is particularly marked in the small GCC states (Bahrain, Kuwait, Oman and the UAE) where the role of private sector has been expanding.

Table 16 shows that public expenditure on education as a proportion of GDP in the MENA countries has been generally steady around 3%-6% between 1998 and 2009. Saudi Arabia and Tunisia top the list with their share exceeding 6%, whereas Turkey and Lebanon come at the bottom end with a share of less than 3%. The importance of public provision is also seen from the fact that educational expenditure in the MENA countries amounts to about one-fifth of the total government budget with the exception of Egypt, Lebanon and Yemen, where the budgetary share of expenditure is as low as 8%-12%. Normalising for the number of the pupils, public expenditure on education per pupil in Iran has been rising to about 20% of per capita GDP with similar ratios for Morocco, Tunisia and Saudi Arabia (around 22%-24%), but much lower ratios are seen in Lebanon (8%), Turkey (12%) and the UAE (8%).

### 2.6.3 Urban Amenities

With large numbers of population and jobs concentrated in urban centres, access to civic amenities and hygiene standards are important aspects of living standards for millions of urban inhabitants during the process of transformation and structural change. Table 17 shows that urbanisation in MENA countries has continued apace: in most countries urban populations now exceed the numbers residing in rural areas with the urban proportion continually rising in the last two decades. The exceptions are Yemen where only 32% of the total population live in towns followed by Egypt where the ratio is 43%. In general, the proportion of town inhabitants exceeds two-thirds of the total elsewhere.

**Table 17: Urban Population Living in Slums**

	Population in Urban Areas (% Total Population)				Population Living in Slums (% Urban Population)				Population Living in Slums (‘000s)			
	1990	2000	2005	2009	1990	2000	2005	2007	1990	2000	2005	2007
Algeria	52.1	59.8	63.3	66.5	11.8				1,507			
Bahrain	88.1	88.4	88.4	88.6								
Egypt	43.5	42.6	42.6	42.8	50.2	28.1	17.1	17.1	12,029	7,978	5,312	5,505
Iran	56.3	64.2	66.9	69.5	51.9		30.3		17,094		14,581	
Iraq	69.7	67.8	66.9	66.4	16.9	16.9	52.8	52.8	2,182	2,873	9,889	10,199
Jordan	72.2	78.3	78.3	78.5			15.8				686	
Kuwait	98	98.2	98.3	98.4								
Lebanon	83.1	86	86.6	87.2	50		53.1				1,844	
Libya	75.7	76.4	77	77.9	35.2				1,242			
Morocco	48.4	53.3	55	56.7	37.4	24.2	13.1	13.1	4,490	3,713	2,196	2,276
Oman	66.1	71.6	71.5	71.7	60.5				671			
Qatar	92.2	94.9	95.4	95.8								
Saudi Arabia	76.6	79.8	81.42	83.6	19.8		18				3,442	
Syria	48.9	51.6	53.2	54.9	10.4		10.5				1,055	
Tunisia	57.9	63.4	65.3	67.3	9				425			
Turkey	59.2	64.7	67.3	69.6	23.4	17.9	15.5	14.1	7,947	7,911	7,610	7,202
UAE	79.1	77.8	77.7	78								
WB & Gaza	67.9	71.5	71.6	72.1								
Yemen	20.9	26.3	28.9	31.8	67.5		67.2		1,787		4,102	

Source: Calculated from WDI (2012) and MDG Goals Indicators (2012).

**Table 18: Water and Sanitation**

	Population Using Improved Drinking-Water Sources (%)					Population Using Improved Sanitation Facilities (%)				
	1990	1995	2000	2005	2010	1990	1995	2000	2005	2008
Algeria	94	93	89	85	83	88	90	92	94	95
Egypt	90	93	96	98	99	72	79	86	93	94
Iran	91	92	93			83	83	83		
Iraq	81	80	80	80	79		67	69	71	73
Jordan	97	96	96	96	96		97	98	98	98
Kuwait	99	99	99	99	99	100	100	100	100	100
Lebanon	100	100	100	100	100		98	98	98	
Libya	54	54	54			97	97	97	97	97
Morocco	74	76	78	80	81	53	59	64	68	69
Oman	80	81	83	86	88	85	87	87		
Qatar	100	100	100	100	100	100	100	100	100	100
Saudi Arabia	89	90								
Syria	85	86	87	89	89	83	84	89	93	96
Tunisia	81	86	90	94	94	74	78	81	85	85
Turkey	85	89	93	97	99	84	85	87	89	90
UAE	100	100	100	100	100	97	97	97	97	97
Yemen		67	65	63	62	18	28	37	46	52

Source: WHO (2012).

Along with the rise in urbanisation, there has been a marked decline in the number and proportion of those living in urban slums. With the exception of Iraq, where urban refugees and displacements caused by external conflict and war have pushed considerable numbers into urban slums (reaching 10 million people or over half of the total population by 2007), significant absolute and proportionate reductions have been recorded elsewhere (specially in Egypt, Morocco and Iran where the downward trend has been most marked).

Despite this encouraging trend, of course, in absolute terms still significant numbers of Middle Easterners reside in slums: in Iran the total reached 14.5 million in 2005 and in Turkey it has hovered around 7-8 million since 1990.

To *summarise* this section, we have seen that overall the MENA region has fared relatively better recently both in historical terms and compared to other regions. Most MENA countries enjoyed respectable average annual real GDP growth rates of 4%-5% during the period 2000-10. Moreover, the same decade witnessed many other encouraging achievements: life expectancy rose, educational and health indicators improved, the number and proportion of slum dwellers declined and more people enjoyed civic amenities such as access to improved drinking water and sanitation. Judged by international poverty benchmarks, even poverty and inequality data seem to offer a favourable picture of the region's experience in these years. The demographic experience of the region, however, was its main challenge with some of the highest national unemployment rates and youth unemployment rates and the lowest female and participation in the workforce, there is much that the countries in the region need to do to enhance their prospects for achieving inclusive growth.

### 3. Measuring Inclusive Growth in MENA

This section draws from the various development indicators discussed above to arrive at an estimation of a combined single measure of inclusive growth for MENA countries focusing on North Africa for illustrative purposes. This will then be used to compare their performance both over time and in relation to a selection of other peer countries.

As mentioned above, the choice of a single measure or indicator for inclusive growth is still in early stages. For instance, McKinley (2010) has proposed using a weighted scoring system that embraces a number of key growth statistics and a broad set of development indicators. But even if focusing on economic outcomes alone, there remains the problem of agreeing what elements to include and what weights to adopt when constructing a universal ‘inclusive growth’ index.

The UNDP’s annual ranking of countries based on their estimated Human Development Indicators (HDI) can be taken as a readymade – albeit limited – measure of such an indicator. Introduced in 1990, the HDI provides an alternative to conventional measures of national development, such as the level of income and the rate of economic growth. HDIs offer a broader definition of well-being and provide a composite measure based on three basic dimensions of human development: income, life expectancy and education. These are given equal weightings and the resulting combined score is used for ranking countries according to their performance annually. Since 2010, UNDP has also offered an inequality-adjusted score (IHDI) to capture the effect of inequality on these scores and hence on country rankings. These two measures would in fact be the same if there were no inequality and in that sense the ‘IHDI is the actual level of human development (taking into account inequality), while the HDI can be viewed as an index of the potential human development that could be achieved if there is no inequality’ (UNDP, 2012a).

Table 19 gives the HDI and IHDI rankings for the five North African countries out of 187 countries in total for the former and 134 countries for the latter in 2011. Also given are the rankings for the sub-components of income, health, education, inequality and gender. We have also provided the normalised rankings for HDI and IHDI to take into account the variable number of countries for which these rankings are possible.

**Table 19: Human Development Rankings by Various Components, North African Countries, 2011**

	Income	Health	Education	Inequality	Gender	Overall HDI		Inequality-Adjusted HDI	
						Rank	Normalised rank (max=100; min=0)	Rank	Normalised rank (max=100; min=0)
Algeria	91	93	107	-	71	96	48.9	-	-
Egypt	107	92	129	78	-	113	39.8	80	40.6
Libya	64	65	69	-	51	64	66.1	-	-
Morocco	115	108	147	95	104	130	30.6	91	32.3
Tunisia	96	70	110	81	45	94	50.0	66	51.1
<b>Total countries</b>	<b>187</b>	<b>188</b>	<b>188</b>	<b>134</b>	<b>146</b>	<b>187</b>	<b>100</b>	<b>134</b>	<b>100</b>

Source: Ranks data from UNDP (2012b). Normalised ranks are author’s calculations based on the equation (2) explained in the text below.

A number of interesting issues emerge here. First, for these five countries rankings based on income alone are generally a good proxy for their overall HDI rankings since it appears as if the

inclusion of the other two indicators (health and education) only makes a marginal difference to their overall HDI rankings. The only exception is Morocco where a severe underperformance in education leads to a significant divergence between its income rankings and overall HDI.

Second, normalised HDI rankings indicate that Egypt and Morocco are in the bottom median of all country rankings (approximately 40% and 31% respectively), whereas Tunisia and Algeria rank at the median level (around 50%). Somewhat surprisingly perhaps, Libya's HDI comes on top, situated in the top one-third of all country rankings (66%).

Third, gender rankings help Tunisia – with a rank of 45 out of 134 countries (significantly above its overall HDI or any other indicators). Normalised gender rankings (not reproduced in the table) indicate stable rankings for Algeria, Morocco and Tunisia (data for Egypt is missing).

Fourth and last, normalised Inequality-adjusted HDIs in the same table indicate a slight rise in the rankings of Egypt, Morocco and Tunisia, the three countries for which such data is available. This shows that taking into account inequality in the region in fact makes a modest positive effect on their overall rankings.

While useful, UNDP's HDIs only encompass a limited number of indicators we covered in Section 4 above. To get a more holistic indication of the nature of inclusive growth, in the rest of this section we attempt to widen the range of economic and social indicators to re-estimate the relative performance of each of the North African countries in relation to others and over time. This is done by taking into account the country rankings obtained for a range of indicators specified below and constructing a normalised score (between 0 and 100) for each country. To smooth out annual fluctuations in individual ranks, we use three year averages first for the first three years (2000-02) and then the last three years of the decade (2008-10). This is repeated for all indicators (see a list below) with the exception of the inequality indicator for which, due to data limitations, we use an average of the Gini values available for the periods 2000-04 and 2005-10, respectively. Obviously, the period is of special interest given its proximity to the events leading to the Arab uprisings in many countries of the region.

The overall inclusive scores for each country ( $IG_i$ ) are computed as a geometric mean for that country of the standardised values for different indicators (defined below) according to the following formula:

$$IG_i = \sqrt[n]{S_{1i} \cdot S_{2i} \dots S_{ji}} \quad (1)$$

where:

( $i = 1, \dots, m$ : country  $i$  included in the dataset);

( $j = 1, \dots, n$ : indicator  $j$  included in the dataset); and

$s_j$  is a standardised score for the rankings obtained in respect of indicator  $j$  for country  $i$ .

Standardised scores are obtained using the following formula (for each indicator for each country):

$$s_{ji} = 100 \cdot \left( \frac{m_j - r_j}{m_j - 1} \right)_i \quad (2)$$

where  $r_j$  is a country's rank in respect of indicator  $j$  in (descending order) and  $m_j$  is the total number of countries for which data for indicator  $s_j$  is available. This takes into account the variable number of countries for which data is available for specific indicators. In general, due to data limitations, the number of the countries declines for variables such as inequality and the structure of employment (percentage of the wage and salaried in total employment) – a factor that is arguably

biased against less developed countries (see detailed data and methodology in Appendix Tables 3.1 and 2).

**Table 20: Indicators Used for Computation of Inclusive Growth Index**

<b>Broad Categories</b>	<b>Specific Indicators (<math>s_j</math>)</b>	<b>No of countries in the Dataset (<math>m_j</math>)</b>
<b>Growth</b>	1. Real GDP Growth	194
	2. Real per capita GDP Growth	194
<b>Health and Demographics</b>	3. Public Health Expenditure (% GDP)	187
	4. Mortality Rate Under-5 (per 1,000)	193
	5. Life Expectancy at Birth	196
	6. Tuberculosis (per 100,000 people)	202
<b>Labour Force and Employment</b>	7. Wage & Salaried (% of total employment)	92
	8. Employment-to-Population Ratios (% of 15+)	173
<b>Gender</b>	9. Female Labour Force (% of total workforce)	184
<b>Education</b>	10. Ratio of Female to Male Secondary Enrolment (%)	163
<b>Sanitation</b>	11. Population Using Improved Sanitation Facilities (%)	178
<b>Inequality</b>	12. Gini Index	99
<b>Governance</b>	13. Corruption Perception Index	179

Standardised scores obtained from equation (2) take a maximum value of 100 (for the highest ranked) and 0 (for the lowest ranked) for each country for each indicator. A list of a total of thirteen indicators used is given in Table 20 grouped under their broad categories (growth, health and demographics, etc). All indicators are given equal weights ( $1/n$ ) when computing the overall inclusive growth index ( $IG_i$ ) in equation 1. All data are taken from the World Bank (WDI, 2012) with the exception of Governance, for which we use the Corruption Perception Index (CPI) provided by Transparency International (2012).

Table 21 provides a summary of estimated values for the 'Inclusive growth Index' ( $IG_i$  as in equation 1 above) for the five North African countries for the periods 2000-02 and 2008-10 and compares them with similar data computed for a select number of Middle Eastern countries and other LDC peers. A number of interesting patterns emerge.

First, all five North African countries underperform internationally considering that they appear in the bottom median of all countries (lowest score is 0 and highest 100). In comparative terms though, Tunisia does best followed by Egypt. Algeria appears at the bottom of the pecking order followed by Morocco and Libya (in that order for 2008-10).

Second, the trend over the decade seems to have improved for all these five countries though to varying extents. Libya and Algeria do best (in that order) followed by Egypt. Morocco and especially Tunisia and show a more modest improvement. Our results – based on a wider set of development indicators seem to diverge from the HDIs and do not seem to provide a ready explanation for the political turmoil and uprisings encountered in the region (especially Egypt, Tunisia and Libya). Whilst important, thus, the economic origins of the 'Arab Spring' must be

understood alongside its political roots to shed light on complex processes that saw power swept from under the feet of the region's authoritarian regimes (AfDB, 2012: 25).

More insight can be obtained by further interrogating the data for other Middle East and developing countries. First within the Middle East region, Iran and especially Syria follow a deteriorating trajectory in this period (with a decline of 13.1% and 19.4%, respectively). This is in contrast with all other countries where a strong trend of improvement is observed: Yemen by as much as almost 30%; Lebanon by 25% and Turkey and Israel by about 15%.

Among other LDCs a number of interesting results emerge. Of BRICS, China, Brazil and India indicate an improvement. This is in sharp contrast to Russia and South Africa, where a significant deterioration is observed (20%-30%). Another strong performer is Indonesia followed, to a lesser extent, by Chile. This is in contrast to South Korea and Malaysia where a modest deterioration is indicated by these data.

Figure 26 takes the analysis for North African countries one step further by conducting sensitivity analysis for the 13 indicators used for the construction and estimation of the IG index both for 2000-02 and 2008-10. In this figure, a baseline of 100% indicates no change and each data point shows the re-estimated IG if a particular indicator were to be excluded from the calculations (given a weight of zero). Figures above 100% (baseline) indicate the indicator has a negative effect on the overall index and hence its elimination (as shown in these figures) will improve the index. The opposite is true of the figures below 100% (i.e., they have an overall positive effect on the IG index and their elimination lowers the IG score).

It can be seen that the employment indicators (both employment-to-population ratio and female workforce as a % of total labour force) have the largest impact in all five countries. This is especially true of Algeria (particularly in 2000-02) as well as in Tunisia. Ironically perhaps, the inclusion of the inequality indicator (Gini) improves the situation in Egypt. By contrast, almost all of these five countries do well in respect of sanitation and education indicators whose elimination lowers their IG index below 100%. Last but not least, Morocco shows a more varied pattern since its IG index shows sensitivity to the structure of employment as well.

These results are interesting and to a large extent reinforce our descriptive discussion of a wide range of indicators in Section 4 above. It should be emphasised, however, that the methodology used here is at best a starting point for estimation of a single inclusive growth estimator. Both the choice of indicators selected for our purposes and weights attached to them are unlikely to meet with universal agreement. Nevertheless, the methodology developed and offered here is flexible enough to incorporate other variations both for choice of indicators and weights applied. In that respect, it is hoped that this approach will encourage methodological debate and prove useful in stimulating attempts to quantify inclusive growth.

**Table 21: Estimated 'Inclusive Growth' Scores, 2000-02 and 2008-10  
Based on Normalised Ranks (max=100; min = 0)<sup>(a)</sup>**

	2000-02	2008-10		Change
<b>North Africa</b>				
Algeria <sup>(b)</sup>	24.1	29.6	▲	22.8%
Egypt	34.7	38.8	▲	11.8%
Libya <sup>(b)</sup>	29.4	37.6	▲	28.1%
Morocco	29.2	31.6	▲	8.3%
Tunisia	41.3	42.4	▲	2.8%
<b>Other Middle East</b>				
Iran <sup>(b)</sup>	32.2	27.9	▼	-13.1%
Israel	59.7	69.2	▲	15.9%
Jordan	39.7	42.6	▲	7.4%
Lebanon <sup>(b)</sup>	35.2	43.8	▲	24.7%
Saudi Arabia <sup>(b)</sup>	25.5	27.1	▲	6.5%
Syria	36.2	29.1	▼	-19.4%
Turkey	31.7	36.3	▲	14.4%
Yemen	16.7	21.6	▲	29.6%
<b>Selected LDCs</b>				
China	47.8	56.5	▲	18.2%
Chile	47.2	50.2	▲	6.3%
Brazil	41.1	45.0	▲	9.6%
India	25.2	28.8	▲	14.3%
Indonesia	27.4	31.6	▲	15.2%
South Korea	62.0	54.1	▼	-12.7%
Malaysia	54.5	48.8	▼	-10.6%
Mexico	41.6	40.8	▼	-2.0%
Russia	53.4	42.9	▼	-19.7%
South Africa	30.1	20.6	▼	-31.8%

Note: <sup>(a)</sup> Based on Normalised Country Rankings for indicators specified in Table 20. Mean values of ranks estimated are based on geometric means (for details and methodology, see Appendix Tables 3.1 & 3.2).

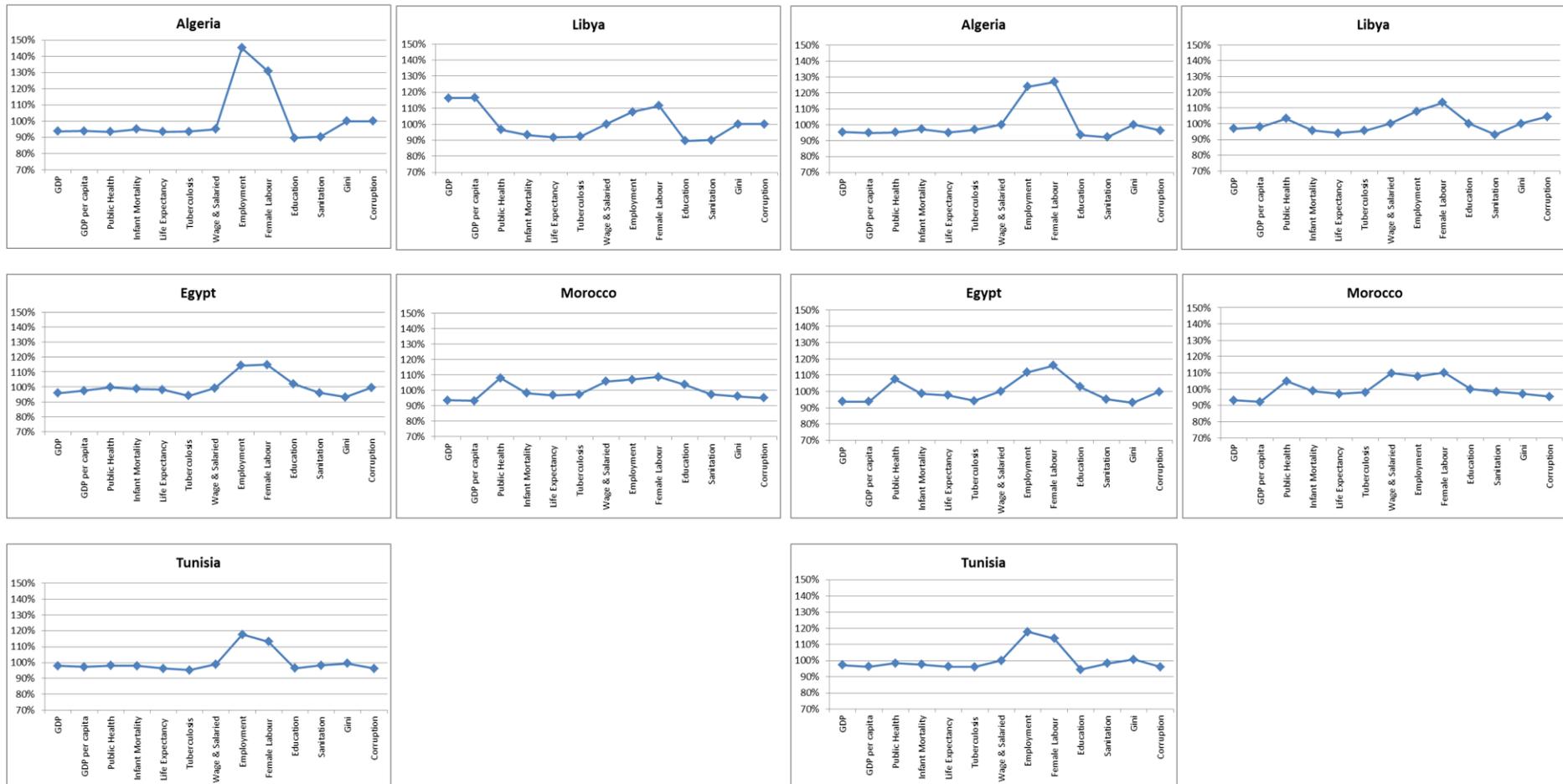
<sup>(b)</sup> Data for these countries exclude 'Inequality' and 'Governance' for 2000-02 and 'Inequality' for 2008-10.

Source: Author's estimates based on data from WDI (2012) and Transparency International (2012) as specified in Appendix Tables 3.1 & 3.2.

Figure 26:

Sensitivity Analysis 2000-02

Sensitivity Analysis 2008-10



Source: Author's calculations based on Inclusive Growth computations as in Appendix Tables 3.1 and 3.2. Figures above 100% as baseline indicate a particular indicator has a negative effect on the overall IG score and hence its elimination (as shown in these figures) will improve the index. The opposite is true of figures below 100% (i.e., the particular indicator has an overall positive effect on the IG score if its elimination as in these figures pushes IG below 100%).

**PART 2: SELECTED MENA CASE STUDIES OF INCLUSIVE GROWTH – WAGE DISPARITIES, JOB CREATION IN MICRO AND SMALL ENTERPRISES AND ACCESS TO FINANCE**

## 4. Inequality Dimension of Inclusive Growth: Wage Adjustments and Disparities during Economic Crises in Egypt and Jordan<sup>2</sup>

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### 4.1 Introduction

In the aftermath of macroeconomic crises, labour markets are often depicted as arenas where the inequality and social impact of economic adjustments are most vividly witnessed. At the same time, they constitute the space where reforms and policy interventions can be carried out with a view to achieving long and short-term inclusionary targets. Hence it is apt to proceed with our exploration of the inequality dimension of inclusive growth policies in MENA, by studying how labour earnings were recently adjusted and distributed in response to crisis and reform measures in specific labour markets in the region. This task is facilitated by the availability of rich and comparable labour market panel surveys in two countries: (1) Egypt, with 1988 comprehensive labour sample survey (LSS 1988) followed by three rounds of the Egypt labour market panel survey (ELMPS 1998, 2006 and 2012 ), and (2) Jordan, with one round of the Jordan Labour Market Panel survey (JLMPS 2010).

Since the early 1990s, the Egyptian and Jordanian economies, along with several MENA economies witnessed a series of partial liberalization measures, which usually culminated in the signing of agreements for full economic reform and structural adjustment programme under the auspices of the International Monetary Fund (IMF) and the World Bank. Economic theory, backed by an accumulating wealth of developing countries' empirical experiences, indicates that such comprehensive liberalization programmes are bound to have a profound impact on the level and structure of labour earnings in the short and medium terms. There is less agreement, however, on the direction of the expected change in real wages and inequality, as outcomes have diverged across countries and even for the same country over time.

In the case of Egypt, the availability of two comparable nation-wide labour force sample surveys for 1988 and 1998 mentioned above, has facilitated the analysis of changes in wage structure over the first decade of implementing these programmes, which have mostly taken the form of a fall in real wages and narrowing of wage gaps for all groups (Said 2002, World Bank 2004). As the pace of liberalization and privatization has continued unabated since 1998, coupled with important institutional changes in the labour market including the passing of a new labour law in 2003 and the onset of the 2008 financial crisis, it would be interesting to examine, on the basis of more recent data, whether the above trends were reinforced or reversed in the new millennium, and to compare the results to another reforming economy in the MENA region - Jordan. This will help identify areas of commonalities amongst similarly situated economies to ascertain the degree to which policy implications can be generalized across other countries in the MENA region.

Thus, this chapter investigates the distributional and structural developments of real hourly wages and monthly earnings in Egypt before and after the World Financial Crisis on basis of the four comparable labour surveys collected between 1988- 2012, and compares these to recent developments based on the recently available 2010 Jordan labour Market Panel Survey.

Although the recent global crisis is recognized to have strongly impacted labour markets around the world, very few studies were undertaken to examine its impact on wage inequality outcomes in emerging and transition economies, due to data limitations. The analysis here contributes to this literature by focusing on the estimation of selectivity corrected gender-based and public-private wage differentials, using a joint model of work status allocation and wage determination for Egypt and Jordan. The results point to two distinct phases in Egypt: an initial one of wage erosion and narrowing pay differentials, and a subsequent phase of recovery of real wages and decompression of the wage structure. Estimates based on data after the onset of the financial

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<sup>2</sup> By Mona Said.

crisis in both countries, point to a combination of real pay erosion again but this time coupled with widening gender and sector pay differentials.

The analysis in the chapter will proceed as follows. Sections 4.1 and 4.2 provide a brief overview of related literature on wage differentials during economic reform and crises and introduce the main stylized facts and structural features of real wage and inequality adjustments in the Egyptian and Jordanian labour market during the recent liberalization episodes. Section 4.3 describe as the wage determination model used in calculating wage differentials and presents the data and descriptive statistics of the sample underlying the estimation. Section 4.4 discusses the wage estimation results, while focusing on public-private and gender wage gaps and changes in returns to education over the past decade. Finally, section 4.5 concludes and draws implications for the reform of the labour market in the wake of the financial crisis.

## **4.2 Conceptual Issues and Review of Related Studies**

### **4.2.1 Gender Wage Gaps and Public sector Employment**

Since the mid 1980s, the drop in oil prices and the end of the US-Soviet conflict in the 1980s led to a fiscal crisis which the state attempted to solve by implementing economic reform and structural adjustment programmes in several MENA countries. 'Adjustment' can be defined as "a process of achieving rapid structural change in an economy, so as to secure a stable growth of national income over the long-run" (Colclough, 1997). The particular mix of economic reform and structural adjustment policies advocated by international lending institutions and aid organizations essentially involves a shift to outward oriented liberal economic regimes and a much reduced role for government as provider of goods and services, and hence as an employer. This led to concerns that certain groups such as women and educated workers who previously swelled the ranks of the government sector might become disproportionately affected.

Thus one dimension of inequality which has come under increasing attention in both Egypt and Jordan lately has been that of gender-based and public-private wage differentials. In comparison to other developing regions of the world, MENA appear to be within the normal range of wage discrimination. However, MENA is atypical because women generally have higher levels of education and qualifications in the MENA region; so if wage discrimination was eliminated, a woman's wage would be higher than the average man's. In the MENA region, women also have more difficulty finding work in the private sector, which seems to discriminate against women more than the public sector. As a result, several public-sector dominated economies in the region, the public sector was reported to engage in positive discrimination in favour of women, in an effort to act as a model employer (World Bank 2004, El-Hamidi and Said, 2008).

In fact, an important finding in many empirical studies on public sector labour outcomes in different industrial and developing countries is that its wage structure tends to be more compressed than in the private sector. This is a direct consequence of the tendency of most public sectors to adopt coordinated models (as opposed to market-based de-centralized models,) involving public-sector wide career and pay structures, emphasizing fairness and equality across various departments or units. In contrast, private sector firms are encouraged to construct differentiated or de-centralized pay structures due to greater product heterogeneity and greater volatility and uncertainty in their economic environment. As a result, the wage structures in the public and private sectors tend to differ in two important respects. First, least skilled occupations are usually better paid in the public sector. This is further strengthened by public sector union power in protecting minimum rates of pay as well as the state's aspiration to be a model employer by offering adequate pay to even the least skilled (Elliot et al., 1999). Second, the most skilled or most senior public

servants tend to be paid lower than comparable employees in the private sector. Besides obvious demand and supply factors (such as that these skills may be in relative short-supply and are highly demanded in private sector jobs), a 'political' reason for the perpetuation of this situation could be the higher visibility of senior government posts and public (including media) opposition to their higher rates of pay.

As a corollary to this difference in wage structures between the public and private sector, the magnitude of gender-based wage differentials tend to be much smaller, and sometimes non-existent, in the public sector. In addition, occupational segregation of females, which leads to their crowding in a few lower paying 'feminine' jobs, tends to be of a much smaller magnitude in the public sector.

The main factor that appears to have worked for women in the public around the world is the uniformity of a pay structure that links remuneration to educational level and seniority, and leaves little room for managerial discretion, thereby reducing the potential for both statistical and taste discrimination. In other words, public sector institutionalized and bureaucratic recruitment and compensation policies tend to produce more gender-blind labour market outcomes than methods that rely on employer discretion in the private sector. Moreover, as women tend to have less experience than men and tend to be located in lower paid industries and occupations, any trend towards centralization or introducing cost of living adjustments that explicitly give lower paid workers larger relative increases than others can improve the relative wage of women (Blau and Kahn, 1999). Finally, equal opportunity and gender-discrimination policies are usually much more effective in centralized wage setting environments such as the public sector (Gregory and Borland, 1999).

#### **4.2.2 Impact of Structural Adjustment and Trade Liberalization**

The legacy of narrow gender differentials has been reported to erode on many parts of the developing world as a result of introduction of competitive pressures in the context of privatization and trade liberalization. These policies, usually part of wider structural adjustment programmes, essentially aim to decrease the returns of factors of production in the previously protected import-substitution sectors and in non-tradable, while raising those returns in exportables and formerly unprotected import-competing sectors, to induce factors to move accordingly (Horton, Kanbur, and Mazumdar 1994:5). In the majority of cases, structural adjustment policies involve a retrenchment of the public sector either through cuts in public expenditures and investments or, alternatively, through the privatization of government enterprises. Furthermore, cutbacks in the public sector, which generally come with structural adjustment, are more likely to affect female workers disproportionately because of the concentration of women in a few sectors of economic activity (Haddad et al. 1995; Sparr 1994; Afshar and Dennis 1992). Moreover, the increased burden which women face at home due to cutbacks in social expenditure places a barrier on their ability to respond to the changing opportunity structures caused by structural adjustment.

Evidence shows that liberalized trade tends to increase the availability of paid jobs for women, particularly in export-oriented sectors. However, certain factors, such as discrimination, lower skills, and gender inequalities in access to resources, may impede women's ability to benefit from trade expansion ((Joeke 1995). Thus the wage gap does not necessarily disappear over time. A cross-country study that investigated the impact of trade on the gender wage gap suggests that within occupations, increasing trade in most cases is associated with narrowing gender wage gaps (Oostendorp 2004). An exception is found for high-skill occupations in poorer countries, where there is no evidence that trade has a narrowing impact. Insofar as skills tend to be relatively homogeneous within narrowly defined occupations, the narrowing of the gender wage gap can be seen as evidence

that there is less labour market discrimination as trade increases.

### **4.2.3 Impact of Financial Crisis on Wage Inequality During Transition**

The global economic crisis of 2008 had a significant impact on labour markets across the world as millions of workers lost their jobs, while countless others experienced cuts in wages, hours worked, and benefits (Cazes et al. 2009). After significant economic contraction, evidence shows that labour markets usually recover slower than economic growth, and unemployment generally persists at above pre-crisis rates. At the start of economic crisis, many firms reduce working hours of employees and/or decrease wage levels. However, if there is a sharp decrease in economic activity, massive layoffs and hiring freezes often occur. Other adjustments also take place, during the Russian financial crisis of the late 1990s, there was a tendency for workers from all statuses to move into informal employment, suggesting the informal sector may serve as a buffer for workers during times of economic downturn (Bernabé and Stampini 2009). In the case of South Africa, although many jobs have been lost since the crisis, the greatest impact on the labour market was through rising discouragement, or unemployed individuals who give up the job search. This stresses the importance of analyzing all aspects of the labour market after economic downturn, not solely unemployment levels (Verick 2010).

Studies on the relationship between the economic crisis of 2008 and income inequality in developing countries are very limited. Lessons from past crises suggest that relative inequality decreases almost as often as it increases during times of economic contraction (Paci et al. 2008). For example, in Mexico, a report by the World Bank showed how income inequality decreased substantially during the 1994-1996 period of economic crisis, only to subsequently increase when the economy recovered (Lopez-Acevedo, 2000).

The impact on gender gaps is also ambiguous. The Russian financial crisis of the late 1990s did not affect the gender wage gap significantly in the country. The differential in earnings initially increased as the economy recovered, only to fall back to its previous level by 2002 (Hansberry 2004). In a study on Thailand (Adireksombat et al. 2010), results showed that raw gender wage differentials declined in the early 1990s and were not significantly affected by the 1997 financial crisis in Asia. The study also concludes that gender inequality in the labour market improved in the years following the crisis.

In general, as economies undertake transition from central planning to market oriented economies, gender gaps have been observed to either remain stable or ironically improve. Multi-country studies, such as Newell and Reilly (2000), conclude that such adjustments had little impact on the cross-country difference in the gender wage gap. Comparison of the Czech and Slovak Republics' gender gaps revealed that sector of ownership (public vs. private sector), had little impact, but worse outcomes in the first case could be explained by low skilled women selecting to remain in employment, whereas Slovak women became unemployed (Jurajda, 2003). This in itself can partially explain improvements in gender gaps during time of crisis.

Given the shift of the current crisis both across countries and within countries, it is difficult to predict the distributional effects of the economic downturn with any real confidence (Habib et al. 2010). Nonetheless, a number of studies involving simulations may provide some insight into the effect of the economic crisis on income inequality in developing economies. In two studies released in 2010 by the World Bank, the authors utilize a micro simulation approach to assess the poverty and distributional effects of the crisis on the economies in the Philippines and Bangladesh. The results of the simulations for the two countries predict that the effect of the crisis on aggregate measures of inequality in these two countries in 2010 is negligible (Habib et al. 2010a, Habib et al. 2010b). Similar

results were presented in a UNDP study on Ukraine (UNDP, 2009). In other transition economies, it was shown that the crisis is likely to result in a worsening of the Gini coefficient on account of a decrease in remittances in Tajikistan (World Bank, 2009), and the impact of the economic slowdown through labour markets in Latvia (Ajwad et al. 2009).

Mainly due to the absence of post-crisis data, all the above studies combine micro-simulation and macroeconomic projections with pre-crisis micro data from household and/or labour force surveys. An alternative and perhaps more informative approach, if more recent survey data is available, is to undertake a detailed analysis of structural and distributional changes in wages before and after the onset of financial crisis. This chapter follows this approach for both Egypt and Jordan. It is important to note, however, that the crisis came after more than two decades of transition under the guise of structural adjustment programmes to private sector and market led economies. These transitions had already impacted sector and gender based disparities quite substantially. In what follows we examine these adjustments, and whether they were sustained or were reversed in the post financial crisis period.

### **4.3 Wage Adjustments during Economic Liberalization in Egypt and Jordan**

#### **4.3.1 Trends in Egypt during Economic Reform and Adjustment:**

Our data allows to explore longer term trends in the Egyptian labour market prior to the onset of both the financial crisis and revolution, and dating back to the outset of economic reform and structural adjustment policies in late 1980's and early 1990's. The period from 1988 to 1998 in Egypt witnessed several important changes in the labour market as the pace of liberalization has risen and the economy shifted faster towards a "market" private-sector led model. A public sector employment guarantee scheme, which was in operation since 1964 providing all graduates of vocational secondary and university degrees with public employment, although not yet officially abrogated, came to an almost complete halt. Privatization, after more than 20 years of debate, became a reality post-1996 and schemes for early retirement and compensation of retrenched workers have been introduced in several public enterprises selected to be privatized. As a result, for the first time since their creation, there was an absolute decline in the number of employed workers in public enterprises in the 1990's. A new labour law was proposed, and eventually passed in 2003, that significantly decreases the job security guarantees of public and private sector workers in return for granting them a limited right to strike.

Table 4.1 examines the changes in average the level of hourly wages across important socio-economic groups (gender, occupations, industries, levels of education, and sectors of ownership). To facilitate comparability, all 1988, 1998 and 2006 wages are inflated to 2012 using the consumer price index, so that everything is in 2006 Egyptian pounds. The figures in the table reveal that after significantly declining in real terms over the 1990s period, by 2006 wages recovered to their 1988 level or even surpassed them for almost all groups. It is interesting, however, that whereas the sharpest real wage falls in the 1990s were for some of the traditionally higher paid segments of the labour market (males, public sector managers, private sector professionals/technical workers and those with secondary education and above), the recovery in the new millennium was up to 2006 and more across the board if not favouring those higher groups, especially in the private sector. After 2006, the traditionally underpaid benefited from higher wage rises. Thus, based on average wages, there appears to have been a process of compression of the distribution of wages in the earlier decade which was reversed in the later period up to 2006 only and then wages started becoming less dispersed again.

**[Table 4. 1 about here]**

This confirms that the Egyptian labour market can be described as going through two distinct phases in the aftermath of economic liberalization and structural adjustment. The 1990's has been a period of real wage erosion and compression if the wage structure led by the public sector. This was followed by a period of real wage recovery, as inflationary pressures relatively subsided, and a rise in measured wage inequality and wage differentials. Thus after 25 years of privatization on structural adjustment programmes the Egyptian labour market seems to have recovered to pre-adjustment levels of real wages.

Figure 4.1 below present a summary of main findings on real wages, inequality and share of workers below the low-earnings line. Looking at this whole period, starting 1988, it is clear that real wages went through ups and down, but there has been no real wage gains overall on average for Egyptians by 2012 in comparison to 1988. The wage structure has become much more compressed, with a larger share of earners that now can be classified as working poor i.e below the low-earnings (derived from low-poverty) line. The details of which groups in the labour market were affected most by the above pattern will be discussed in sections below, and whenever possible, relative to the situation in Jordan.

**[Figure 4.1 about here]**

#### **4.3.2 Wage Differentials before and after the Financial Crisis in Egypt and Jordan**

Now looking at shorter duration, Figure 4.2 below calculates ratios Male/ Female and Public /Private median wage ratios based on median wage two years before and four years after the onset of 2008 financial crisis by gender and sector. Real wages on average increase by 12% over this period, and the increase was more substantial in the public sector and for females rather than males. This public sector led process of real erosion was much more substantial for females. Thus it is instructive to examine what happened public-private and male-female wage differentials. Gender raw wage ratios remain compressed in the public sector (less than 10%), compared to the private sector (25%). Similarly, the public-private differential also declined for both males and females. Now men have a 32% advantage instead of the previous 68% and women advantage declined to only 81 to 53%.

**[Figure 4.2 about here]**

Gender and wage ratios in Jordan for 2007-2010 in Figure 4.3 below again shows similar trends to Egypt The raw gender gap slightly declined in both the public and private sector over the crisis period. In 2010 it was 20% in the public sector and 32% in the private sector. The decline in public sector real wages, also resulted in a moderate decline public-private median wage ratio for males from (1.24-1.20) and female (1.49-1.40)

**[Figure 4.3 about here]**

### 4.3.3 Measures of Wage Inequality and share of Working Poor Before and After the Crisis

Finally, we turn to an analysis of the implication of the above changes in wage differentials to the overall observed inequality (or dispersion) of hourly wages. Table 4.2 shows Gini coefficients for different socio-economic groups in Egypt over the period prior to the crisis. It is noteworthy that the groups that witnessed the largest real wage increases between 2006 and 2012 are also the ones that had the largest increases in inequality amongst them (females, young age groups, rural -upper Egypt, services and lower educational groups). These are also the traditionally lowest paid and hence both trends imply compression between and within groups. Looking at differences across institutional sectors, it is also interesting to note that whereas in 1988, hourly wages were most compressed (equalized) in the government sector and most dispersed the private sector, by 2006, the highest degree of dispersion is now observed in the government sector. This pattern is even more dramatic if we look at the decile ratios (see Figure 4.4). The slight U turn or relative stability in decile ratios in aggregate hides two clearly opposing effects: increase in dispersion in the government sector, especially in PE's and continued compression in the wage structure of the private sector.

This can be taken as further evidence of the declining impact of the public sector employment guarantee and centralized wage bargaining in the government sector in Egypt in comparison to late 1980's.

[Table 4.2 about here]

[Figure 4.4 about here]

To identify poor earners, a low earning line is computed using the official national poverty lines listed in Table 4.3 below. First, the individual regional specific poverty lines are converted to real terms using the consumer price index (taking 2012 as the base year). Second, the per-capita region-specific poverty lines are scaled up by the regional median ratio of household members to working-age employed household members to account for the fact that each worker's earnings are used to support not only him/herself but also other non-working members of their household. For the sake of comparability and to abstract from changes in dependency ratios that may have occurred during the 1988-2012 period, the 2012 low earning line is used to identify low earners in all four survey rounds. Table 4.3 shows that the low earning lines that emanated for each region as a result of this exercise. These are used to examine the portion of earners that can be classified a low-earners or the working poor.

[Table 4.3 about here]

Table 4.2 above also shows the distribution of the share of low earners across groups. Overall, over the period 2006-2012, there has been a rise in the share of low wage earners from 39% of all wage-earners in 2006 to 46% in 2012. Rise of Share of Low Wage Earners and change was much more pronounced for: males, prime age workers 35-49, greater Cairo and lower Egypt (highest at 54% in urban upper Egypt), University and post-secondary institute graduates workers Public enterprises and government . The share of the low-waged was already high and remained highest at 50% in private sector.

In answer to the question of who currently are the low-waged in Egypt? the gender, age, regional and educational structure of the group of low-wage workers in 2012 remained similar to 2006, with 76% male, 72% are in younger age groups (15-34 years), 61% reside in rural (upper and lower) Egypt, 40% are illiterates and 22% have a vocational high school degree

Besides the Gini coefficient, the measures of inequality estimated include the Thile Index, which is a member of the general entropy (GE) Indices which have the desirable property of being additively decomposable into components within and between groups. The groups considered are level of education (8 groups), occupation (9 groups) and industry (3 groups). A problem with both the Gini coefficient and the Thile Index, however, is that as they take into account all observations, they are sensitive to errors or real changes at the tails of the distribution. It is also, therefore, useful to report 'the decile ratio' (ratio of the 90th%ile of the wage distribution to the 10th%ile) which is not sensitive to outliers.

Table 4.4 presents further decomposition of the Thile index show that most of the observed inequality for Egypt and Jordan is 'within' (as opposed to 'between') groups. Over the period, however, there were some decline in inequality 'between' educational groups and occupations between 1988 and 1998 in Egypt and a dramatic increase in within group inequality afterwards. For Jordan, hourly wages dispersion in the sample were higher in the private than public sector. Inequality as measured by Decile Ratio: p90/p10. Multiple of 3 the public sector as opposed to 7.5 for males in the private sector and 8.5 for females in private sector.

All measures of inequality however indicated that inequality is higher in Jordan than in Egypt, particularly in the private sector where the Gini coefficient was as high as 0.64 as opposed to 0.44 in Egypt. Most of the observed inequality for males and females in both countries is 'within' (as opposed to 'between') groups. In Egypt, in fact all inequality by occupation and industry is exclusively of the within-group variety.

[Table 4.4 about here]

## 4.4 Data and Empirical Model

### 4.4.1 Estimation Model

The empirical analysis in this chapter proceeds in two stages. In the first stage, ordinary least squares (weighted by sampling weights, described below) were used to estimate separate wage equations for workers in the public (p), and private (r) sectors as follows:

$$\ln(w_{is}) = X_{is} \beta_s + u_s \quad (s = p, r) \quad (1)$$

Where  $\ln(w_{is})$  is log hourly wages of individual  $i$  in sector  $s$  and  $X$  is the vector of individual and job related characteristics seen to be of relevance for wage determination. This was estimated twice, once for males and once for females, yielding a system of six equations.

These are then compared to selectivity corrected wage estimates, where selection terms ( $\lambda$ ) were derived from a model of sectoral choice of government or public enterprise employment relative to private employment. The model underlying this estimation is based on Lee's extension (1982 and 1983) of Heckman's selection model to the multinomial case.

$$\ln(w_{si}) = \beta_s X + \sigma_s \lambda_s + e_s \quad (s = p, r) \quad (2)$$

Given the parameter estimates from (1), public-private wage differentials can be evaluated at the mean of the sample, using the following decomposition formula:

$$D_s = \overline{\ln(w_s)} - \overline{\ln(w_r)} = \frac{(\beta_s + \beta_r)(\bar{X}_s - \bar{X}_i)}{2} + \frac{(\beta_s - \beta_r)(\bar{X}_s + \bar{X}_i)}{2} \quad (s = p) \quad (3)$$

$D_s$  refers to the wage differential between the public and the private sector.  $\overline{\ln(w)}$  refers to the mean of Ln wages.

The formula decomposes the wage differential into two main components. The first term, which is 'explained', is the part of the differential attributable to differences in observed characteristics of workers ( $X$ 's). The second term, which is "unexplained," is the part of the differential resulting from differences in the pay structure, or in returns to the characteristics. Note that the unexplained component also includes the differential in base wage (the constant term) that can be interpreted as a premium or pure rent from attachment to a particular sector. Similarly the same formula can be used to decompose the male-female wage gap as follows:

$$D_f = \overline{\ln(w_m)} - \overline{\ln(w_f)} = \frac{(\beta_m + \beta_f)(\bar{X}_m - \bar{X}_f)}{2} + \frac{(\beta_m - \beta_f)(\bar{X}_m + \bar{X}_f)}{2} \quad (4)$$

Here the unexplained component (second term on the right hand side) is broadly taken to refer to gender-based discrimination.

This methodology, as well as any approach based on the estimation of earnings functions, may lead to inaccurate measures of discrimination. It is not clear, however, whether it yields an under-estimate or over-estimate. On one hand, omitted variables, such as attachment to the labour force, lack of specific training, tastes, personality and interrupted careers will also be captured in the "unexplained" component. In other words, this measure does not control for a range of pre-market and extra-market factors that may result in payment of higher wages to males. It is therefore more accurate to describe this component as only an upper bound estimate on gender-based discrimination by employers.

#### 4.4.2 Data and Variable Specification

##### *The Egyptian Labour Surveys*

To estimate wage differentials employing the above model, this chapter makes use of four rich nationwide labour market surveys (ELMS): the 1988 Labour Force Sample Survey (LFSS88); the 1998 Egypt labour Market Survey (ELMS98), and the 2006 and 2012 Egypt Labour Market Panel Survey (ELMPS06-12). Both the ELMPS 06-2012 and ELMS 98 were conducted by the Economic Research Forum (ERF) in cooperation with CAPMAS. Together these five surveys provide detailed information on the household members' education, employment status, time allocation, job mobility, earnings and household enterprises. This Chapter presents results for the first time on earnings structure based on ELMPS 2012, which is considered the third round of a periodic longitudinal survey that tracks the labour market and demographic characteristics of households and individuals interviewed in 2006 and 1998, in addition to a refresher sample in each round to ensure that the data continues to be nationally representative.

### ***The Jordan Labour Market Panel Survey***

The chapter further utilizes wage data from the Jordan Labour Market Panel survey for 2010, collected by the National Centre for Human Resource Development (NCHRD), and the Jordanian Department of Statistics (DOS), and containing a wealth of information on household composition and socioeconomic characteristics such as income, parental background, measures of access to the labour market, detailed education history, ownership of assets, migration histories, and activity status. The survey is nationally representative covering 5000 households. It was conceived as a periodical longitudinal survey, of which 2010 is the first round. For comparison purposes, wages across occupation, gender and sector groups are also calculated for 2007 and 2008 from the Jordan Employment Surveys and an attempt is made to generate a time series of real wages up to 2010.

### ***Variable Specification***

For the purpose of this study, several variables are extracted that affect the choice of employment status, levels of education, age, age squared, experience, experience squared, regional dummies, parental education, and hourly wages (in logs). Five regional dummies were used in Egypt and twelve for Jordan. The sample for wage estimation is limited to wage workers who are between the age of 16 and 64, amounting to 7558 in 2006 and 10,160 in 2012 in Egypt and to 4,903 wage workers in Jordan.

In addition, the work-status selection model uses also other non-wage, unemployed and non-participating individuals within the working age sample which increases the sample of estimation of the sector selection equations to 15,192 females and 14,839 males for Egypt in 2009 and 7,505 males and 7,600 females for Jordan in 2010. Additional household level and family background variables were also used to identify the sector selection equation from the wage equation. These include number of preschool children, children above 6 years, mother's level of education, father's level of education (a dummy for holding an intermediate or above degree; and a dummy for holding less than an intermediate degree), and father's employment status (whether he is a self-employed or an employer at the time the individual entered the labour force). Parental background variables can also be interpreted as proxies for household socioeconomic status. . In addition, a measure of non-labour income (total monthly earnings of male members of the household) was used in the female work status equation.

The two surveys used very detailed set of earnings structure. As a consequence, data on monetary earnings are fairly reliable. However, the quality of non-pecuniary benefits data is likely to be poor in quality. Therefore, only monetary earnings are included in the wage equation. Log real hourly wage is used as a dependent variable which is computed by dividing the monetary net earnings by the number of hours worked per year and all wages are expressed in 2006 prices. Log hourly wage is used (instead of hourly wage) to reduce the effects of wages outliers.

### **4.5 Estimating Hourly Wage Differentials Using Wage Equations**

To estimate wage differentials that correct for differences in such characteristics, log hourly wage regressions for Egypt 2006 and 2012 and Jordan 2010 were estimated. For each country, five regressions are estimated for the following: all wage workers, males in the private sector, males in public sector, females in the private sector, and females in the public sector. The last four regressions are also repeated using selectivity corrected methods.

Means and standard deviations for all variables used in the regressions are reported in Tables 4.A1-A2 for Egypt and 4.A3 for Jordan. As can be seen from these tables, the regressions

controlled for experience and experience squared to account for non-linearity in the wage-experience profile. They also controlled for levels of educational attainment and region of residence.

#### **4.5.1 Determinants of Work Status Choice: Multinomial Logit Model**

To correct wage estimates for selectivity, in the first stage, four multinomial logistic regressions are estimated to study selection into non-participation, unemployment, non-wage work, non-government work, and government wage work in comparison to non-participation by gender. In each equation, the dependent variable is a categorical variable represented by the five different work status states mentioned above. The identification variables (affect participation but not wages) are represented by household-related variables that determine participation in the labour force which consequently affects the choice of the employment status. Parameter estimates are then used to compute the four selection variables or inverse ( $\lambda$ ) Mill's ratios to correct for selectivity bias, which are subsequently included as regressors in the selectivity corrected wage equations. Tables 4.A4 and 4.A5 show the parameter estimates of the sector-gender-round specific selection equations For Egypt and Jordan respectively.

The results are very similar for both Egypt and Jordan. The reference category is an illiterate and non-participant person living in greater Cairo for Egypt and in Amman for Jordan. The results show that education increases a male's probability to be wage workers in the government sector but it decreases a male's chance of being a non-wage or as being a non-government wage earner in most cases. For females, education increases a female's probability to be wage worker, especially in the government sector, even more so than men, followed by the non-government sector. As expected, higher education reduces the probability of a female being a non-wage earner. One interpretation is that women prefer to work in the government, even more than men, because of its more convenient working conditions and short working hours. Simultaneously, however, education also increases the probability of unemployed as well for both men and women in Egypt and Jordan.

Other patterns are found by examining the coefficients on the household level identification variables. As expected, presence of small children negatively affects the probability of being a wage worker for women and positively affects it for men. Non-labour income exerts influence only in preventing women from becoming non-wage workers. Additional family background variables available for Jordan reveal that a father holding an intermediate or above degree is a negative significant determinant for government sector choice. Mother's intermediate or above education has significant and positive effect only on women becoming non-government workers. The fathers employment status (whether self-employed, employer or government employee) seems to also positively influence the possibility that his son or daughter will follow in his path.

#### **4.5.2 Corrected Sector and Gender Wage Differentials**

From Gender and sector differentials are estimated using two methods. First, a dummy for being female and another for working in the public sector are included in aggregate wage equation. This method accounts only for differences in the intercept and assume similar returns to characteristics for males and females and in the public and private sectors. The second method uses the separate estimates across the four other equations to calculate wage decompositions that also allow for differences in the education, experience and regional parameters to be included in the calculations.

Regression results for aggregate wage equation estimates for Egypt are shown in Table 4.A6 and Table 4.A7, and for Jordan in Table 4.A8. Together they reveal that there is substantial negative female-male wage differential amounting to 34% of female wages in 2007 that remained negative but dropped to 20% in 2009. They also reveal a 22% wage advantage for public sector employees (in comparison to their private counterparts) in 2007 that increased further to 25% in 2009. In Jordan, estimates based on aggregate wage equation are only available for one year. They indicate a 10%

disadvantage for women (substantially lower than Egypt), a 20% public sector advantage (comparable to Egypt) As mentioned above, these estimates should only be indicative as they only consider differences in intercept and not coefficients of the wage equation.

Figure 4.5 and Table 4.6 below reports corrected gender and sector wage differentials for Egypt and Jordan respectively based on the second method outlined above. Thus corrected sector wage differentials are calculated as the difference between predicted log hourly wages for public sector employees using the public sector wage equation and their predicted log hourly wages using the private sector equation (expressed as a proportion of the former). Similarly, corrected Gender wage differentials are the difference between predicted female wages using the female equation and their predicted wages using the male equation. In case of Egypt, the corrected Female-male differentials remain more compressed in the public sector and have further narrowed down to to near gender equality there. The gender gap remained very high at over 40% in the private sector. Corrected public-private differentials confirm that the public sector advantage does not exist for males and remained a around 35% for females.

**[Figure 4.5 about here]**

In case of Jordan, after correcting for productivity differences, public sector wage advantages still exist in Jordan in 2010 for both males and females and amount to 17% and 24% respectively, whereas they turned to an 8% disadvantage for males. Gender-based wage gaps are compressed by international standards in the private sector (14%) and less in the public sector (8%).

In sum, the corrected wage differentials reveal that a most of the wage adjustment, led by the public sector took place prior to the financial crisis period in Egypt, and the wage structure remained relatively stable since 2006. Women in Egypt and both men and women in Jordan remain better paid in the public sector. The gender gap is compressed in both countries in the government, but is substantial in the private sector in Egypt in comparison to Jordan.

#### **4.5.3 Proportionate Returns to Secondary and University Levels of Education**

Finally it is possible to use the wage parameter estimates to calculate proportionate returns to education and compare them to earlier estimates over the past decade in Egypt and Jordan. These estimates are presented in the Table 3 below.

Three main important observations can be made as a result of this comparison. First, in the post crisis era (2010), and consistent with higher wage inequality there, returns to education are much higher or Jordan than Egypt, for all levels. Second, returns to schooling have dropped quite substantially in Egypt over this period at all levels (except the university level where they increased in the private sector), but increased in Jordan (except for vocational education where they dropped in the private sector). Third, in relation to gender differences, after the crisis, returns to schooling for women are much lower than men in the public sector in Egypt and Jordan. In the private sector, they are higher for women at all levels in Jordan; the opposite is the case in Egypt.

This confirms the finding that highly educated women can still reap significant benefits from their education in the private sector in Jordan (World Bank, 2004). This does not mean that educated women fare better than men in Egypt and Jordan, but only that the gender gap in wages declines with education in the private sector, especially when one reaches the university level.

**[Table 4.5 about here]**

[Table 4.6 about here]

#### 4.6 Conclusion

This chapter contributes to the limited literature on inequality effects of the recent global economic crisis in emerging and transition economies in MENA, by utilizing recently available household survey data sets in Egypt and Jordan. An examination of public-private, gender and education dynamics of wage inequality during a period of economic liberalization and crises point to two distinct phases in Egypt: an initial one of wage erosion and narrowing pay differentials, and a subsequent phase of recovery of real wages and decompression of the wage structure up until 2006. The onset of the crisis, seemed to have coincided with a moderation in real wage rises, whereby the traditionally lower paid segments saw bigger rises, this resulted in compression of wage structure (ie reduced inequality), but still everyone's wages are low enough that there is a rise of share of workers below the low earnings line to around 46% of the total.

Measures of overall wage inequality show that inequality is much higher in Jordan than in Egypt and in the private sector than in the public sector there. The bulk of wage inequality is of the 'within-group' variety in both countries, which shows that the standard human capital variables (education, experience, occupation) can explain relatively little of observed inequality patterns. Overall, after correcting for productivity differences, the public wage advantage was completely eroded in Egypt for males but continue to exist for females and for both males and females in Jordan.

As for gender wage gaps, estimates that correct for productivity differences confirm that they remained compressed by international standards in Jordan. This does not indicate the absence of gender based discrimination in Jordan, but rather that it might take other forms such as occupational segregation or unequal access to benefits as pointed out in recent reports (Peebles et al., 2005; Assaad and Amer, 2008). By contrast in Egypt, women actually bore the bulk of wage adjustments since 1998, whereby female-male wage gaps increased substantially in the private sector, reaching 42% in the latter which are very high by international standards. Previous studies have highlighted that occupational segregation accounts for a good proportion of the gender wage gaps in Egypt (Said, 2003). The findings of this chapter indicate that this is also might be exacerbated by pure-pay discrimination.

Trends in returns to schooling underscore the inequality changes in both Egypt and Jordan over the crisis period. These returns are much higher and have been improving in Jordan, and are lower and deteriorating in Egypt. Yet in both countries, university graduates, especially women, benefit from higher returns in the private sector which can help reduce the gender-wage gap at higher education levels. Vocational education degrees are the most undervalued credentials in terms of labour market returns in both countries.

These results call for continued monitoring of the Egyptian and Jordanian labour market as their economies further adjust to the aftermath of the financial and post-revolution economic crisis. As noted above historical experience following financial crisis episodes in Latin America, Asia and CIS countries indicate that gender wage gaps can improve or worsen as economies recover from crisis effects. Much of course depends on how inclusive are the recovery policies to especially badly hit groups, who are according to the findings of this chapter, are women in Egypt and vocational school graduates in both countries.

The most recent episodes of popular revolutions and protests in the MENA region, that resulted in the ouster of the dictatorial political regime in Egypt and destabilizing the entrenched monarchy of Jordan, is likely to have profound labour market structures and outcomes. Both countries engaged in ad-hoc raising of nominal wages, by presidential decree for public sector employees and increasing public sector employment opportunities particularly for young graduates as a first reaction to the crisis. The limits of such short-term policies have been shown in recent past, as in situations of limited budgetary resources they ultimately result in a severe compression in the wage structure. Moreover, raising the expectations amongst graduates for guaranteed public jobs, will ultimately results in massive queuing and higher rates in wait and structural unemployment.

Long run solutions for graduate unemployment (vocational and otherwise) and deteriorating gender wage differentials ultimately lie in improved demand conditions in these countries' private sector, as well as in a deep overhaul in education and skill acquisition systems to upgrade the quality of the labour force in the private sector. Although higher and better quality education is likely to increase overall wage inequality, it can in fact protect women wage gains and reduce the gender wage gap for higher educated women, as has been shown to be the case in Jordan in comparison to Egypt in the recent past. Public policy, therefore, need to focus on enhancing measures that increase the equality of opportunity for modern and relevant training and education programmes, particularly for women, and groups diverted to lower quality vocational education in the past.

**Table 4.1:Trends in Real Hourly Wages in Egypt, 1988-2012**

	Median real hourly wages by group						
	Level				Change		
	1988	1998	2006	2012	1988-98	1998-2006	2006-2012
	<i>(in 2012 L.E.)</i>				<i>(in%)</i>		
<b>Total</b>	4.52	3.42	4.10	4.58	-24	20	12
<b>Gender</b>							
Male	4.64	3.46	4.10	4.50	-25	18	10
Female	3.87	3.25	4.08	4.86	-16	26	19
<b>Age Group</b>							
15-24	3.58	2.43	2.81	3.57	-32	16	27
25-34	4.52	3.21	3.75	4.17	-29	17	11
35-49	5.87	3.93	4.85	5.02	-33	23	4
50-64	5.91	5.02	6.32	6.25	-15	26	-1
<b>Region</b>							
Greater Cairo	5.65	4.22	5.04	5.16	-25	20	2
Alexandria and Canal Cities	5.43	4.05	4.73	5.19	-25	17	10
Urban Lower Egypt	4.52	3.52	4.30	4.65	-22	22	8
Rural Lower Egypt	4.54	3.51	4.41	4.81	-23	25	9
Urban Upper Egypt	4.02	3.12	3.69	4.06	-22	18	10
Rural Upper Egypt	4.44	2.81	3.57	4.40	-37	27	23
<b>Educational Attainment</b>							
Illiterate	3.98	2.81	3.30	3.77	-29	17	14
Literate without Diploma	4.39	3.03	3.30	3.77	-31	9	14
elementary school	4.19	3.14	3.33	3.85	-25	6	15
Middle School	4.35	3.51	3.82	4.00	-19	9	5
General High school	6.52	4.22	4.10	4.33	-35	-3	6
Vocational high school	4.52	3.12	3.93	4.47	-31	26	14
post-secondary institute	5.72	3.78	4.75	5.00	-34	26	5
University & above	7.50	5.23	6.03	6.25	-30	15	4
<b>Sector of Activity</b>							
Agriculture	4.52	3.16	3.51	4.04	-30	11	15
Industry	5.36	3.51	3.93	4.44	-34	12	13
services	4.74	3.51	4.54	4.95	-26	29	9
<b>Institutional sector</b>							
government	4.78	3.49	4.76	5.45	-27	36	14
public enterprise	5.89	4.57	5.62	6.11	-22	23	9
private	4.52	3.21	3.62	4.09	-29	13	13
Total	4.64	3.46	4.10	4.60	-25	18	12

Source: Author Calculation the 1988 Labour Force Sample Survey, 1998 Egyptian Labour Sample Survey and 2006-2012 Egypt Panel Labour Market Survey and Jordan Labour Market Panel Survey 2010.

**Table 4.2: Distribution of Real Hourly Wages and Share below Low Earnings line in Egypt, 1988-2012**

	<u>Gini coefficient for earnings by group</u>							<u>Share Below low earnings line by group</u>						
	Level				Change in %			Level				Change in %		
	1988	1998	2006	2012	1988-98	1998-2006	2006-2012	1988	1998	2006	2012	1988-98	1998-2006	2006-12
<b>Total</b>	0.39	0.38	0.50	0.43	-0.01	0.12	-0.07	0.34	0.54	0.39	0.46	36	-37	15
<b>Gender</b>														
Male	0.39	0.43	0.49	0.43	0.04	0.07	-0.06	0.30	0.51	0.37	0.44	41	-38	16
Female	0.38	0.37	0.50	0.43	-0.02	0.14	-0.08	0.51	0.65	0.48	0.56	22	-36	14
<b>Age Group</b>														
15-24	0.32	0.33	0.48	0.40	0.01	0.16	-0.09	0.49	0.72	0.63	0.66	32	-15	5
25-34	0.35	0.35	0.49	0.44	0.00	0.14	-0.05	0.40	0.60	0.43	0.51	33	-39	14
35-49	0.42	0.38	0.47	0.42	-0.04	0.09	-0.05	0.22	0.48	0.30	0.40	54	-59	25
50-64	0.36	0.33	0.41	0.35	-0.03	0.09	-0.07	0.24	0.34	0.21	0.31	30	-60	33
<b>Region</b>														
Greater Cairo	0.436	0.44	0.51	0.49	0.00	0.08	-0.03	0.24	0.34	0.26	0.36	30	-33	28
Alexandria and Canal Cities	0.38	0.40	0.47	0.43	0.02	0.07	-0.04	0.27	0.40	0.30	0.35	34	-34	14
Urban Lower Egypt	0.383	0.34	0.46	0.42	-0.05	0.13	-0.05	0.33	0.52	0.38	0.47	38	-38	20
Rural Lower Egypt	0.347	0.36	0.50	0.44	0.01	0.14	-0.06	0.39	0.57	0.40	0.47	31	-42	15
Urban Upper Egypt	0.335	0.32	0.50	0.37	-0.01	0.18	-0.13	0.44	0.62	0.46	0.54	30	-35	14
Rural Upper Egypt	0.281	0.32	0.47	0.42	0.04	0.16	-0.06	0.44	0.71	0.51	0.51	38	-39	-1
<b>Educational Attainment</b>														
illiterate	0.31	0.33	0.44	0.34	0.02	0.11	-0.11	0.44	0.66	0.50	0.58	34	-31	14
Literate without Diploma	0.35	0.34	0.47	0.41	-0.02	0.13	-0.06	0.30	0.60	0.44	0.59	50	-36	25
elementary school	0.37	0.33	0.49	0.37	-0.04	0.16	-0.12	0.36	0.52	0.47	0.56	31	-9	15
Middle School	0.38	0.33	0.41	0.39	-0.05	0.09	-0.03	0.25	0.51	0.38	0.50	50	-34	24
General High school	0.36	0.45	0.54	0.39	0.09	0.09	-0.14	0.08	0.30	0.39	0.45	73	23	12
Vocational high school post-secondary institute	0.36	0.34	0.49	0.38	-0.02	0.15	-0.11	0.45	0.61	0.44	0.46	26	-39	5
University & above	0.40	0.40	0.50	0.48	-0.01	0.10	-0.02	0.33	0.57	0.29	0.41	43	-100	30
<b>Sector of Activity</b>														
Agriculture	0.29	0.36	0.42	0.36	0.07	0.06	-0.06	0.54	0.69	0.66	0.52	22	-5	-26
Industry	0.38	0.35	0.45	0.42	-0.03	0.10	-0.03	0.23	0.43	0.37	0.44	47	-18	17
services	0.42	0.38	0.52	0.44	-0.04	0.14	-0.08	0.36	0.57	0.37	0.45	37	-53	18
<b>Institutional sector</b>														
government	0.37	0.37	0.53	0.43	0.01	0.16	-0.10	0.39	0.60	0.35	0.43	36	-71	18
public enterprise	0.37	0.36	0.52	0.42	-0.01	0.16	-0.09	0.20	0.34	0.21	0.28	43	-61	24
Private	0.39	0.39	0.44	0.41	0.00	0.05	-0.03	0.36	0.52	0.45	0.50	30	-16	10

Source: Author Calculation the 1988 LFSS, 1998 Egyptian Labour Sample Survey and 2006-2012 Egypt Panel Labour Market Surveys.

**Table 4.3. Real Monthly Per-capita Region-Specific Poverty lines and Low Earning Line (in 2012 L.E.)**

Region	Real monthly per-capita region-specific poverty lines	Real monthly region-specific low earning lines	Dependency Ratio
	2011	2012	2012
Metropolitan	304	926	3.06
Lower Egypt Urban	282	845	3.09
Lower Egypt Rural	279	837	3.23
Upper Egypt Urban	293	878	3.31
Upper Egypt Rural	281	983	3.74
Total Egypt	286	899	3.34

Source: Author's calculation based on ELMPS 2006-2012 and regional poverty lines from Household Income, Expenditure and Consumption Survey (HIECS) 2010- 2011.

**Table 4.4: Measures of Inequality of Hourly Wages, Egypt 2006-2012 and Jordan 2010**

		Decomposition of Thile Index (% due to within group inequality)														
		<u>Gini</u>			<u>Decile Ratio</u>			<u>Thile G(1)</u>			<u>Education</u>		<u>Occupation</u>		<u>Industry</u>	
		<i>Egypt 06</i>	<i>Egypt12</i>	<i>Jordan 10</i>	<i>Egypt 06</i>	<i>Egypt12</i>	<i>Jordan 10</i>	<i>Egypt 06</i>	<i>Egypt 12</i>	<i>Jordan 10</i>	<i>Egypt 12</i>	<i>Jordan 10</i>	<i>Egypt 12</i>	<i>Jordan 10</i>	<i>Egypt 12</i>	<i>Jordan 10</i>
Total	Public	0.53	0.49	0.37	5.40	5.70	3.23	0.78	0.35	0.38	94%	95%	91%	97%	97%	100%
	Private	0.44	0.44	0.64	4.80	6.50	7.80	0.47	0.47	1.12	96%	92%	100%	90%	100%	95%
	Total	0.5	0.55	0.55	5.60	7.10	5.90	0.69	0.42	0.86	95%	94%	95%	93%	98%	95%

**Table 4.5 Returns to Education in Egypt (1998-2012) and Jordan (1997-2010)**

		Egypt		Jordan	
		1998	2012	1997	2010
<b>Male Public</b>					
General Secondary		8.8	8.4	2.8	1.7
Vocational Secondary		7.2	9.8	3.8	-0.5
University		8.8	12.4	4.6	8.8
<b>Male Private</b>					
General Secondary		7.3	5.3	6	4.2
Vocational Secondary		5.0	3.5	3.2	-2.9
University		7.3	6.8	10.2	16.6
<b>Female Public</b>					
General Secondary		9.7	6.3	4.6	0.8
Vocational Secondary		9.6	7.5	4.3	3.1
University		10.7	10.1	6.8	13.7
<b>Female Private</b>					
General Secondary		-1.5	12.8	10.4	7.5
Vocational Secondary		4.9	4.4	8.6	-9.7
University		10.9	9.0	12.9	17.6

Source: Author Calculation from the 1998 Egyptian Labour Sample Survey and 2006-2012 Egypt Panel Labour Market Survey and Jordan Labour Market Panel Survey 2010.

**Table 4.6: Gender and Sector Wage Differentials in Egypt, 1988-2012 and Jordan, 2010**

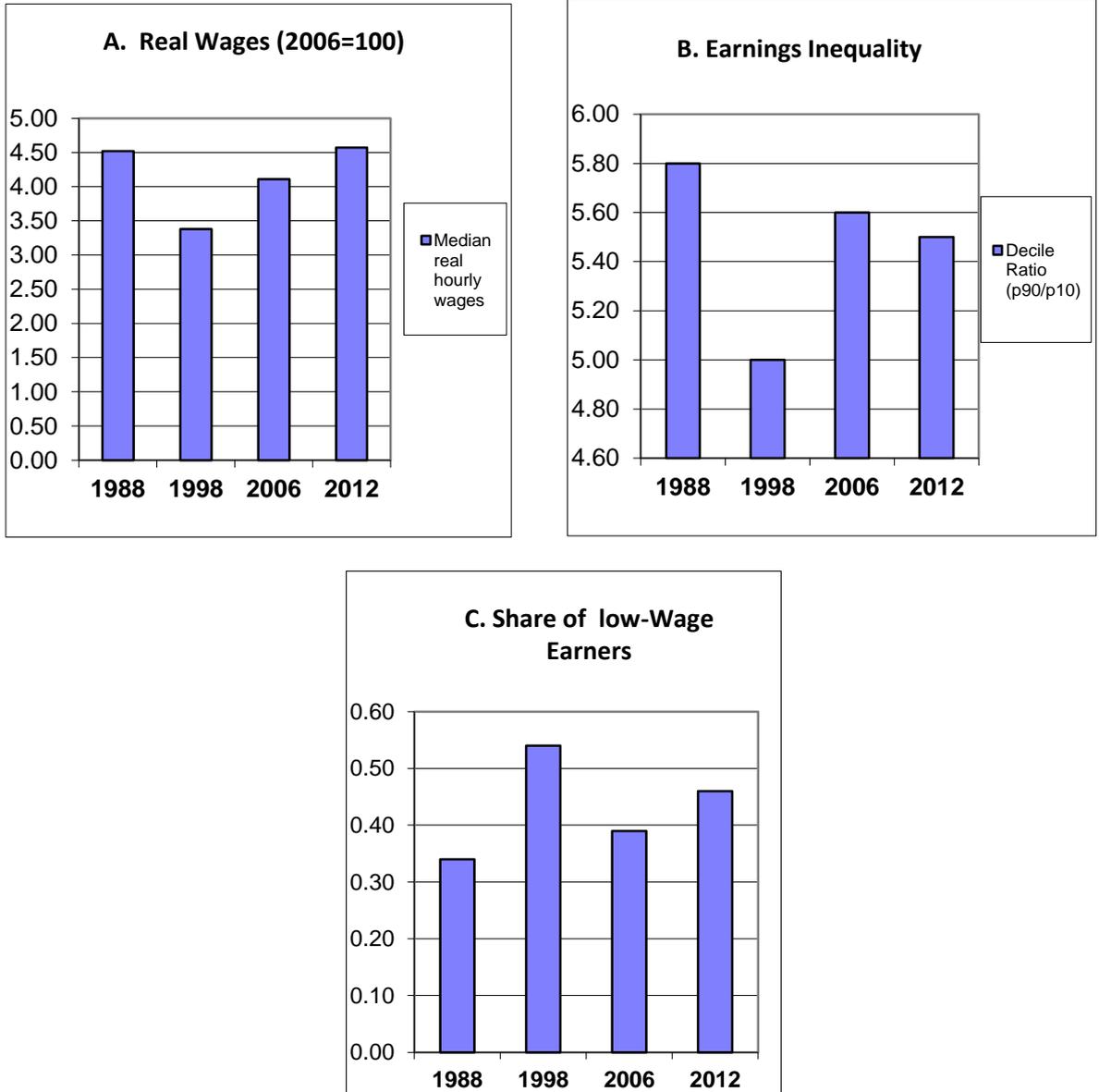
(in log hourly wages)

	Egypt								Jordan	
	1988		1998		2006		2012		2010	
	<i>crude</i>	<i>corrected</i>								
<b><u>Sector Wage Differentials</u></b>										
Male Public-private	0.20	-0.19	0.11	-0.19	0.32	<b>-0.04</b>	0.24	<b>-0.06</b>	0.26	<b>0.17</b>
Female Public-private	-0.56	0.59	0.50	0.08	0.72	<b>0.33</b>	0.54	<b>0.35</b>	0.40	<b>0.24</b>
<b><u>Gender Wage Differentials (Female-Male)</u></b>										
Government	-0.07	0.02	0.02	0.08	-0.09	<b>-0.08</b>	-0.02	<b>-0.01</b>	0.13	<b>-0.08</b>
Private Sector	-0.66	-0.43	-0.34	-0.31	-0.49	<b>-0.41</b>	-0.32	<b>-0.41</b>	-0.01	<b>-0.14</b>

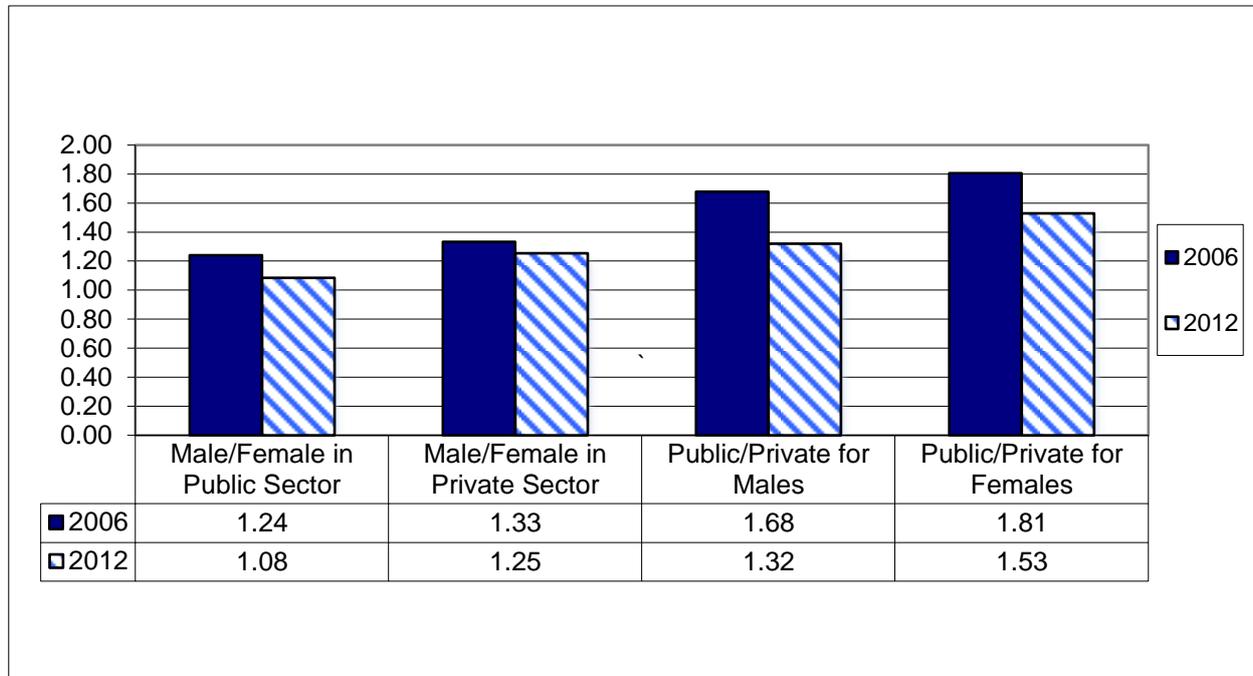
**Source:** Author Calculation from log hourly wage regressions based on the 1988 Labour Force Sample Survey, 1998 Egyptian Labour Sample Survey and 2006-2012 Egypt Panel Labour Market Survey and Jordan Labour Market Panel Survey 2010.

**Note:** Crude sector and gender wage differentials are simply differences in the means of log hourly wages. Corrected sector wage differentials are calculated as the difference between predicted log hourly wages for public sector employees using the public sector wage equation and their predicted log hourly wages using the private sector equation (expressed as a proportion of the former). Similarly, corrected Gender wage differentials are the difference between predicted female wages using the female equation and their predicted wages using the male equation.

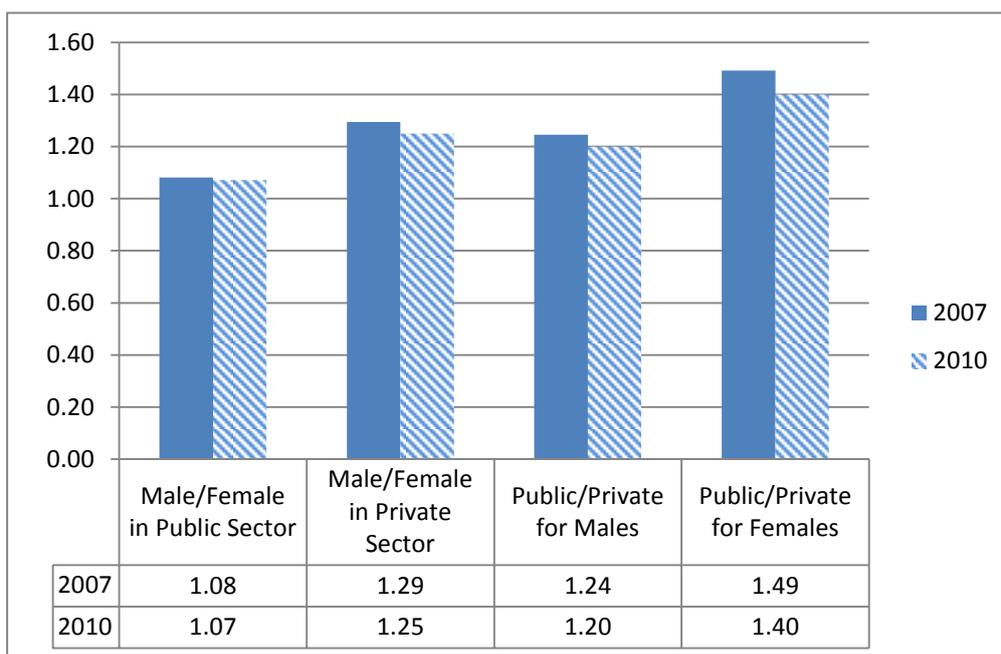
Figure 4.1 Summary of Findings on Real Wages and Earnings Inequality : 1988-2006



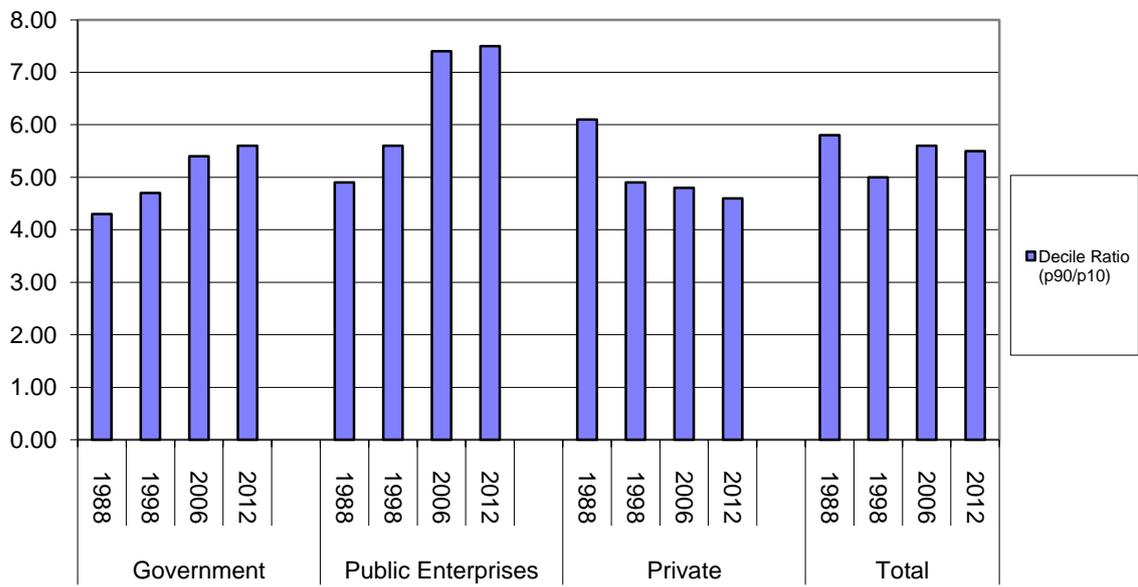
**Figure 4.2: Raw Gender and Sector Wage Ratios, Egypt 2006-2012**



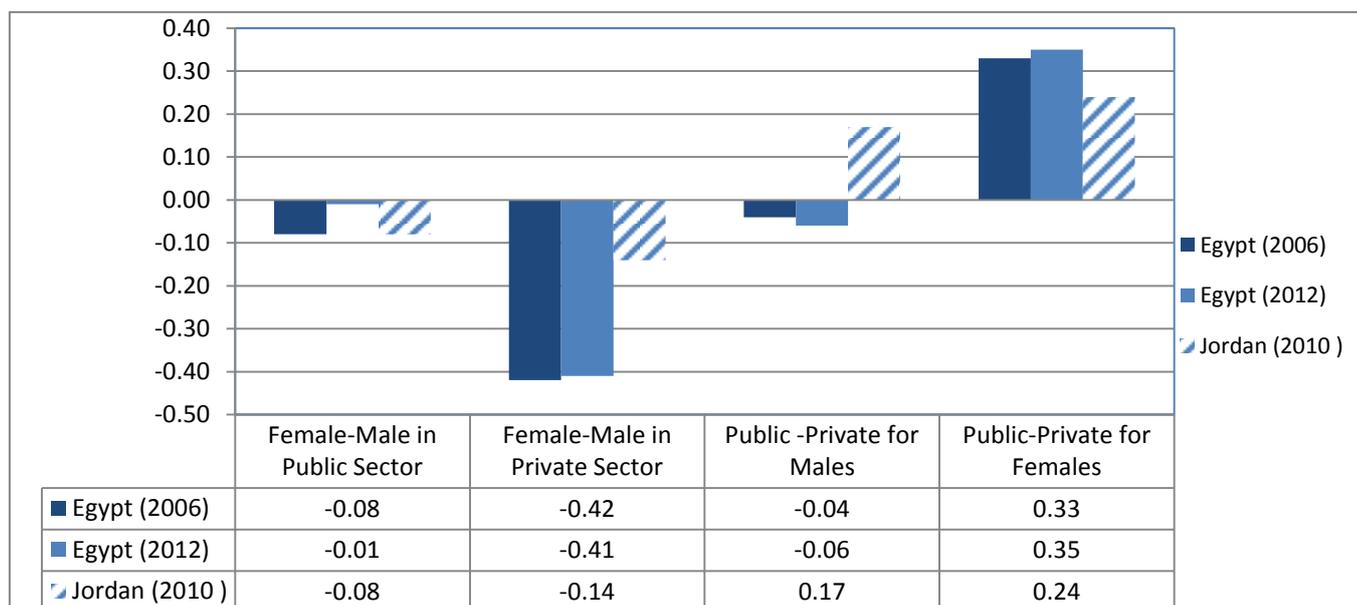
**Figure 4.3: Raw Gender and Sector Wage Ratios Jordan 2007-2010**



**Figure 4.4: Decile Ratio Across Institutional Sectors (1988-2006)**



**Figure 4.5: Corrected Gender and Sector Wage Ratios , Egypt 2006-2012 and Jordan 2010**



## 5. The Potential Contribution of Micro and Small Enterprises to Inclusive Growth: Evidence from Enterprise Surveys in Egypt and MENA<sup>3</sup>

### 5.1 Introduction

The potential contribution of micro and small enterprises, as opposed to large and public sector firms, is of special interest to prospects for generating jobs, hence contributing to inclusive growth. This is particularly relevant for MENA countries affected by the tumultuous events in the past years. MSEs play an important role in creating jobs, and in building a flexible, adaptable base for an internationally competitive economy. The performance of MSEs in terms of growth and variety of economic activities, employment creation, export growth and productivity is thus a matter of interest to policy makers.

MSEs have historically also played an important role in contributing to economic development of many countries around the world. There is widespread consensus in the empirical literature that MSEs, by virtue of being labour-intensive, provide more opportunities for low skilled workers and are correlated with lower income inequality. They also form an important part of the supply chain for large firms and are necessary for agriculture dependent nations transitioning to an industrial- and service oriented economy. They also can provide unique opportunities for innovation and sustainable initiatives due to their inherent flexibility and risk-taking ability (Loewe, 2012)

This chapter evaluates characteristics of the MSEs environment in Egypt, with a specific interest in the formality of the sector, and its ability to act as an employment generator. The analysis draws on rich very recent panel data sets: two rounds of Micro and Small Enterprise Panel Survey (MSES), 2003-2011, the latest of which was collected in the fourth quarter of 2011. This descriptive analysis based on enterprise data also provides the complementary evidence and paves the way for the empirical analysis on determinants of household wealth from labour force household survey data on household based micro and small enterprises presented in the following Chapter. The specific interest in both cases, is in characteristics of MSEs that affect their ability to expand employment opportunities and the constraints that finance pose for entrepreneurs. Better understanding of these constraints will allow policy to more effectively fuel this sector.

The analysis will proceed in two main parts. First for, for comparative purposes and to put the Egyptian results in a wider MENA economies context, the first part will present evidence on enterprise characteristics in Turkey and Lebanon in comparison to each other and Egypt, from very similar surveys employing the same methodology and conducted during the earlier period (2001-2004). The second part, then concentrates on the comparison overtime in Egypt, by looking at the second round of the MSES survey in 2011, which represents the first instance after the onset of the 2008 global financial crisis and January 2011 revolution, that data on the performance of MSEs in Egypt is available, which should shed some light on the immediate effects of economic crisis on that sector.

The rest of this chapter will be organized as follows: Section 5.1 presents a brief overview of previous studies on MSE environment in Egypt and presents the definitions of micro and small enterprises as well as formality employed in the rest of the chapter. Section 5.2 motivates the analysis further by comparing stylized facts on MSE's in MENA drawing on similar data in Lebanon and Turkey. Section 5.3 introduces the Egyptian MSES data set and compares its key results to the

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<sup>3</sup> By Alia El Mahdi and Mona Said.

most recent enterprise census in Egypt. Section 5.4 then explores the evidence over the period 2003-2011 in Egypt on formality, size, location, distribution across industries as well sources of capital and finance (whether formal or informal) as obstacles or opportunities for growth of these enterprises in the past. Finally, Section 5.5 concludes by drawing some policy implications for enabling these enterprises to fulfill inclusive growth targets that are most suited for, given their predominant role as employment generators in Egypt.

## **5.2 Overview of MSEs Environment in Egypt**

MENA region's persistently high unemployment rate has presented policy-makers with a serious challenge in the past few decades. Whilst exacerbating the unemployment challenge, demographic factors are not alone in explaining high unemployment rates. Demand side factors too have an important bearing on the regions' ability or inability to address its endemic unemployment problem which persisted even during the buoyant growth period of the decade preceding the onset of economic crises. MSEs are one of the tools of inclusive growth through generating jobs as well as poverty reduction. Thus, their effect on employment and alleviating poverty will be explored. Also, the obstacles hindering MSEs in MENA region will be discussed with special focus on access to finance and lack of skilled labour.

### **5.2.3 Potential and Constraints of MSEs in Egypt from previous studies**

El-Mahdi (2006) provides an extensive review on the literature on MSEs in Egypt. Most such studies were descriptive nature and utilized their own small scaled surveys in particular sectors. Hafez (1986) investigated 25 establishments in the manufacturing industry and Meyrs (1988) carried out a survey on a sample of 1149 small sized establishments in the manufacturing industry in Cairo. El-Mahdi and El Said (1996) study was also confined to a small city, the Tenth of Ramadan City. Large empirical studies were carried out by CAPMAS (Central Agency for Public Mobilization and Statistics) in 1985, 1988, and 1998. These latter studies were comprehensive in nature to represent the Egyptian market, with sample sizes reaching 5000 establishments. The 1998 survey estimated that small enterprises (less than 50 workers) represented more than 90% of all private sector enterprises in Egypt employing 63% of total employment, with the bulk being in the (1-10) workers category. This startling finding has been mirrored in other cases in MENA region, and underscores the key role that MSEs can play in achieving growth and equity outcomes.

Moreover, with the signing of the Economic Reform and the Structural Programs (ERSAP) with the World Bank and International Monetary Fund in early 1990's, and the process of privatization the ensued, meant, among other things, increasing the role of the private sector in investment, production and employment, reducing the role of the government and public sector in these same three areas. The inability of the large companies to provide sufficient work opportunities to the growing labour force and return migration from the Gulf countries, deemed it necessary to identify new reliable sources with fast job creation potential. As a consequence, and given the relative slow growth in employment during the nineties, the interest in the potential role of the medium, small and micro enterprises grew over time. The main employer in the labour market, ever since the implementation of ERSAP in 1991, was the MSEs. The Social Fund for Development was set up in 1992 and started to take initiative to support MSEs by the mid-nineties, though the results were modest until the new millennium.

Thus the micro and small enterprises play an important role in the economic activity in MENA in general and Egypt in particular, around 63% of the total employment is employed by Small establishments and represent 95.8% of the total number of establishments. In addition, Micro and

small enterprises are also the major provider of products and services for local markets, particularly lower-income segments with limited purchasing power. According to CAPMAS Employment Census , 92.5% of enterprises are micro, 7.3% small, and less than 1% (only 0.2%) is medium and large. The proportion of micro and small enterprises is growing. While micro and small enterprises accounted for 73.5% of total private sector employment in 1996, their share had jumped to more than 85% in 2008. On the other hand, medium and large enterprises witnessed a decline in their share of employment by almost half, from 26.5% to 14.7% during the same period.

Even though MSEs play a key role in employment generation, one of the main obstacles that the literature cites as a deterring factor for the MSEs is the lack of sufficient finance to start their new venture. In the case of Egypt, the issue of micro and small finance has been on top of the priority list of the governments since the beginning of the Economic Reform and Structural Adjustment Program (ERSAP) in 1991, and especially with the establishment of the Social Fund for Development in 1992. One of the mandates of SFD was to provide finance to MSEs, as means of encouraging the private initiative as the spirit of ERSAP indicated. Keeping this in mind, numerous numbers of businessmen Associations, Economic NGOs were either established or strengthened, as well as Bank's initiatives adopted with the sole purpose of providing micro and small finance to MSEs. So the question is: to what extent were these initiatives successful in reaching out to MSEs? Several surveys have been undertaken after 1991, which indicated that the start-up phase, the role of formal institutions in providing the initial capital is rather modest. As to phase after the establishment of the enterprise, the role of formal finance increases. The critical role of financing will be explored further below and in the next Chapter.

Another obstacle is that micro and small enterprises are subject to a legal and regulatory framework which is cumbersome, bureaucratic and not sensitive to their operating realities (ElMahdi, 2006). Regulation comprises mainly three different elements: registration, licensing and the compliance with standards. An enterprise is especially affected by the regulatory framework in the moment when it wants to formalize (registration) or it wants to obtain a license (e.g. for a new product line). In addition, the compliance or non-compliance with existing standards (e.g. health or quality standards) is directly linked to the regulatory framework. (Loewe et al., 2012).

A third constraint is corruption since many scholars highlight that corruption negatively affects firms in a country. Others object that corruption may also have positive effects such as reducing information and transaction costs or speeding up administrative procedures<sup>19</sup>. However, we have to keep in mind that only wealthy entrepreneurs can afford to pay high bribes and only entrepreneurs with connections benefit from favouritism in state-business relations, while all others are disadvantaged by any form of corruption. In addition, corruption reduces the incentives of entrepreneurs to be competitive on markets. If they understand that bribes and connections are the main determinant to get an application approved or to win a government bid, they shift their investment in terms of time and money from research and development of new products to bribery and investments into connections (Loewe et al., 2012).

Finally, availability of well trained and skilled labour force is an obstacle given that empirical evidence shows that highly skilled managerial and technical workers are needed to provide the management and supervisory roles for enterprises to upgrade and play a more dynamic role domestically and with international interlinkages.

## 5.3 Relevant Definitions and Key Concepts

### 5.3.1 Definition of MSMEs

There is disagreement on the cut-off point between micro and small on one-hand and small and medium enterprises on the other hand. The variance in definitions depends on the research needs and objectives concerning the segment of enterprises it intends to target, investigate and analyse. Therefore the cut-off point between the MSE and the medium-sized enterprise could be set high or low, using different criteria such as employment, size of capital, type of organisation or technology .... etc. However, the Micro and Small Establishments Law (Law 141/2004) has defined the micro enterprise as the one that employs less than 10 workers and has a capital less than LE50,000, while the small enterprise employs 10-49 workers and has a capital that is equal to or greater than LE50,000 and does not exceed LE1 million.

Another point of disagreement concerns the cut-off point between medium sized and large enterprises. There is no general consensus over the definition of a medium sized enterprise. However one could surmise from the different definitions used by the different ministries in Egypt, that medium enterprises employ 50-99 workers ( in some cases the medium sized enterprises are considered to be employing between 50 and 200/ 250/500 workers).

#### - **Definition of Formality**

In defining formality it is important to distinguish between informal employment and the informal enterprises/sector. Informal employment usually refers to wage-workers or non-paid family workers who are working either in the formal or informal sectors. The basis for difference between formal and informal workers is usually based either on the availability of a work contract, social security coverage, or the degree of permanency in work. Accordingly, a worker could be working on an informal basis in a formal company or even in the government if he/she is not covered by social insurance or bound by a contract. At the same time he would be working on a formal basis in a small enterprise if those conditions were existent.

As to the definition of the informal enterprise, it seems to be more complex, due to the variability amongst enterprises. J. Charmes tried to capture the most widely-accepted definition, which is based on the international definition of the informal sector adopted as a resolution of the 15<sup>th</sup> International Conference of Labour Statisticians 1993, *as comprising:*

*"1) informal self-owned enterprises which may employ family workers, and employees on an occasional basis: for operational purposes and depending on national circumstances, this segment comprises either all self-owned enterprises, or only those which are not registered under specific forms of national legislation (factories or commercial acts, tax or social security laws, professional groups, regulatory or similar acts, laws or regulations established by national legislative bodies).*

*2) enterprises of informal employers which may employ one or more employees on a continuous basis and which comply with one or both of the following criteria :*

*- size of the establishment below a specified level of employment (defined on the basis of minimum size requirements embodied in relevant national legislation or other empirical or statistical practices : the choice of the upper size limit taking account of the coverage of statistical enquiries in order to avoid an overlap),- non-registration of the enterprise or its employees."* Charmes (1998).

Researchers chose for the sake of studying the informal enterprises, several definitions, which were usually either based on the number of workers ( enterprises employing less than 5 or 10 workers...etc), the size of capital, a combinations of the two previous variables, or certain legal rules and regulations such as the availability of license, registration, and social security coverage. In the

Egyptian case, the common tendency in most of the recent studies during the last 20 years was to rely on the degree of compliance by the legal procedures as a determining factor of formality. Accordingly, if the enterprise complied by the main legal or official regulations such as the business license, the commercial registration, the availability tax card and keeping regular accounts it would be considered formal, while the inability to comply by one or more of the procedures would count the enterprise as an informal one.

## **5.4 Comparison with MSE Sector in Lebanon and Turkey**

To motivate the analysis over time in Egypt, this section presents a comparison of the main characteristics of the MSE sector in Lebanon and Turkey, two other MENA countries where similar enterprise data was collected. The Economic Research Form's project titled *Promoting Competitiveness in Micro and Small Enterprises in the MENA Region's* ultimate aim is to design relevant policies and specific programs to help the MSE sector fulfill its enormous growth potentials. Both in depth country studies and cross-country comparisons will help achieve this goal. This section focuses on comparing the size, formality, gender representation as well obstacles faced by MSE sector in the three countries.

### **5.4.1 MSE Sector in Lebanon**

A survey of 2,948 enterprises (Hamdan 2005) provides a thorough understanding of the characteristics of the MSE sector in Lebanon and the challenges it faces. The 1996 census conducted by the Central Administration for Statistics (CAS) estimated that there are 198,000 enterprises; small enterprises with less than five employees account for 88%, while those with less than 50 employees account for 96% of total enterprises in Lebanon. In total, enterprises with less than 50 employees account for 530,000 jobs, which is 51% of the working population.

In Lebanon, three criteria must be met for an enterprise to be considered a part of the formal economy. The three criteria are commercial registration, social insurance scheme, official business license, and tax commitment, are all criteria for being part of the formal economy. Table 5.1 below shows that almost half of MSEs surveyed are not commercially registered. However, as MSEs grow and age, they tend to legalize their status. Only 20% of surveyed enterprises participate in the government insurance scheme, known as the NSSF. Furthermore, approximately 44% of surveyed enterprises are registered with the taxation department. As expected, the informal sector in Lebanon plays a significant role, and this is especially true amongst small one-worker enterprises.

Though there are many new jobs generated in the informal sector, it is characterized by low productivity, poor working conditions, and high vulnerability to shocks. The analysis of performance indicates that performance is directly related to the size of the firm: as the number of employees increases, firms tend to record better performance levels, with a peak for MSEs with 10-49 workers. formalized enterprises perform significantly better than informal ones, as well as those that employ up-to-date technologies, have access to basic infrastructure, and when the firm's clientele base is constituted of foreign customers.

Male entrepreneurs do better than female ones, as females are concentrated in low performing jobs and levels that enjoy low added values and profits and educational attainment is also positively related to performance, with highest performance recorded in firms with entrepreneurs who have attained at least a university bachelor's degree, or a training apprenticeship experience.

The most prominent constraints of surveyed MSEs seem to include securing initial capital for business start-up, and high tax rates. One third of surveyed MSEs indicate that cumbersome licensing/registration procedures, custom duties and tax administration are a major concern and one fourth cite access to financial services is viewed as the main problem they face. In general, the survey indicated that 42% of MSEs are constrained by lack of access to credit facilities. Only 8.3% of MSEs currently have a credit/loan (mainly larger MSEs). The main source of loans is banks (69%), but also friends/relatives (18%) and 6% from business associates.

Due to the family nature of micro and small enterprises in Lebanon, the initial startup capital for the MSE is secured through family, and not business, networks. The survey indicates that own savings constitute the major source of initial start-up capital of MSEs in the country, followed by inheritance.

Few of the surveyed MSEs have had access to formal loans (4.2%) in their start-up phase. Of these, most of the loans are obtained from banks.

**Table 5.1: Degree of formality of Lebanese and Turkish MSEs, 2003-2004**

Lebanon			Turkey		
Formality: Commercial registration	Registered	41.9	Formality: Registration to public or professional organizations	Registered	4.4
	Not registered	42.8		Not registered	95.1
	Not required	15.2		Not required	0.5
Formality: National Social Security Fund (NSSF)	Registered	20	Formality: Keep account for expenditures and revenues	Keep accounts	<b>92.7</b>
	Not registered	54.6		Do not keep accounts	7.3
	Not required	25.4			
Formality: Tax Registration	Registered	44			
	Not registered	39			
	Not required	17			

#### 5.4.2 MSE Sector in Turkey

According to the European Commission's latest report on Turkey, SMEs account for over 75% of employment, though they only represent 27% of value added. The field survey of 5,000 micro and small enterprises carried out from 2001-2004 occurred while Turkey was experiencing a serious economic crisis.

The two criteria used to evaluate the degree of formality of MSEs in Turkey by Ozar (2006) are if the enterprise is registered to public or professional organizations, and the other is if the enterprise keeps account of their expenditures and revenues. Enterprises in Turkey are by law obliged to register to the Chamber of Trade and to their vocational association to receive licenses for operation. Table 5.1 above also shows that judging by registration, a much smaller percentage of enterprises in Turkey officially register their enterprises in comparison to Lebanon (4% as opposed to above 40%), but the vast majority (95%) keep accounts for expenditures and revenue.

Hamidi and Başlevent (2010) undertook a comparison of the results of MSE survey for Turkey and Egypt with emphasis on gender differences. What enterprises in both countries have in common is that the majority of businesses employ less than 3 workers and trade is the dominant activity (the allocation of MSEs by economic sector for Egypt is 16, 73, and 11%, and for Turkey is 21, 67 and 12% for manufacturing, trade and services, in that order, with skilled workers making up the largest share of the workforce). Also, like in Lebanon, Own savings are the main source of start-up capital, followed by inheritance. Only 10% of Turkish and 4% of Egyptian capitals come from loans (formal and informal).

The main differences is that there are more women entrepreneurs in Egypt than in Turkey (Egyptian females represent 12% of Egyptian entrepreneurs, vs. only 6% in Turkey). A result that is attributed, in part, to the world economic recession at the turn of the century, the time of the Turkish survey. Turkish entrepreneurs start working 5 years earlier than the Egyptian entrepreneur are two years younger than the Egyptians, they are also less educated if they are male *Egyptian and more educated if they are females* . Another important difference is that a sizeable 28% of Turkish females' MSEs are working in manufacturing activities, compared with only 2% in Egypt, attesting to the long history of Turkish women working in textile, clothing and leather that dates back to the Ottoman times.

#### **5.4.3 Comparison between the three countries:**

The unique characteristics of Lebanon, Turkey, and Egypt will have policy implications on the most appropriate means to better fuel the MSE Sector. There is a varying patten of economic activity amongst the three countries, which is indicative of the opportunities available for entrepreneurs in each country. In all three countries MSE sector relies heavily on trade. MSEs in Turkey are more involved in industry and manufacturing. This may also explain the fact that MSEs in Turkey tend to be larger than those in Egypt and Lebanon, with 8.4% of MSEs employing 10-49 workers. However, there are fewer female entrepreneurs (in relative terms) in Turkey, where they are only 6.1% of entrepreneurs. In the three countries, formal loans play a small role as the primary source of finance. Despite Turkey's larger SMEs and the prevalence of formal enterprises, formal loans only provided the initial capital for 1.5% of enterprises, though informal loans are much more common than the other countries.

Thus despite the differences outlines above, the MSES surveys in the three countries at the turn of the century reveal important similarities: the prevalence of informality and dominance micro enterprises in terms of size, barriers to entry for women, whose performance is less than men and constrained access to finance so they rely on own savings as a major source. Nevertheless these enterprises, managed to employ the vast majority of population and hence it is crucial to understand how they managed to survive, prosper or otherwise go out of business during recent times of economic crisis. We turn to looking at how they fared between two surveys in Egypt.

**Table 5.2: Comparison of Characteristics of Enterprises in Lebanon, Turkey and Egypt, 2003**

		<b>Lebanon</b>	<b>Turkey</b>	<b>Egypt</b>
Size of enterprise	One-worker	45	24.3	39.3
	2-4 workers	46.8		55.4
	5-9 workers	5.5	67.2	3.9
	10-49 workers	2.7	8.4	1.4
Economic Activity	Trade	72.6	56.4	33.4
	Industry	8.8	19.3	12.3
	Construction	0.6	2.5	8.4
	Hotels and restaurants	5.1	10.7	3.2
Gender	Other sectors	12.9	11.1	42.7
	Female Entrepreneur	8	6.1	11.1
	Male Entrepreneur	92	93.9	88.9
	Own Savings	60	74.8	79.1
Initial capital	Inheritance	18	7.9	14.6
	Own remittances	5.5	1	0.1
	Other Sources	4.9	1	0.7
	Liquidation of assets	3.8	5.2	0.8
	Formal loans	4.2	1.5	3.7
	Informal loans	2.5	8.5	1

## **5.5 The Micro and Small Enterprise Data in Comparison to Other Surveys**

### **5.5.1 The Micro and Small Enterprises Survey Data: 2003-2011**

The Micro and Small Enterprise Panel Survey dataset was conducted by the Economic Research Forum in an attempt to better understand the basic needs of the sector and identify opportunities for policy to better shape growth. The Small and Micro Enterprises Survey (MSES) – Egypt 2003 is a sample survey designed to provide estimates for the key indicators related to the activities, manpower structure and the financial characteristics of MSEs. The primary objective of the sample design to provide estimates on the national level based on data randomly selected from three major administrative regions (Metropolitan areas, Lower Egypt, and Upper Egypt). Eight governorates were selected from the three regions. The selection was based on an attempt to represent governorates with different economic characteristics. Due to its size and comprehensive coverage in the questionnaire, this survey provides an invaluable insight on the MSE sector in Egypt at the enterprise level. The survey holds information on the individual characteristics of the owner/manager of the business as well as characteristics of the enterprise. The sample size consists of 5000 private MSEs, large enough to provide statistically reliable estimates.

To follow up on the 2003 survey, the primary objective of the sample design of the MSES 2011 was to provide estimates on the national scale and three major administrative regions (Metropolitan areas, Lower Egypt, and Upper Egypt). Three governorates were selected from the three regions. The three selected governorates are Cairo (Metropolitan), Gharbia (Lower Egypt) and Asyut (Upper Egypt). Around 13500 MSEs were listed in 56 Primary Sampling Units in the three governorates. Then a stratified random sample of 3000 firms was selected from the three governorates proportional to the listed firms at each region. 40% of the enterprises are located in Cairo, 28% are in Gharbia, and 32% are in Asyut. The female owned enterprises were double-sampled to allow for more variety, but that can be corrected in the analysis using weights. To compensate for an expected 10% non-response rate, the sample size was inflated to 3300, and ended up with the predetermined sample size of 3000, also a sample large enough to provide reliable statistical estimates.

### **5.5.2 Overview of MSE Sector in Egypt from 2006 establishment Census data:**

According to the latest Establishment Census in 2006 (EC2006 conducted by the Central Agency for Public Mobilization and Statistics-CAPMAS) the total number of the establishments in Egypt was 2.5 million establishments. These establishments employed around 7.3 Million workers. The establishments that employ less than 50 employees represent almost around 98-99 % of the total establishments in Egypt. However, they only provided 80% of all private sector employment. It is worth mentioning that the by definition, the EC2006 does not include any enterprises that operate outside fixed premises, such as itinerant salespersons.

The main distribution of MSEs is in the following economic activities: trade activities, various services and manufacturing. Within the MSEs, there is a high concentration in the employment bracket of 1-4 workers establishments. Thus, the structure of the enterprises in Egypt tends to be extremely micro in terms of number of workers. In general the estimated number of MSEs was around 2.444 million establishments in 2006, and they offered employment to 5.827 million workers with an average enterprises size 2.38 workers per unit.

Data on employment in the Fiscal year 2006/2007 stated that the total number of workers in Egypt was 20.120 Million workers. Private sector workers were estimated to be around 14 million workers or 70% of total employment. MSEs employment was thus around 29% of all employment in 2006/2007. The remaining private sector employment is primarily in agricultural activities, outside-establishments employment and in the large private sector companies respectively.

### **5.5.3 Findings from the EC2006 Census and The 2011 MSES Survey**

The MSES' study (2011) provided a newer estimate of the number of MSES and the employment created in them. By the end of 2011 there were around 3.04 Million establishments and those MSES employed around 7.9 million workers or 33.7% of total employment in Egypt in 2011 (23.46 Mill workers in December 2011, CAPMAS, Press Conference Bulletin 18/02/2012), with an average MSE size equal to 2.63 workers. Data indicate that the employment in the MSES increased by 2.2% between the last two years 2011 and 2010, and that employment in the sector grew by only 148,316 workers, which is an extremely small addition to the employment. This change is quite modest if compared to changes in other years. The impact of the revolution had its recessionary toll on the Egyptian economy and labour market. However, this contribution of the MSES is higher than any other sector managed to absorb in Egypt. In fact, the larger private sector companies were releasing some of their workforce under the stress of low demand and the government did not succeed in offering any additional jobs.

When we compare the Establishment Census for 2006 data and the MSES2011 results one could conclude that: first, the number of MSES grew by 4.9% between 2006 and 2012; second, the number of workers in the sector grew from 5.827 million workers in 2006 to 7.9 million workers in 2011 by an annual growth rate of 6 %, and creating around 345 thousand job opportunities annually. The year 2011 witnessed a drop in employment growth rate (2.2%), which is understandable in the recessionary post-revolution climate.

### **5.6 Characteristics of Enterprises and Entrepreneurs in MSES Data: 2003-2011**

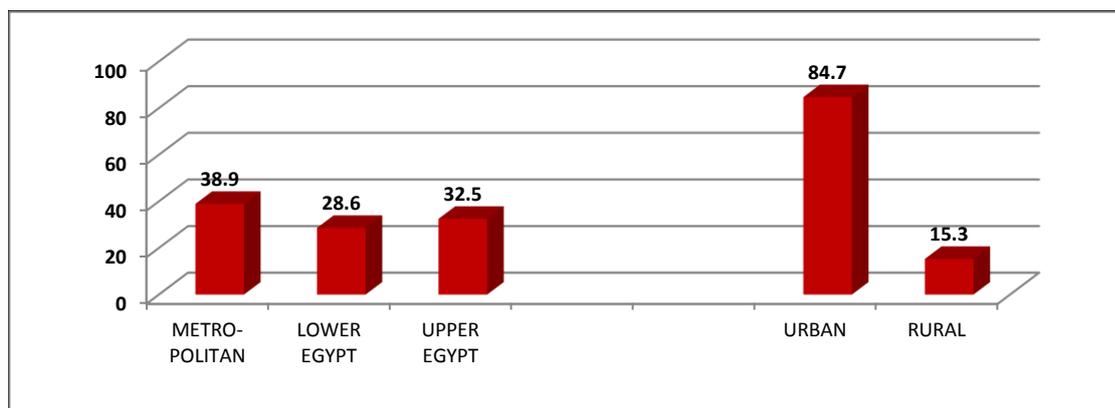
Tables 5.3-5.10 and Figures 5.1-5.3 below provide a snapshot of the main characteristics of MSES sector in Egypt in 2011, and in comparison to 2003. In undertaking the comparisons, we concentrate on the location, size, sector of economic activity, formality and market scope attributes of the enterprises. We then look at the distribution by entrepreneur characteristics focusing on his/her age, educational attainment and gender. Finally, given its importance, we devote a subsection to financing issues, whether size of capital or access to sources of funding, as it is related to both enterprise and owner/manager characteristics.

#### **5.6.1 Enterprise characteristics:**

##### **- Location**

The geographical distribution displayed in Figure 5.1 based on the survey results in 2011, indicate that almost 85% of the sample is located in urban areas compared to 62% in 2003. This result is understandable given that the study deals with MSES that are not pursuing agricultural activities, and the new sample has excluded four of the governorates (Giza, Fayoum, Damietta, and Souhag) in the first survey, which were by nature of their population distribution more rural governorates. As to the distribution according geographical location, it is evident that the Metropolitan area of Cairo secured 38.9% of the sample, which is consistent with the relative importance of the metropolitan areas with regards MSES concentration. While the MSES in Lower and Upper Egypt contain the remaining enterprises.

**Figure 5.1 The Regional Distribution of MSEs**



**- Employment size**

The share of workers in establishments employing less than 50 workers represented around 80% of the total workers in private sector establishments in Egypt or 5.8 million workers. 72% of those workers were operating in establishments that employ 1-4 workers, and 16% in establishments that employ 5-9 workers and the remaining 12% of workers were employed in 10-49 workers' establishments.

**Table 5.3: The Distribution of MSEs By size of Employment and Gender of Entrepreneur, 2011**

Size of enterprise	Male		Female		Total	
	2011	2003	2011	2003	2011	2003
1 worker	38.3	40.3	47.7	58.4	39.3	42.6
2 workers	32.2	34.9	31.7	29.8	32.2	34.3
3 workers	16.2	14.6	10.3	5.2	15.6	13.4
4 workers	7.5	4.5	8.7	3.9	7.6	4.4
5 to 9 workers	4.3	3	1	1.8	3.9	2.9
10 to 49 workers	1.5	2.6	0.7	1	1.4	2.4
Total Number	2701	4343	300	615	3001	4958
Mean	2.12	2.33	1.85	1.73	2.09	2.26

Table 5.3 above also shows Employment Size: From 2003 to 2011 we see the mean number of employees decrease from 2.26 to 2.09. However, there is also fall in the share of enterprises that have only 1 or 2 workers. When decomposed into male and female entrepreneurs, we see that females are more likely to employ only one worker than males, though females have seen a fall in single employee enterprise and a rise in 2, 3, 4 employees.

**- Sector of Economic activity**

The retail/ wholesale trade sector represented the main source of employment, where 46% of the workers were employed, followed by the manufacturing sector by 21% and the remaining 33% were engaged in different service activities whether social, financial or other services such as tourism, health, education and information and communication services as well as other activities.

If we look into the results of the MSEs2011 survey we get the following conclusions:  
 The main economic activities of the MSEs are classified into three activities, namely, trade, services and manufacturing. The following table shows the sample distribution accordingly.

Table 5.2 indicates the high prevalence of MSEs working in trade, whether whole sale or retail or maintenance activities, since 60% of them are engaged in such activities (compared to 64.7% in 2003). Trade activities include: Clothes, food products, furniture, plastics, and building materials as well as different maintenance workshops.

**Table 5.4: Enterprises by Economic activity & Number of workers, 2011**

Size of enterprise	Trade	Services	Industry	Total
1 worker	41.7	36.8	32.2	39.3
2 to 4 workers	54.9	57.2	53.1	55.4
5 to 9 workers	2.5	4.2	11.1	3.9
10 to 49 workers	0.8	1.8	3.6	1.4
Total Number	1806	886	307	2999

Enterprises active in manufacturing do not exceed 10.3% of all MSEs, which reveals a decline in the share of manufacturing compared to MSEs2003 results, where they exceeded 15.7%. Those manufacturing activities include food processing, wood and furniture, ceramics and building materials, electrical and engineering industries such as air conditioners, electrical distribution boards, electronic appliances, lifts....

The MSEs working in providing services seem to be the winners in this context, as their share rose from 19.5% in 2003 to 29.5% in 2011. Service activities that are most prevalent include: transportation and distribution, personal services such as laundry services, communication, business and tourism services (cafes, restaurants, hotels).

**- Formality/informality Status**

The years between 2004 and 2010 witnessed the adoption of some drastic official measures in the areas of deregulation of laws, procedures and implementation of certain simplified approaches to registration of enterprises. But still the empirical results reveal that the informality status has not been improved. Table 5.5 summarizes the result of asking MSE owners/managers questions regarding the institutional obstacles that surround the start-up of a business and during its functioning and operations. The questions include issues related to legal procedures, workers, competition, financial and non-financial services, taxes and customs.

**Table 5.5 Entrepreneurs Responses to the type of Institutional Aspects Surrounding the Business Operations and their Degrees of Easiness, 2011**

<b>Criteria</b>	<b>Easy</b>	<b>Moderate</b>	<b>Difficult</b>	<b>Not applicable</b>
Securing Initial Capital	14.80%	12.00%	71.50%	1.70%
Licensing & Registration Procedures	14.80%	17.90%	50.90%	16.50%
Labour Law	11.40%	13.50%	36.10%	38.90%
Labour Inspection	12.70%	14.30%	39.20%	33.80%
Labour Cost	7.90%	17.60%	48.20%	26.30%
Meeting Environmental Requirements	18.10%	14.00%	33.80%	34.10%
Finding Qualified Workers	9.90%	17.00%	52.20%	20.90%
Retaining Qualified Workers	9.60%	14.40%	55.00%	21.00%
Raw Materials Availability	21.30%	15.00%	16.50%	47.20%
Raw Materials Cost	6.30%	13.70%	33.30%	46.70%
Capacity Utilization	47.40%	39.40%	7.50%	5.70%
Demand For Output	20.30%	44.30%	30.10%	5.30%
Strong Domestic Competition From Micro E.	14.30%	21.80%	46.90%	17.00%
Strong Domestic Competition from Small E.	3.80%	4.40%	43.60%	48.20%
Strong Domestic Competition from Large E.	3.00%	1.50%	38.20%	57.30%
Strong Competition from Imports	3.00%	2.50%	32.20%	62.30%
Financial Services	3.30%	3.60%	29.40%	63.80%
Other Business Support Services	2.10%	3.60%	35.90%	58.40%
Profitability	3.90%	17.90%	75.60%	2.60%
Tax Rates	4.60%	22.20%	45.20%	28.10%
Custom Duties	0.80%	0.60%	3.60%	95.00%
Tax Administration	8.70%	21.80%	44.60%	24.90%

Responses reveal that the fear of achieving little profitability comes on top of the obstacles, followed by difficulties in registration procedures, as well as several aspects that are related to the shortage in qualified workers, their cost/wage rates, and the ability to retain them after training. These factors lead to MSEs' preference of working informally under the fear of low demand and

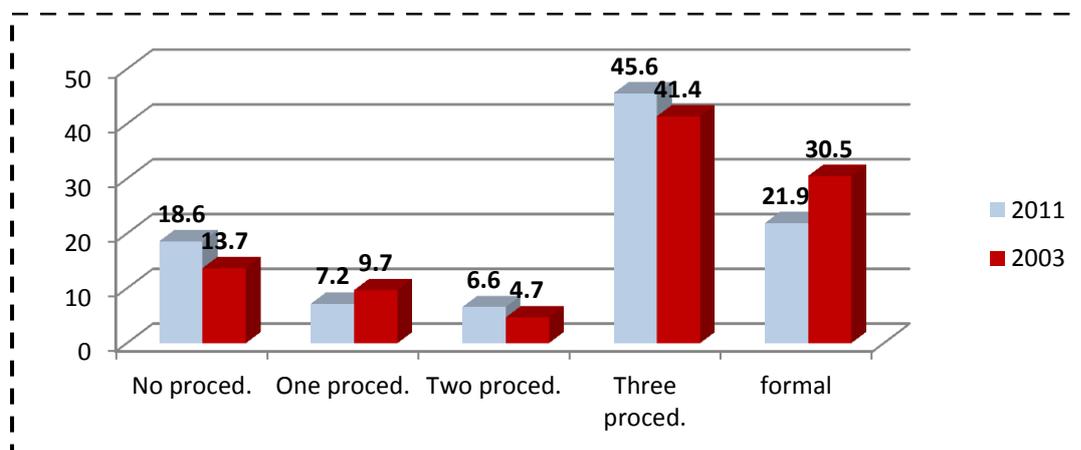
profitability. The combined effects of these obstacles are translated into a relatively high level of informality within the MSEs.

According to Egyptian laws, there are 4 procedures that make an enterprise formal: the license, the registration, the tax card and keeping regular accounts. If all the procedures are applied by the MSE it would be considered a formal enterprise, if any of the 4 procedures is lacking then it would be considered informal. The highest degree of compliance is in acquiring a tax card, while the lowest degree is in keeping regular accounts of the business transactions and presenting them to the tax authorities.

Figure 5.3 shows the MSEs in three main activities and their degree of compliance according to the number of procedures. The trade activities seem to be the least informal. In general, informality is rather relatively higher in rural areas, in Upper Egypt, in trade and service activities, and in smaller sized enterprises in terms of capital. Data indicates that 21.6 % of all MSEs are formal enterprises, while 18.4% of them are totally informal. The remaining MSEs have different shades of informality. The results also indicate that around 45% of MSEs comply with the three main procedures: the commercial registration, the business license, and the tax card.

The procedure that shows the highest non-compliance is "keeping regular accounts", which gives an accurate estimate of the volume of transactions of each enterprise. There is no evidence that the informality phenomena is related to the recent 25th of January revolution or its repercussions, it is rather more related to a culture of non-compliance with legalities. The share of one-year-old enterprises is quite small (7.3% or 221 MSEs), so it could not have mattered in the total MSEs community's informality level.

**Figure 5.3: The Degrees of MSEs' Compliance with the Four Formality Procedures in 2011 and 2003 (%)**



**- Market and scope**

The small size of the MSEs is related to its market scope and its ability to reach wider range of clients. This result is confirmed by the responses. The main client for MSEs is the local consumer or is generated by the household sector, as more than 90% of the demand comes from it. A small percentage of the demand (7.2%) comes from the neighbouring MSEs whether large or small. The business links with the government and the public sector companies are marginal.

As to the role of regional and international markets, or the role of exports in their overall market channels, the following table reveals that exports are of no significant importance to the operations of MSEs. This limited share of exports indicates the rather uncompetitive nature of the products whether in terms of process or quality.

### 5.6.2 Characteristics of The Enterprise Owner/Manager

#### - Gender:

Results reveal a significant difference in the female representation in the total community of entrepreneurs/managers compared to MSEs2003 Survey. The female owners/managers account for 10% of all entrepreneurs/managers, which is relatively higher than the results of the MSEs 2003 survey, where they accounted for only 6%.

This reversal in the contribution of females could be explained by the continuous hostile labour market conditions, where the role of the government as female employer disappeared gradually and the private sector companies do not encourage female employment. As a consequence, females, in their conquest to find a decent way for living opted to establish their own enterprises.

Female entrepreneurs constitute 10% of all MSEs entrepreneurs in the sample. Change is taking place in the labour market conditions confronting females. Social barriers that hindered females ten years ago are now less than in 2003. As 60% of them do not need to take permission from the male household members to start their business compared to 38% in 2003. In case they need permission it mostly comes from the husband or the father. As to the most frequent difficulties females usually face in managing their enterprises they include hiring workers, setting up the business, marketing, getting financial services and harassment by others in the market. However most of the females (80%) feel empowered by their work as entrepreneurs.

#### - Age:

Table 5.6 indicates that there is no significant difference between male and female entrepreneurs, and that this pattern of distribution does not differ from the results from MSEs 2003 survey. The majority of entrepreneurs are concentrated in the age bracket of 40 years and above. From the female's perspective, this is the age where she is finished with child-care and ready to leave home and work. While from the male's perspective, at this age they would have managed to accumulate experience and savings that allow them to start their own independent business.

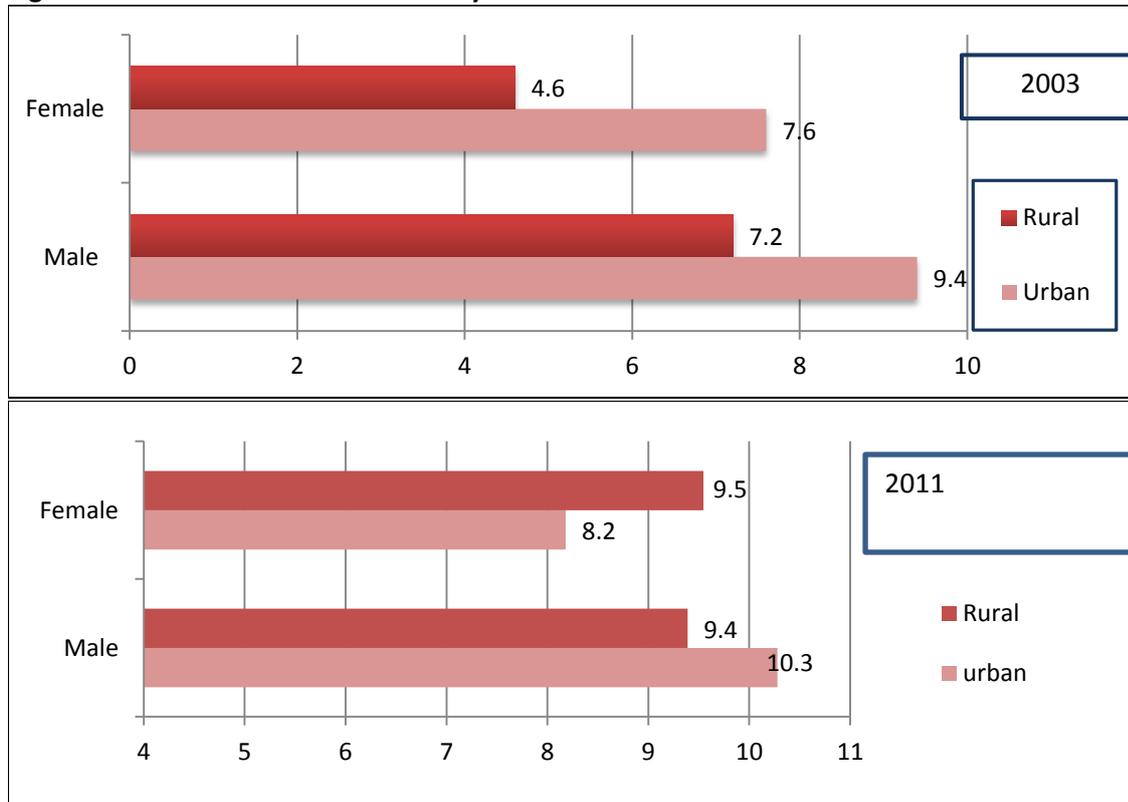
**Table 5.6: The Distribution of MSEs By Age and Gender of Entrepreneur, 2011**

Age	M	F	Total
<18 y.	0.20%	0.80%	0.20%
18 to <21y.	2.00%	4.10%	2.20%
21 to <25 y.	7.40%	9.60%	7.60%
25 to <30 y.	12.90%	13.00%	12.90%
30 to <40 y.	27.20%	21.20%	26.60%
40 years or more	50.40%	51.30%	50.50%
Total	100.00%	100.00%	100.00%

**- Education:**

The strongest point of departure from 2003 results is the level of entrepreneurs' education, which increased in 2011. Although, the average years of schooling of males are still higher than females, the gap in educational attainment levels between both genders has decreased substantially as opposed to 2003. Interestingly, female entrepreneurs' number of years of schooling in rural areas is higher than in urban areas, as opposed to the situation in 2003.

**Figure 5.2 Mean Years of Education by Gender and Area in 2003 and 2011:**



One of the noteworthy phenomena is that all entrepreneurs are literate, as opposed to 2003, where almost 24% were illiterate. The growing numbers of secondary school and university graduates who entered the labour market could explain this development, as their only hope to work was through establishing their own business or the family enterprises.

Data indicate that, the respondents to the questionnaires were 70% owners of the enterprises and 30% managers. Almost 99% of them did not have any other economic activity beside their current activity as owner/manager of the MSE. When asked about the age they started first to work 58% of them said that they started working before the age of 18 years while another 30% said that they started working between the age of 18 and 25 years. Thus, most of them started working at an early age. Within this community of owners/managers around 12% of them were illiterate while 35% of them had secondary school education and 29% of them had higher institute or university education. Thus in general the educational attainment levels within this community are relatively higher than the general population where illiteracy rates exceed 27% in the total population.

**Table 5.7: Entrepreneurs by gender and number of years of education compared to 2003**

Cat. # of years of education	2011			2003		
	MALE	FEMALE	Total	MALE	FEMALE	Total
Illiterate	0.00%	0.00%	0.00%	21.20%	43.30%	24.00%
1-6 years	12.50%	14.50%	12.60%	18.40%	14.90%	17.90%
7-9 years	9.00%	11.70%	9.20%	10.50%	7.30%	10.10%
10-12 years	42.10%	41.60%	42.10%	30.80%	26.50%	30.20%
13-16 years	33.40%	25.70%	32.70%	18.80%	7.60%	17.40%
17 years or more	3.00%	6.50%	3.30%	0.40%	0.30%	0.40%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

### 5.6.3 Sources of Finance

Table 5.8 shows the gender distribution of capital invested in enterprises across the two years. As expected there is a concentration of females in the lower capital ranges, but one of the most striking developments over this period is the average size of the invested capital of the female-owned MSE, which more than doubled between the two comparative years. The same could not be said about the male-owned enterprises, whose average sized declined compared to 2003.

**Table 5.8: Enterprises by gender of entrepreneur & Capital, 2011**

Size of enterprise	Male		Female		Total	
	2011	2003	2011	2003	2011	2003
<1000	16.8	14.2	25.6	32.8	17.6	16.5
1000 to <5000	31.9	36.6	40.4	32.8	32.7	36.2
5000 to <20000	27.4	28.4	14.7	22.2	26.2	27.6
20000 or more	23.9	20.8	19.3	12.2	23.4	19.7
Total Number	2594	4342	285	616	2879	4958
Mean	37048.1	43959.8	27653.5	12828.1	36119.3	40093.3

Next we turn to the issue of access to sources of funding of those enterprises. Tables 5.9 and 5.10 show that no more than 3.7% of MSEs resorted to borrow from formal sources and 1% of the MSEs borrowed from informal sources to finance their initial capital to start-up the business. The previously accumulated own savings, (followed by inheritance money) still represent the main source of finance to small entrepreneurs. Table 5.9 shows the relative importance of the sources of loans, whether formal or informal. No visible change has occurred in the role of formal finance. Banks (50%), NGOs (17.2%), and SFD (10.5%) are the main providers of these limited funds.

However, when we look closer into the limited group of MSEs that got formal loans to startup their business we notice that around 68% of those who received loans for initial capital were established in the last ten years. This result indicates that newer MSEs had better chances in getting loans than older ones (more than 10 years old), since younger MSEs represent 55% of the total sample size. Data also reveal that the MSEs that received formal loans at their start-up was quite consistent with the sample distribution of MSEs according to economic activities. Meaning that the trade, service and manufacturing activities received loans according to their relative shares in the

MSEs community. When the entrepreneurs were asked if they received any finance for their working capital during the last 12 months, only 261 entrepreneurs, representing 8.7% stated that they borrowed from several sources to finance their working capital as is shown in the following table.

**Table 5.9: Sources of initial capital by size of enterprises, 2011**

Sources of initial capital	1 worker	2 to 4 workers	5 to 9 workers	10 to 49 workers	Total
Inheritance	14.4	14.2	18.5	24.5	14.6
Own savings	76.8	81.2	76.1	71.6	79.1
Liquidation of assets	1.3	0.4	1.3		0.8
Formal loans	4.9	3	2.5	2.9	3.7
Informal loans	1.8	0.6	0.3		1
Own remittances		0.1	0.6		0.1
Others remittances	0.6	0.3	0.6		0.5
Others	0.3	0.1		1	0.2
Total Number	1169.3	1658.2	117.5	42.5	2987.5

As can be seen from Table 5.10 below , out of the 8.7% of the MSEs who resorted to borrowing to finance their working capital, around 30% of them received it from informal networks (family, friends, business associates, neighbours, contractors), while the banking sector provided 48.8%, the domestic NGOs 12.8% and the SFD 5.8% of the loans for working capital. In addition, around 64% of the loans were for a period that ranges between 6- 12 months, while the remaining loans had a longer time span especially 12-24 months (21%). The informal channels of finance provided similar longevity of loans and with no guarantees required.

**Table 5.10: Sources of credit in the last 12 months by size of enterprises, 2011**

Sources of initial capital	1 worker	2 to 4 workers	5 to 9 workers	10 to 49 workers	Total
Bank	44.2	56.4	62.5	66.7	50
SFD	11.9	8.6		33.3	10.5
Domestic NGO	15.5	18.6	37.5	0	17.2
Government Agency					
Family and Relatives	6.5	5.1			5.7
Friends	5.8	6.7			6
Neighbours	2.6	1.7			2.1
Business Associations	1.7				0.9
Others	11.8	2.9			7.6
Total %	100	100	100	100	100
Total Number of MSEs	71.9	56.4	3	1.3	132.5

## 5.7 Conclusion and Policy Implications

This chapter utilized the 2003-2011 MSE surveys in Egypt to evaluate the characteristics of that sector in comparison to other surveys in Egypt and similar one in MENA. As such it provided a situation analysis of the role, scope, challenges and opportunities related to MSEs in Egypt as presented by recent enterprise data. It also examined changes over the 2003-2006 period which witnessed both global recession and domestic political upheavals leading to economic crisis. The objective was to identify the areas that offer potential for development and expansion in the MSEs and their ability to produce higher quality products and services, as well as create more productive employment opportunities. Three main conclusions and broad sets of policy recommendations can be drawn from the above comparative analysis.

First, the structure of MSEs is relatively small and mainly concentrated in the range of 2-4 employees, and the majority of enterprises are concentrated in trade activities followed by services and finally manufacturing activities, so new policies should give more emphasis to manufacturing activities to increase their numbers, productivity and employability. The characteristics of MSEs is undergoing apparent improvement in terms of size and productivity and this could mean that the future of MSEs will include more advanced and modern MSEs in need of support of business development centres and the allocation of donor funds to support technical assistance as well as financial support on a more wider spectrum than the existing framework

In general, the MSEs productivity, quality of products, competitiveness and ability to innovate is rather below the performance of other Developing Countries such as India, Thailand, Malaysia, Indonesia, Taiwan, Vietnam in this respect. Thus any development of the MSEs should involve a serious stress on various technical assistance packages for the different types of economic activities, especially those that are more competitive and have potentials for growth and expansion.

Second, results indicate that informality still dominates the MSE sector in Egypt. Inherently, there is a disincentive to expand beyond a certain limit because of their micro size, most government regulations fail to reach them. As they grow, they become visible to taxes and other regulations and so far all the institutional steps, procedures and programs that were undertaken to improve the business climate surrounding MSEs were not sufficient enough to convince them to work on a formal basis. Yet, formal enterprises have better opportunities for interacting in the market and expanding their clients' base, with the formal private and public sectors through subcontracting, and thus raising their capacities to introduce better production technologies and raise their productivity and efficiency. Thus more conducive steps should be introduced to help MSEs become more formal and enjoy the privileges of widening the scope of their markets. Offering fiscal incentives such as tax exemptions in the first three years of starting up the business could be one step; presenting business bonus for innovation (registering patents or trademarks) and tax exemptions for all activities that involve research and development would be another step; granting certain fiscal incentives for exporting is also helpful.

Third, the main source of capital for MSEs comes from own savings of the entrepreneurs or inheritance. Formal loans play a very modest role in financing MSEs, therefore the government should look into the procedures adopted by the banks and try to improve and facilitate them. Up and until now, the outreach capacity of the formal lending institutions is quite limited in its ability to support MSEs with its needs for funding. This result indicates that the present financial packages are not sufficient to meet the entrepreneur's need, and are not capable to reach them. Strengthening the capacities of the existing NGOs operating in economic support to MSEs is direly needed. In addition, new NGOs should be encouraged to operate in this field. Any intervention in this respect should target the areas of weakness such as the female owned enterprises, and the micro enterprises (less than 5 workers) and rural-located MSEs.

Overall and in addition to boosting the small enterprises through technical assistance, providing finance, offering better work places, and opening up windows of transactions with the larger enterprises and the public sector and government purchases would act as enabling factors. Specifically, new policies should also provide fiscal incentives to large and medium sized enterprises for establishing strong business links and extending the supply chain with the MSEs, by setting standards to their products, which could be used as intermediate inputs to larger enterprises. Fiscal incentives could also be granted to cover the costs of any new registered patents or trademarks. The chances that such policies could produce positive results are high with the apparent change in the educational status of entrepreneurs, which is improving over time.

In the next chapter, we turn more specifically to the impact of ownership of micro and small enterprise on the welfare of households that are engaged in them, based on household-level as opposed to firm level data on those enterprises. The richness of details on formal and informal borrowing and saving in the ELMPS 1998-2006-2012 will also allow us to explore more analytically the critical role of access to finance as a determinant of the success of MSEs, as identified above.

## 6 Household-Based Enterprises in Egypt: Formality, Access to Finance and Determinants of Wealth<sup>4</sup>

### 6.1 Introduction

Following the previous overview of the MSE sector based on firm-level data, this chapter will take the analysis further by utilizing, this time, household-level data from the Egyptian Labour Market Panel Survey data 1998- 2006 -2012 to document changes in the size and contribution MSE's to employment and wealth/income generation for households engaged in them in Egypt. The data set is unique in Egypt in that it collects data on enterprises characteristics at the household level, where they are based, and is therefore able to link such characteristics to a host of household and individual labour market characteristics in the panel survey.

Following a period of fast growth in numbers, with a concentration in the micro component, decline in female ownership and low export exposure between 1998 and 2006, the chapter will explore if these trends continued, were reinforced or reversed in a period that witnessed the impact of economic slow-down and revolution. The analysis draws on the same rich very recent panel data sets on household based enterprises in the ELMPS used in Chapter 4, to complement the analysis based on the MSES survey at enterprise level in Chapter 5.

It is important to emphasize that the two datasets provide different perspectives of the MSE sector in Egypt. The ELMPS was a household-based survey, while the MSES was an enterprise-based surveys. Each approach has its merits. Whereas, the HH approach enables the researcher to detect some of the home-based economic activities, it is not particularly useful in capturing the details of the economic units that work outside home, which represent the main bulk and the more dynamic part of the small and micro economic units (whether formal or informal). The enterprise approach, on the other hand, avoids the previous difficulty -in case the goal was to understand more about the small enterprise in order to improve the setting in which it functions- in providing a wholesome picture of the way the small/informal unit operates and deals with its surroundings. It enables the researcher to look closer into the way the small firm copes with the changing market conditions, competitors, and suppliers, with the workers and with the rules and regulations. However, its main drawback is in its inability to reach the entrepreneurs working at home, since almost all the studies using this methodology tend to get their sample from the "visible" economic units, which could be found without having to knock on the household doors.

To date, most studies concerned with the employment dynamics of growth of MSE s have been concerned with limited access to credit and finance (mainly consisting of formal and interest-based finance) and how that constitutes a major constraint on the growth, sustainability and employment generation capacity of these enterprises. The chapter will focus on the main impediments to the potential growth, survival and income generation of these enterprises, particularly access to finance (whether interest based or interest free and whether through formal channels or informal rotating savings mechanisms).

The basic question is map the sources of finance that are available for these categories of business enterprises in order to identify the extent to which they rely on formal versus informal finance and how this reflects on their capacity to generate employment. In particular, the chapter

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<sup>4</sup> By Mona Said and Ali Rashed.

estimates the reliance of such business enterprises on Rotating Savings and Credit Associations (RoSCAs), also known in Egypt as gam'iya, as one of the sources that are compatible with Islamic finance rules and are common in Egypt. The rich data collected for the first time on the prevalence of these ROSCAs will facilitate this analysis which has important policy implications for social banking and empowerment of MSE's in Egypt.

This chapter will use the panel component of three waves in the ELMPS survey to study factors that help enterprises perish or survive. Using transition matrices we will also examine whether they manage to develop their enterprises and thus raise their families' income; and if the small and successful business enterprises are capable of raising the household's socio-economic status measured by an asset-based wealth index. Policy implications to bolster the contribution of MSE's to employment creation and poverty alleviation can be highly relevant to other MENA countries.

The rest of this chapter will be organized as follows: Section 6.1 presents a brief overview of some studies highlighting the problem of access to formal finance for micro enterprises and informal sources available for financing in MENA. Section 6.2 presents stylized facts on developments of household enterprises drawing on the latest panel in the data : 2006-2012, and emphasizing the link between sources to finance and employment size , gender and formality of the enterprises. Section 6.3 then examines the dynamics and impact of the enterprises on the welfare of households engaged in them by constructing a wealth index based on household assets and examining the movement of enterprises between various quintiles of wealth between 2006-2012 and Section 6.4 defines a model of determinants of wealth based on enterprise, household and enterprise owner characteristics and estimates for the two panels of the survey. Finally section 6.5 concludes by summarizing results, relating them to the previous Chapter results and pointing to directions for future research.

## **6.2 Overview of Previous Studies: Access to Finance for Micro and Small Enterprises in MENA and Egypt**

### **6.2.1 Restricted Finance for SMEs MENA<sup>5</sup>**

Many recent studies (e.g. World Bank 2011 , Rocha et al , 2011 and El-Gamal, 2012) have documented that MENA financial sectors exhibit strengths in some areas, most notably the sizes of deposit bases and traditional financial depth measures, but suffer many weaknesses in other areas. Chief among these is the high degree of concentration of credit, which results in major financial gaps for micro, small, and medium enterprises that are crucial for employment creation and sustainability through inclusive growth.

As shown in previous chapter, small and medium enterprises (SMEs) are generally dependent on internal financing by entrepreneurs and their families in Egypt, Lebanon and Turkey. CGAP (2006) and others have shown that external finance is an important causal channel for the documented correlation between financial development and economic growth (although many other studies suggest that the causal relationship is bidirectional). The importance of SME finance for Arab countries stems from the simultaneous need to reduce unemployment and promote manufacturing sectors that largely remained below 15% of GDP in the Middle East and North Africa region, which deindustrialized prematurely, This pattern of premature deindustrialization in MENA resulted directly in much higher rates of youth unemployment, which in turn poses great risk to the region's long-term development prospects.

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<sup>5</sup> This section is based on El-Gamal (2012)

Two very recent studies have utilized survey data of banks and enterprises, respectively but separately, to study the supply and demand sides of SME finance in MENA. We summarize the main results of these two studies in this section, starting with TurkAriss (2011b) on the demand side using enterprise level data, and then concluding with Rocha et al. (2011) on the supply side using a survey of banks. Using data from Orbis and Zawya, TurkAriss (2011b) started with a sample of 9,877 businesses in 14 MENA countries, which she narrowed down to a sample of 333 SMEs and 563 large enterprises for which she had financial data.

Not surprisingly, she found that SMEs in the region were generally younger and relied much less on debt financing – roughly one quarter of their assets, compared to large enterprises which financed one third of their assets using debt. She hypothesized that SMEs' greater reliance on equity finance is a direct result of their greater credit constraint compared to large enterprises. Moreover, she argued that this greater reliance on equity (including internal) finance imposed higher costs of capital and impaired SME competitiveness and employment, generating growth potential. TurkAriss (2011b) then ran two sets of regressions. The first set of random effects regressions of firms' debt to assets ratio on firm size, firm age, and other variables showed that SMEs were credit constrained relative to large enterprises (the coefficient on the dummy variable for SME was negative and very significant statistically and economically). Echoing the main argument of World Bank (2011) and Rocha et al. (2011), she finds that the viability of credit bureaus and public registries in a given country enhance debt to assets ratios for firms of all sizes. To the extent that SMEs are viewed as riskier debtors, the lack of well developed Infrastructure for independent credit scoring and security of collateral is likely to impact the credit constraint of SMEs more heavily.

The second set of regressions conducted by TurkAriss (2011b) show that firm employment is positively affected by the firm's ability to raise its debt to assets ratio regardless of firm size. Firm age also contributes positively to employment creation for all firms, and firm size contributes to employment creation for large firms. To the extent that credit constraint, shown in the first set of regressions, prevents SMEs from surviving longer and growing in size, the impact of this credit constraint on employment creation can be quite substantial. She estimates that every 1% increase in debt to assets ratio for SMEs would result in approximately 1% increase in employment. World Bank (2011) confirmed that SMEs in MENA are severely credit constrained. In this regard, they reported that only 20% of MENA SMEs have any loans or lines of credit, a ratio worse than all regions other than Sub-Saharan Africa. Moreover, the average share of SME loans amounted only to 8% of total loans, also very low by international standards.

World Bank (2011) suggests that this is in large part a byproduct of the high concentration of credit to few large firms with well-established connections, while 84% of working capital for SMEs and 76% of working capital for large enterprises in MENA are financed internally. Despite state bank directed lending and partial credit guarantee schemes to enhance SME lending in MENA, credit constraints continue to constrain their growth. Using data from a joint survey conducted by the Union of Arab Banks and the World Bank, Rocha et al (2011) examined the supply-side reasons for lack of sufficient SME finance in MENA. Comparing the target to actual SME lending, they found that all banks fell significantly short. State banks aimed to dedicate 23% of their total loans to SMEs, but only 9% of their loans were to SMEs, private banks fared slightly better but still fell short of their target 26% ratio, in fact extending only 11% of their loans to SMEs.

This result is particularly disappointing given that nearly two thirds of all banks had dedicated SME units. Banks of all types cited expected returns as the most important driver for SME

financing, but listed a number of obstacles that prevent them from reaching their target rates of SME lending. Top among these obstacles was the lack of transparency of SMEs, which is consistent with the classical literature that suggests that SME lending will be affected more severely by information asymmetries. Unfortunately for the region, banks also listed the lack of reliable credit information systems to ameliorate information asymmetry, and the lack of reliable collateral and protection of legal rights that would allow banks to ameliorate the adverse selection and moral hazard that result therefrom.

### 6.2.2 ROSCAs and Islamic Compatible Solutions

One of the main obstacles that the literature cites as a deterring factor for the MSEs is the lack of sufficient finance to start their new venture. The importance of looking for sources of finance that are Islamic compatible is that many of the poor, especially in Arab countries, reject not only interest-based microloans, but also thinly-veiled imitations through *murabaha* (credit sale with markup) and other legal stratagems. This coincides with large, and increasing incidences of poverty and financial exclusion in the six most countries with largest Muslim populations: Indonesia, India, Pakistan, Bangladesh, Egypt and Nigeria (Obaidullah and Khan, 2008). Recent studies have also included survey results that show Muslims are highly excluded from access to banking products and services, with exclusion rates reaching as high as 80% in India. Finally, for Muslims with access to microloans, surveys have suggested that up to 40% reject such loans on religious grounds (CGAP, 2008 and 2009).

El Gamal (2012) argues that with increasing political and economic power of Islamists, Islamic finance is likely to play a growing role in coming years. Unfortunately, Islamic finance has heretofore mimicked the same patterns of conventional finance in these countries, focusing on bank structures and market instruments that are subject to the same limitations because of the underdeveloped of sufficient financial and legal infrastructures. The introduction of Islamic financial intermediaries in the form of mutual financial institutions would be closer to the spirit as well as the letter of classical Islamic jurisprudence. Interest free rotating savings facilities within such mutual financial institutions can provide working capital for leasing and factoring financial facilities, which are already the workhorses of today's Islamic finance, possibly in partnership with specialized institutions, to generate returns for the Islamic financial institutions and their shareholders. Repeated interactions and natural peer monitoring in mutual financial institutions serves as a strong form of relationship banking, well suited for MENA where credit bureaus and other solutions to asymmetric information problems remain significantly underdeveloped. The proposed model would thus embody the three main classical means of ameliorating the effects of asymmetric information in SME lending: relationship banking, leasing (where ownership rights may remain with the lessor, thus reducing the need for elaborate secured lending infrastructure) and factoring (where the creditworthiness of the ultimate large client can substitute for the less established creditworthiness of the SME).

He proposes a credit union structure, with the added leveraging of social capital by organizing groups of shareholders into members of smaller RoSCAs, is the greater similarity to relationship banking. Recent academic literature has questioned the importance of relationship banking in SME finance. However, the classical reasons that relationship banking can be effective in reducing information asymmetry and its adverse effects, remain valid, especially in Arab countries where external credit ratings and legal infrastructure for secured lending remain lacking. Repeat interactions and better financial information on credit union shareholders can ameliorate these problems.

### 6.2.3 Impact of Access to Finance on SME Performance in Egypt

El-Gamal *et al.* (2000) show that conventional micro-finance for traditional SMEs (especially if group-lending strategies are employed) can play a short-term role in poverty alleviation and employment creation. The problem, however, is that non-conventional financing methods are needed for the type of SMEs that enhance economic growth, export orientation and attractiveness to inflows of foreign investments. Similarly, this applies to micro-enterprises. According to 2006 data in Egypt, MSEs employ 70-80% of the labour force in the private sector non-agricultural sector. Therefore, a careful analysis of the sources of finance that are available for MSEs in Egypt is necessary to establish a thorough understanding of their requirements and the financial obstacles they face in employment generation

A study by El-Mahdi and Osman (2007), compared between a group taking microloans (IG) and a control group (CG). The findings showed that self-finance represented the main source of capital for IG, just as for the CG; however, the reliance on this funding was greater for the latter. Other sources of finance included borrowing from individuals, followed by the Gameia (rotating informal savings association) and NGOs and SFD as the fourth and fifth sources of finance respectively. This demonstrated how the CG entrepreneurs seldom resorted to formal financial institutions. The IG on the other hand, relied on the following five sources, respectively: partners, Businessmen Associations (BA), self-finance, Gameia, and other formal lending institutions such as the SFD, Shorouk project, and the NGOs.

The size of the loans received differed significantly according to the economic activity. If we look into the three most important economic activities, one could note that manufacturing activities received the largest loans with an average loan size of LE 13,132 compared to LE 8,400 in trade and LE 5,850 in services. This result could be indicative of an emphasis on the part of the lending programs towards encouraging manufacturing activities. The reasons for getting loans differed between the two groups. From the IG entrepreneurs' point of view, loans were primarily needed to help in sustaining their ongoing projects. On the other hand, the CG entrepreneurs resorted to loans mainly as they started up their activity and in acquiring fixed capital. As to using loans for expanding the economic activity, answers of both groups reflected that this target was of minor importance. As to the impact of loans on the number of workers/employees, there seems to be no significant difference between the answers of the entrepreneurs in the two groups.

The majority of the entrepreneurs did not change the number of workers because they were able to get loans. It is however noticeable that the IG had a greater tendency to increase the labour as they borrowed which indicated that a far greater percentage of the IG used external finance to sustain or to expand their activity. When we look into the comparisons between the SFD and USAID-financed enterprises, it could be noticed that between the years 1995 – 1999, the first group of EUs was able to increase its employment by 17.9%, while the second only managed to increase it by 6.8%. However, this visible increase in employment in the SFD's enterprises did not prove to be of statistical significance. One possible explanation is the small sample size of these enterprises (66 EUs). However, it has to be remembered that among the SFDs IG, especially in the Greater Cairo region, more than 50% of the chosen sample proved to have closed down or gone bankrupt because of several reasons, of which the debt burden was a prominent factor. Therefore, the high failure rate remains one of the major problems the SFD must be able to confront.

It is clear that the interventions through micro-finance proved to have an impact on the employment creation process in the IG only when the employment levels in 1999 are compared to the minimum employment levels in the last five years. Within the IG, the enterprises that received loans after they became established in the market were in a better position to create employment than the enterprises that received loans just as they were starting up their businesses. The

comparison between the SFD and USAID-financed enterprises indicates that the former group proved that the absolute numbers of workers in its enterprises were significantly higher, and so was the size of its loans granted to the entrepreneurs. However, when the change of employment over time was included there was no apparent significant difference between the two groups.

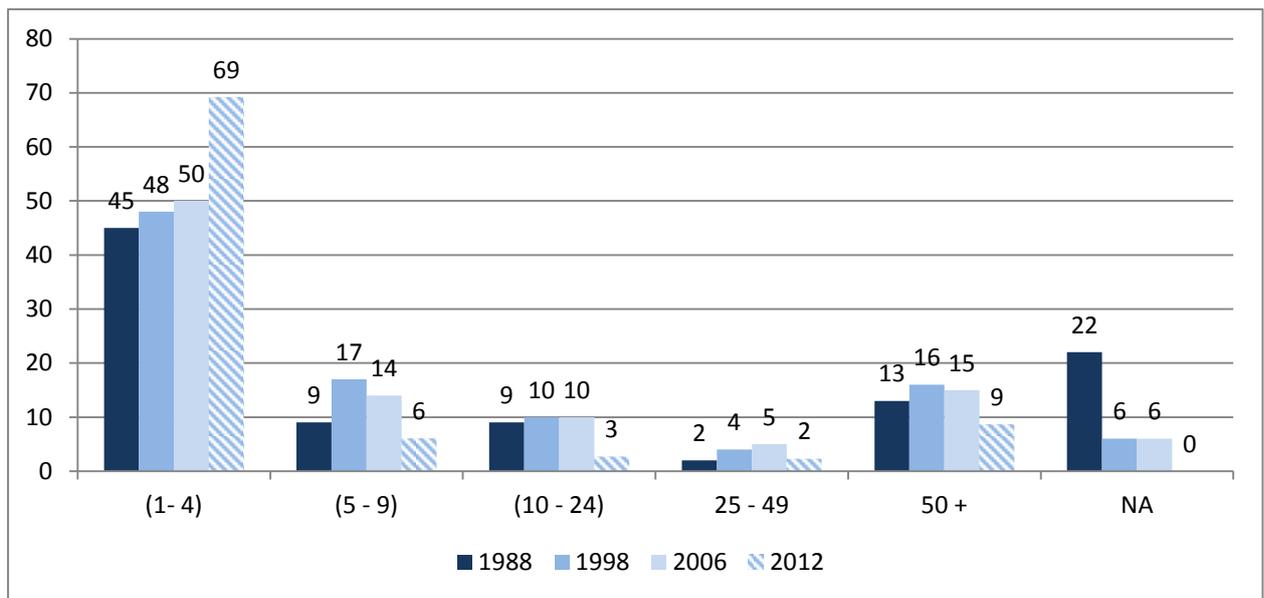
Besides the above formal channels, there are many informal providers such as household savings themselves, remittances from abroad, income from family properties, farms loans from friends and relatives, NGOs and religious and charitable institutions. RoSCAs, which can be thought of as simultaneous savings and borrowing mechanisms, are also commonly used to finance MSE projects, as such enterprises face many obstacles in getting formal funding, especially for startup projects. In sections 6.2 and 6.3 below we utilize the ELMPS data to map the sources of finance that are available for these categories of business enterprises in order to identify the extent to which they rely on formal versus informal finance and how this reflects on their capacity to generate employment. In particular, we estimate the reliance of such business enterprises on also known in Egypt as *gam'iya*, as one of the sources that are compatible with Islamic finance rules and are common in Egypt.

### **6.3 Developments in Micro and Small Enterprises Based On Household Enterprise Module of ELMPS: 2006-2012**

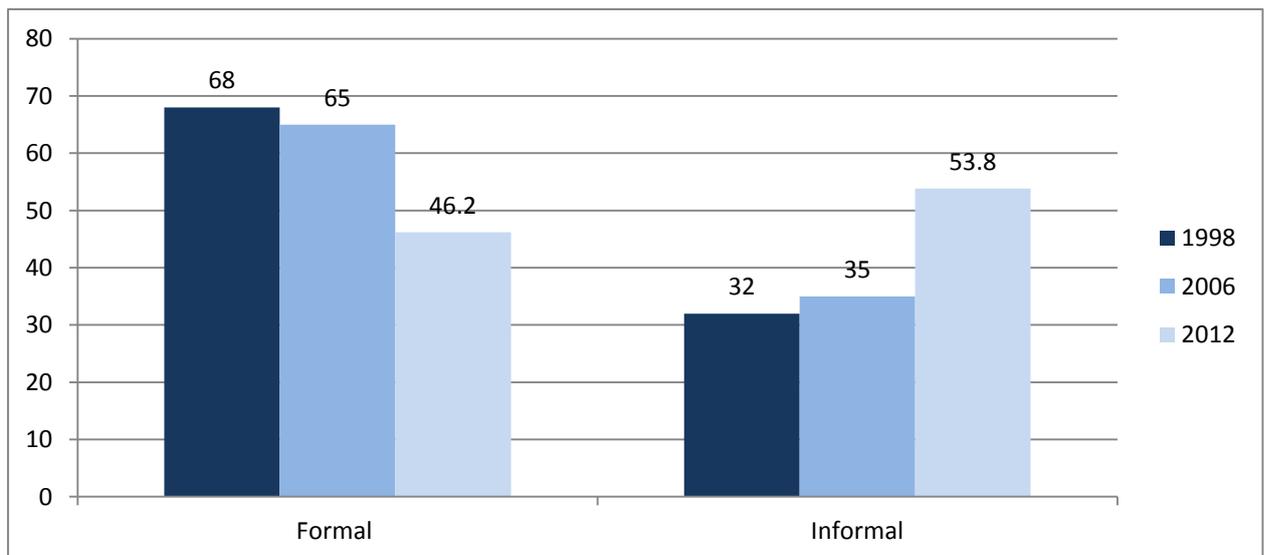
This section specifically looks at the 2012 ELMPS dataset, which is a valuable addition to the 1998 and 2006 datasets. It offers a characterization of the MSME sector from the perspective of households in Egypt. The 2012 ELMPS dataset included 2,236 who own enterprises. We first summarize the variations in age, size, ownership, economic activity, number of employees, and degree of formality. Then we delve specifically into the financial aspects as they relate to enterprise characteristics, particularly the amount of capital available, and second source of financing, distinguishing between bank and formal sources, ROSCAs, other informal channels (own and family sources, NGO's, remittances, religious organisations, etc).

Figure 6.1 shows development in the size of enterprises from 1988 till 2012, it is quite clear that there is a marked decrease in size, whereby enterprises with 1-4 employees 1-4 amounted to only 45% of the total in 1988 to are now almost 69% in 2012. That is a 20% increase in the number of firms from year 2006 (period of revolution and the financial crises) alone, while all the other size categories declined in size.

**Figure 6.1: The Size of Enterprises Employment (1988-2012)**



**Figure 6.2: Formality Status of Enterprises (1998-2012)**



Similarly, as can be seen from Figure 6.2, there has been a steady increase in the percentage of MSEs in the informal sector overtime; the percentage increases from 32% in 1998, to 35% in 2006, and to 54% in 2012. Using the same degrees of formality discussed in previous Chapter 5, Table 6.1 below, illustrates a consistent increase in informality and decrease in formality (following 2 or 3 procedures). The fully formal measure dropped from 18% in 1998 and 2006 to 15% of enterprises in 2006.

Further, Table 6.2 illustrates that the tendency towards informalisation increases with the age of the establishment. In more recent establishments are more likely to be informal than formal. The high degree of turnover amongst these enterprises is also evident in the table that almost one third of the enterprises were established after 2006.

**Table 6.1: Distribution of Enterprises by Degree of Formality (1998-2012)**

Degrees of formality	1998		2006		2012	
	count	Percent	count	Percent	count	Percent
Informal (none)	474	32	750	35	1,189	53.81
Partially formal (one procedure)	207	13	240	11	322	14.78
Semi Formal (2 procedures)	547	37	771	36	374	16.22
Fully Formal (the 3 procedures)	269	18	381	18	351	15.18
Total	1497	100	2142	100	2,236	100

**Table 6.2: Formality by Date of Establishment (2006-2012)**

	2006		2012	
	Formal	Informal	Formal	Informal
(before 1981)	17.7	17.1	9.1	7.6
1981 - 1990	15.3	18.7	12.9	12.3
1991 - 1995	35.2		10.8	10.4
1996 - 2000		31.3	14.8	15.1
2001 - 2005	31.7	32.5	18.1	17.7
2006 - 2012	..	..	31.0	33.7
DK	0	0.5	3.3	3.3

Table 6.3 explores the gender and urban/rural location of enterprises by formality status. It is clear informality permeates urban areas more than rural areas and female owned establishments more than male-owned ones. So while the overall sample of enterprises is equally distributed between rural and urban areas, the 62% of informal establishments are in urban areas. This is not surprising as the informal sector is by-and-large an urban phenomenon, and women might face even higher barriers to (or cannot afford) formalisation than men.

**Table 6.3: Ownership gender by formality status and location (urban/rural) in 2012**

	Formal			Informal			Total		
	male	female	Total	male	Female	Total	male	Female	Total
Total	40.96	52.62	42.37	61.04	76.31	61.96	50.57	59.71	51.42
Rural	59.04	47.38	57.63	38.96	23.69	38.04	49.43	40.29	48.58
Total	100	100	100	100	100	100	100	100	100

Table 6.4 shows the distribution of MSE's by ownership and formality status : Enterprises are mainly owned by only one family (it is a family enterprise) rather than shared or corporate.

Enterprises operating in the formal sector are more likely to be shared with others, while enterprises in the informal sector tend to be owned by a single household.

**Table 6.4: Distribution of Ownership type by formality Status in 2012 (column and row percentages)**

		Formal	Informal	Total
HH ownership	Row %	42.73	57.27	100
	col %	82.08	94.43	88.73
shared with others	Row %	73.42	26.58	100
	col %	17.92	5.57	11.27
Total	Row %	46.19	53.81	100
	col %	100	100	100

The table 6.5 below explores the gender and age of the entrepreneurs. Male entrepreneurs tend to start enterprises earlier than females in both the formal and informal sectors, specifically those between the ages of 20 and 39, but they give up early also. Females owned enterprises much likely to survive.

**Table 6.5: Ownership gender and age group by formality status in 2012 (column percentages)**

age group	Formal			Informal			Total		
	male	female	Total	Male	female	Total	male	female	Total
(15_19)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
(20_29)	7.6	2.7	7.3	12.0	0.8	10.6	9.9	1.4	9.1
(30_39)	28.3	1.8	26.7	33.5	3.6	29.9	31.1	3.0	28.5
(40_49)	26.7	11.6	25.8	24.2	22.4	24.0	25.4	19.2	24.8
(50-59)	21.9	39.6	23.0	16.8	31.4	18.6	19.2	33.9	20.6
(60-64)	5.8	15.0	6.4	5.5	12.2	6.3	5.7	13.1	6.4
(65+)	9.6	29.4	10.8	7.9	29.5	10.5	8.7	29.5	10.7
Total	100	100	100	100	100	100	100	100	100

Table 6.6 looks at the education levels of the entrepreneurs. Illiteracy is a much larger obstacle for women than men, in both the formal and informal sector. Men have higher academic achievements. Interestingly however, both men and women with university level education are more prevalent in the informal sector than the formal sector.

**Table 6.6: Ownership gender and education level by formality status in 2012 (col %)**

	Formal			Informal			Total		
	male	female	Total	male	female	Total	male	female	Total
Illiterate	29.7	72.8	34.9	15.0	56.8	17.5	22.7	68.1	26.9
Reads & Writes	9.0	11.2	9.2	7.4	9.4	7.5	8.2	10.7	8.5
Less than Intermediate	22.1	9.7	20.6	19.6	8.9	19.0	20.9	9.5	19.8
Intermediate	27.8	5.5	25.1	26.1	9.5	25.1	27.0	6.7	25.1
Above Intermediate	2.5	0.0	2.2	6.4	1.8	6.1	4.3	0.5	4.0
University & Above	9.0	0.7	8.0	25.5	13.6	24.8	16.9	4.6	15.8
Total	100	100	100	100	100	100	100	100	100

**Table 6.7: Location of Operations in 2012**

	Col %			Row %		
	Formal	Informal	Total	Formal	Informal	Total
own home	4.0	22.3	13.8	13.3	86.7	100
Shop	53.0	21.7	36.1	67.8	32.3	100
another house	0.2	1.4	0.8	8.9	91.1	100
office/flat/building	10.9	0.9	5.5	91.3	8.7	100
room/ number of rooms	0.4	0.3	0.3	54.7	45.3	100
workshop/factory	9.6	4.5	6.8	64.9	35.1	100
Kiosk	0.7	1.0	0.9	39.5	60.5	100
street vendor	0.4	7.3	4.1	4.9	95.1	100
mobile worker	1.9	22.6	13.0	6.6	93.4	100
street vendor with mo	0.2	1.2	0.7	13.9	86.1	100
Hut	0.0	0.6	0.3	0.0	100.0	100
drinks fridge connect	0.1	0.7	0.4	10.6	89.4	100
drinks fridge not con	0.0	0.9	0.5	0.0	100.0	100
basket/ table	0.1	4.4	2.4	1.6	98.4	100
truck/pick-up truck	5.3	0.3	2.6	93.1	6.9	100
Taxi	8.4	0.1	3.9	98.9	1.1	100
toc-toc	1.4	3.7	2.7	25.0	75.0	100
field/ farm	0.5	1.0	0.8	31.5	68.5	100
Other	3.5	6.4	5.1	38.5	61.5	100
Total	100	100	100	46.2	53.8	100

Table 6.7 shows that the majority of MSMEs from the informal sector operate from their home, a shop, or are mobile workers. Whereas, in the formal sector, the majority operate from a shop, office building, or workshop in that order.

Finally, in terms of distribution across economic activities and markets of product, and like in the previous chapter using enterprise data, Table 6.8 shows that household enterprises are concentrated in retail trade, manufacturing, transportation, and construction (in that order), which together constitute 64.8% of the economic activity of enterprises. Table 6.9 shows that The market

for products produced by main and secondary buyer of production. It is clear that HH enterprises products are mainly directed to the individuals or consumers as main buyer (92 %). To local large private sector units and wholesalers or even government are indeed very small (5%), and export markets are below 1%.

**Table 6.8: Economic Activity of Enterprise (1-digit), based on ISIC4, ref. 1-week)**

	Percent	Freq.
G:Wholesale and retail trade; repair of	33.4	1,216,326
C:Manufacturing	12.3	447,315
H:Transportation and storage	9.3	337,473
F:Construction	8.4	304,974
A:Agriculture, forestry and fishing	4.6	167,129
P:Education	4.3	155,242
S:other service activities	3.7	134,639
M:Professional, scientific and technical	3.5	127,663
I:Accomodation and food service activity	3.2	117,753
O:Public administration and defense; co	2.7	98,057
Q:Human health and social work activity	1.5	55,455
J:Information and communication	1.1	40,931
R:Arts, entertainment and recreation	0.6	21,367
E:Water supply; sewage, waste management	0.4	14,353
K:Financial and insurance activities	0.4	12,935
N:Administrative and support service ac	0.3	11,079
D:Electricity,gas,steam and air condition	0.2	8,620
T:Activities of extraterritorial organization	0.2	7,289
L:Real estate activities	0.1	3,008
B:Mining and quarrying	0.1	2,119
NA	10.0	363,557
Total	100.0	3,283,727

**Table 6.9: Market of Products**

	Main Buyer		Secondary buyer	
	Freq.	Percent	Freq.	Percent
1. consumers / individuals	3,353,429	91.9	64,192	1.8
2. small private sector units	106,032	2.9	188,021	5.2
3. large private sector units	18,820	0.5	20,259	0.6
4. public sector units	976	0.0	6,653	0.2
5. government	13,345	0.4	2,158	0.1
6. wholesalers	62,154	1.7	32,570	0.9
7. retailers	37,608	1.0	112,210	3.1
8. investment companies			3,299	0.1
9. co-operative sector	992	0.0	619	0.0
10. exporters or foreigners	3,813	0.1		
11. contractors	41,818	1.2	54,355	1.5
12. Tourists	4,601	0.1	994	0.0
13. non- governmental or foreign organisation				
14. other	3,696	0.1	7,062	0.2
NA			3,154,892	86.5
Total	3,647,284	100	3,647,284	100

#### 6.4 Access to Finance by Size and Formality of Enterprises

We are interested to explore the extent to which financing serves as an obstacle to enterprises to expand their business, thus creating employment opportunities. Table 6.10 shows capital size and informality status. As expected, projects cannot hide (ie remain informal) as they become larger in terms of capital. Also enterprises in the informal sector rely upon much less capital than those in the formal sector, with 12% of informal enterprises not using any capital, compared to 2.6% of formal.

Now turning to sources of financing, Table 6.11 below show that data on these aspects was very patchy and unreliable in 2006, with less than 4% of household enterprises reporting that they have undertaken any borrowing at all (64 observations), and of these 35% borrowed from Nasser Social and other public sector banks. Due to the new questions asked the data is much more rich in 2012, we have detailed data on both primary and secondary source of finance.

As can be seen from Table 6.12, an overwhelming majority of MSEs use household savings as a source of finance, with 85.3% using it as either a primary or secondary source. There are a variety of sources of finance that range from formal to informal. ROSCAs are also very common in the region, with 21.5% of household enterprises engaging in a savings group.

**Table 6.10: Capital and formality status in 2012 (row and column percentages)**

	Col %			Row %		
	Formal	Informal	Total	Formal	Informal	Total
None	2.6	12.0	7.6	15.6	84.4	100
le 1 – 499	3.6	26.7	16.1	10.4	89.6	100
le 500 – 999	5.9	12.4	9.4	28.7	71.3	100
le 1,000 - 4,999	14.0	21.9	18.2	35.4	64.6	100
le 5,000 - 9,999	18.7	13.8	16.1	53.9	46.2	100
le10,000 - 49,999	27.7	9.7	18.0	71.1	28.9	100
50,000 or more	23.5	2.6	12.3	88.5	11.5	100
do not know	4.1	0.9	2.4	79.3	20.7	100
Total	100.0	100.0	100.0	46.2	53.8	100

**Table 6.11: Sources of Finance of MSEs in 2006**

Did you Borrow money to operate business. during past 12 months(1st eco. unit)			
	Freq.	Percent	Cum.
Yes	64	3.75	3.75
No	1,642	96.25	100
Total	1,706	100	

Who did you borrow money from-1st lender (1st eco. unit) ?			
	Freq.	Percent	Cum.
Nasser social bank	10	15.63	15.63
other public sector bank	24	37.5	53.13
private sector bank	5	7.81	60.94
an NGO	11	17.19	78.13
social fund for development	8	12.5	90.63
Suppliers	3	4.69	95.31
Purchasers	1	2	96.88
local money lenders	1	2	98.44
family members outside the HH	1	1.56	100
Total	64	100	

**Table 6.12: First and Second Sources of Finance of MSEs in 2012**

	First Source		Second Source	
	Count	Percentage	Count	Percentage
1. Household Savings	2,261,803	68.9	138,374	16.4
2. Inheritance	355,622	10.8	171,953	20.4
3. Loans from Relatives/ friends	234,063	7.1	226,071	26.8
4. Proceeds from ROSCA (gam3eya)	155,252	4.7	141,968	16.8
5. Remittances from abroad	5,473	0.2	16,835	2
6. Proceeds from family farm	20,276	0.6	9,930	1.2
7. Proceeds from non-farm family enterprise	2,473	0.1	2,081	0.3
8. Income from family property	36,940	1.1	32,202	3.8
9. Loans from NGO's	15,707	0.5	7,506	0.9
10. Loans from religious institutions	2,207	0.1		
11. Loans from Nasser Social Bank	15,546	0.5	3,126	0.4
12. Loans from other public sector banks	42,481	1.3	16,706	2
13. Loans from Private banks	4,930	0.2	6,481	0.8
14. Social Fund for Development	13,608	0.4	3,503	0.4
15. Loans from local money lenders	5,249	0.2	6,099	0.7
16. Others (specify)	90,015	2.7	47,509	5.6
17. don't know	19,810	0.6	14,365	1.7
	3,281,455	100	844,709	100

Table 6.13 also shows that household savings continues to play an overwhelming role even when decomposed to formal and informal enterprises. ROSCAs are more common among the informal sector, but also have a strong presence in the formal sector.

Table 6.14 shows that Women tend to rely on own savings slightly lower proportions than men, but definitely engage in more ROSCAs in financing their household owned businesses. Finally table 6.15 decomposes the sources of finance based on the size of the enterprise. NGOs, local money lenders, the Social Fund for Development, religious institutions do not provide funding for any of the enterprises with more than 10 employees, as they tend to concentrate on very small businesses. This is relevant to the literature on microfinance crowding out sources of finance for SMEs. ROSCAs see a high participation rate amongst enterprises with 100+ employees, which contradicts the common image of its primary use at the small scale.

**Table 6.13: Sources of Finance**

	First Source			Second Source		
	Formal	Informal	Total	Formal	Informal	Total
1. Household Savings	65.59	72.1	68.9	16.0	17.0	16.4
2. Inheritance	16.02	5.9	10.8	22.5	17.0	20.4
3. Loans from Relatives/ friends	5.66	8.6	7.1	26.7	26.8	26.8
4. Proceeds from ROSCA (gam3eya)	3	6.4	4.7	12.9	23.0	16.8
5. Remittances from abroad	0.22	0.1	0.2	1.5	2.8	2.0
6. Proceeds from family farm	1.11	0.2	0.6	1.0	1.4	1.2
7. Proceeds from non-farm family enterprise	0.15	0.0	0.1	0.0	0.6	0.3
8. Income from family property	1.42	0.8	1.1	5.2	1.7	3.8
9. Loans from NGO's	0.35	0.6	0.5	0.1	2.2	0.9
10. Loans from religious institutions	0.08	0.1	0.1			
11. Loans from Nasser Social Bank	0.55	0.4	0.5	0.6	0.0	0.4
12. Loans from other public sector banks	2.18	0.4	1.3	2.7	0.9	2.0
13. Loans from Private banks	0.26	0.1	0.2	1.1	0.3	0.8
14. Social Fund for Development	0.51	0.3	0.4	0.7	0.0	0.4
15. Loans from local money lenders	0	0.3	0.2	0.0	1.9	0.7
16. Others (specify)	2.3	3.2	2.7	6.6	4.1	5.6
17. don't know	0.6	0.6	0.6	2.5	0.4	1.7
Total	100	100	100	100	100	100

**Table 6.14: Sources of Finance by ownership gender**

	First Source			Second Source		
	male	female	Total	male	female	Total
1. Household Savings	69.35	64	68.93	15.23	32.9	16.38
2. Inheritance	10.91	10.02	10.84	19.72	29.42	20.36
3. Loans from Relatives/ friends	7.09	7.64	7.13	27.85	11.21	26.76
4. Proceeds from ROSCA (gam3eya)	4.12	11.82	4.73	17.03	13.64	16.81
5. Remittances from abroad	0.18	0	0.17	2.04	1.27	1.99
6. Proceeds from family farm	0.67	0	0.62	1.26	0	1.18
7. Proceeds from non-farm family enterprise	0.08	0	0.08	0.26	0	0.25
8. Income from family property	1.19	0.36	1.13	4	1.14	3.81
9. Loans from NGO's	0.46	0.74	0.48	0.75	2.85	0.89
10. Loans from religious institutions	0.04	0.35	0.07			
11. Loans from Nasser Social Bank	0.51	0	0.47	0.4	0	0.37
12. Loans from other public sector banks	1.39	0.13	1.29	2.12	0	1.98
13. Loans from Private banks	0.12	0.55	0.15	0.82	0	0.77
14. Social Fund for Development	0.39	0.68	0.41	0.44	0	0.41
15. Loans from local money lenders	0.17	0	0.16	0.77	0	0.72
16. Others (specify)	2.82	1.88	2.74	5.48	7.56	5.62
17. don't know	0.5	1.83	0.6	1.82	0	1.7
Total	100	100	100	100	100	100

**Table 6.15a: Sources of Finance of MSEs by Size of Employment 2012**

first source of finance	(1-4)	(5-9)	(10-24)	25-49	50-99	more than 100	Total
1. Household Savings	69.9	64.8	64.6	56.8	77.4	67.4	69.1
2. Inheritance	10.3	18.8	14.7	14.0	15.0	8.9	11.1
3. Loans from Relatives/ friends	7.5	5.8	2.9	15.5	5.9	6.5	7.3
4. Proceeds from ROSCA (gam3eya)	4.4	1.5	4.9	3.4	1.7	8.3	4.4
5. Remittances from abroad	0.2	0.0	0.0	0.0	0.0	0.4	0.2
6. Proceeds from family farm	0.4	0.0	0.0	0.0	0.0	0.9	0.4
7. Proceeds from non-farm family enterprise	0.1	0.0	0.0	0.0	0.0	0.3	0.1
8. Income from family property	1.2	2.8	2.4	0.0	0.0	0.5	1.3
9. Loans from NGO's	0.5	0.8	0.0	0.0	0.0	0.0	0.5
10. Loans from religious institutions	0.1	0.0	0.0	0.0	0.0	0.0	0.1
11. Loans from Nasser Social Bank	0.3	0.0	6.5	0.0	0.0	0.0	0.5
12. Loans from other public sector banks	1.2	0.0	4.0	2.3	0.0	3.7	1.4
13. Loans from Private banks	0.2	0.0	0.0	0.0	0.0	0.4	0.2
14. Social Fund for Development	0.6	0.0	0.0	0.0	0.0	0.0	0.5
15. Loans from local money lenders	0.2	0.9	0.0	0.0	0.0	0.0	0.2
16. Others (specify)	1.1	2.3	0.0	5.0	0.0	2.3	1.3
17. don't know	1.9	2.5	0.0	3.1	0.0	0.4	1.8
Total	100	100	100	100	100	100	100

**Table 6.15b: Sources of Finance of MSEs by Size of employment 2012**  
(Second source of finance)

	(1- 4)	(5 - 9)	(10 - 24)	25 - 49	50 – 99	more than 100	Total
1. Household Savings	14.4	18.9	20.0	14.1	7.8	17.1	14.9
2. Inheritance	19.8	25.7	28.2	13.9	13.1	17.5	20.0
3. Loans from Relatives/ friends	29.8	18.2	0.0	20.7	15.5	35.6	27.7
4. Proceeds from ROSCA (gam3eya)	17.3	14.0	39.3	26.6	8.8	20.6	17.5
5. Remittances from abroad	1.7	0.0	0.0	0.0	0.0	1.3	1.3
6. Proceeds from family farm	1.2	0.0	12.5	9.4	0.0	0.0	1.3
7. Proceeds from non-farm family enterprise	0.0	0.0	0.0	0.0	6.2	0.0	0.3
8. Income from family property	4.7	0.0	0.0	3.5	4.0	3.0	3.9
9. Loans from NGO's	0.8	1.7	0.0	0.0	0.0	2.3	1.0
10. Loans from religious institutions							
11.Loans from Nasser Social Bank	0.6	0.0	0.0	0.0	0.0	0.0	0.4
12. Loans from other public sector banks	2.1	2.0	0.0	0.0	5.8	2.7	2.2
13. Loans from Private banks	0.4	1.1	0.0	11.8	0.0	0.0	0.6
14. Social Fund for Development	0.4	0.0	0.0	0.0	4.5	0.0	0.5
15. Loans from local money lenders	0.0	7.7	0.0	0.0	0.0	0.0	0.8
16. Others (specify)	3.3	0.0	0.0	0.0	12.1	0.0	2.9
17. don't know	3.8	10.8	0.0	0.0	22.2	0.0	4.8

## 6.5 Determinants of Wealth of MSEs from Panel and Cross Sectional Data: 2006-2012

This section presents a detailed description of the data and variables used in the analysis. It also presents a description of the methodology used in the data analysis. This analysis uses the principal components analysis multivariate statistical technique to create an asset based household based wealth index. It then proceeds to estimate its determinants for households who own enterprises based on a variety of enterprise and entrepreneur characteristics, employing both OLS techniques for 2006 and 2012 separately, as well as using random effects pooled time series models while utilizing panel data of the two surveys 1998 -2006.

### 6.5.1 The Household Module of the 1998- 2006-2012 ELMPS Panel Data

The data used in this study is based on the Egypt Labour Market Surveys (ELMSs). These surveys were conducted in three waves (1988, 1998 and 2006) by the Economic Research Forum (ERF) in cooperation with the Central Agency for Public Mobilization and Statistics (CAPMAS). The questionnaire of the three waves was designed to allow for the comparison among the three waves. The last wave of this series of surveys was a panel of the 1998 survey. The analysis in this study is based on data of the two waves of 1998 and 2006 to measure the socioeconomic status of the households in Egypt. (see Assaad, (2006) for detailed description for these sets of surveys).

The panel data was obtained by tracing the same households that were interviewed in 1998. About three-quarters (3695 out of 4815 original households in 1998) of the households included in 1998 wave, were successfully interviewed in the 2006 ELMPS. Those households were re-interviewed successfully at 2006. They are considered as a second round of a longitudinal data of the households interviewed in 1998. The ELMPS 2012 is therefore the third round of a periodic longitudinal sample survey that tracks the same individuals in 1998 and 2006, as well as a refresher sample of 2000 households to ensure that the data remains representative. The fibal sample of ELMPS 2012 consists of 12,060 households , consisting of 6752 households from 2006 sample, 3308 new households that emerged as splits from these households as well as 2000 completely new refresher ones.

### 6.5.2 The Construction of the Wealth Index:

The assets index was constructed by applying the Principal Components Analysis (PCA) for most durable goods owned by the households, in addition to the ownership of a private car, taxi, truck, motorcycle and bicycle. Applying criteria<sup>6</sup> that exclude the variables of weights less than +/-0.04 to enhance the results, the% of explained variance increased from 22 to 29% in 1998, and from 18 to 24% at 2006. The following table shows the results of PCA before and after deleting some very low weight variables (bicycle, motorcycle, taxi and truck). In 2012, it was possible to construct a longer and more detailed wealth index, by incorporating other important assets that emerged such as mobile telephones, desktop and laptop computers. Table 6.16 shows the factor loadings (weights) of the various items as generated by the principal component analysis in each year.

**Table 6.16: Matrix principal component factor loadings (weights) for the wealth index**

short-list	1998	2006	Extended list	2012
Fridge	0.3094	0.2682	Rooms	0.3516
Freezer	0.1733	0.2332	Area	0.3216
Dish Washer	0.1054	0.164	Walls	0.2818
Color TV	0.3203	0.2959	floor_w	0.3695
Black and White TV	-0.1704	-0.2135	Roof	0.3576
Video	0.2381	0.2595	Phone	0.4297
Air Condition	0.1594	0.2482	Fridge	0.3799
Microwave	0.0467	0.1628	Freezer	0.4535
Cooker	0.2712	0.2219	Dishwash	0.2287
Kerosene Cooker	-0.2221	-0.1846	CTV	0.3791
Elect. Fan	0.2676	0.2037	OBWTV	-0.236
Water heater	0.3143	0.3037	Video	0.2918
Heater	0.186	0.2103	AC	0.5204
Sewing mach.	0.1686	0.1319	Micro	0.4053
Iron	0.3007	0.2864	Cooker	0.4986
Radio	0.1977	0.2024	Okerocook	-0.4958
Washing mach.	0.2443	0.1905	Gasov	-0.0683
Camera	0.219	0.2226	Fan	0.2687

<sup>6</sup> The Australian Bureau of Statistics, 2000, used similar criteria in calculating the socioeconomic indices for areas, in order to enhance the results and to eliminate the less significant variables.

Bicycle	0.0779	0.0485	Watheat	0.6283
Motorcycle	0.0387	0.0291	heater	0.299
Private car	0.2097	0.2574	sewing	0.1485
Taxi	0.0249	0.0152	Iron	0.5287
Truck	0.0403	0.0316	Radio	0.3102
			semiwashing	-0.3931
			autowashing	0.6558
			camera	0.3135
			bicycle	0.0662
			scooter	0.0311
			Car	0.48
			deskcomputer	0.5388
			lapcomputer	0.4201
			router	0.4207
			cellphone	0.2942
			satdish	0.4095

### 6.5.3 Panel Data Analysis (Fixed and Random Effects models):

Because of the need in family research for dealing with panel data that consist of more than two points of time, Johnson (1995) presented a suitable method for dealing with more than two waves panel data and continuous dependent variable. This method called pooled time-series analysis. The fixed and random effects models for pooled time series data developed by econometricians to analyze pooled time series cross-section data, but it has much potential for analysis of two or more waves of panel data in family research.. The two models (fixed and random effects) have two advantages, their ability to capture the variation in number and timing of waves and the ability to allow the unit to be included in the analysis if it were existed in at least two waves.

#### - Fixed Effects Model:

The fixed effects model is suitable to deal with panel data composed of only two waves (Johnson, 1995). In this case, the model is easy to handle like ordinary least squares regression analysis. A simple model can be formulated as follows:

$$(Y_{i2} - Y_{i1}) = a + b(X_{i2} - X_{i1}) + e_i, i=1, \dots, n$$

Where,  $Y_{ij}$  the dependent variable for individual  $i$  at time  $j$

$X_{ij}$  a vector of the explanatory variables for individual  $i$  at time  $j$ ,

$a$  constant term,

$b$  the effect of changes in  $X$  on changes in  $Y$ ,

and  $e$  is the error term.

This model can be estimated using ordinary least squares regression. Another method can be used to estimate the coefficients in fixed effects model through creating a set of  $n-1$  dummy variables to be added to the OLS regression analysis where  $n$  is the number of waves included in the analysis. This estimation method only retains the within individual variations at the model.

#### - Random Effects model:

This method includes an additional assumption is that the unobserved variations between individuals are random variables. The model in this case can be formulated as follows:

$$Y_{it} = \alpha + \beta X_{it} + e_{it}$$

Where  $\alpha$  overall constant,

$X_{it}$  vector of explanatory variables for individual  $i$  at time  $t$

$\alpha$  constant for time  $i$ ,

and  $e_{it}$  is within time periods error term.

The between effects model uses only the cross sectional information and asks "what is the expected difference in  $Y$  between two households' SES that differ by 1 in  $X$ 's". While a fixed effects model uses only the time-series information and asks "what is the expected change in the SES ( $Y$ ) if its values of  $X$ 's increases by 1". The random effects model combines those two questions. The random effects estimator is the weighted average of the within (fixed effects) estimators and the between (group) estimators. The treatment of individual effects can be measured by using the two options (fixed effects and random effects).

#### - Hausman Test (Fixed or Random):

The Hausman test examine whether the fixed effects or random effects model is appropriate for the data under study. Specifically, It tests  $H_0: E(u | x_{it}) = 0$

If there is no correlation between regressors and effects (do not reject  $H_0$ , then fixed effects and random effects are both consistent, but fixed effects is inefficient.

Calculate  $\hat{\beta}_{RE} - \hat{\beta}_{FE}$  and its covariance. If there is correlation, FE is consistent and RE is inconsistent (Reject  $H_0$ ). Under the null hypothesis of no correlation, there should be no differences between the two estimators. The covariance of an efficient estimator with its difference from an inefficient estimator should be zero. Thus, under the null hypothesis we test:

$$W = (\hat{\beta}_{RE} - \hat{\beta}_{FE})' \hat{\Sigma}^{-1} (\hat{\beta}_{RE} - \hat{\beta}_{FE}) \sim \chi^2(k)$$

If  $W$  is significant, we should not use the random effects estimator.

#### 6.5.4 Sample characteristics and Transition Matrices

Table 6.17 below shows means and standard deviations of variables used in determinants of wealth analysis. Comparison of 2006 and 2012 samples show an increase in wealth score, increase in informality, increase in services (but trade is still dominant). The sample is equally distributed between urban and rural areas. There was relative stability in distribution of capital, but a slight increase in share of 10-49 enterprises and decline in the share of 1-9 employees between 2006 and 2012. Also age and education of entrepreneur increased between the two rounds, Finally, we define four main categories: Bank and other formal finance (Nasser Social Bank, loans from public and private sector Banks, Social Fund for Development, Loans from local money lenders), ROSCA finance, Other informal ( household savings, inheritance, loans from relatives/friends, remittances from abroad, proceeds from farm and non-farm family enterprises, family property, loans from NGOs and other religious institutions), and others/unclassified. Data was only available in 2012 and

shows that the distribution is 14% Bank finance, 20% ROSCA finance, 40% other informal and 34% unclassified or unknown.

**Table 6.17: Means and Standard Deviation of Determinants of HH Wealth Status variables , 2006-2012**

Variable	2012					2006				
	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
Household wealth score	2236	0.19	0.96	2.71	4.25	1986	0.14	0.88	2.73	2.58
formal_ent	2236	0.46	0.50	0	1	1986	0.66	0.47	0	1
Economic Activity										
NewEaActReg==Agriculture	2236	0.05	0.21	0	1	1986	0.08	0.28	0	1
NewEaActReg==Industry	2236	0.21	0.41	0	1	1986	0.20	0.40	0	1
NewEaActReg==Trade	2236	0.33	0.47	0	1	1986	0.36	0.48	0	1
NewEaActReg==Service	2025	0.34	0.47	0	1	1986	0.27	0.44	0	1
Location										
Urban	2236	0.51	0.50	0	1	1986	0.63	0.48	0	1
Rural	2236	0.49	0.50	0	1	1986	0.37	0.48	0	1
Tot Num of Workers										
Tot Number of workers (1-9)	2025	0.84	0.37	0	1	1982	0.99	0.11	0	1
Tot Number of workers (10-49)	2025	0.08	0.27	0	1	1982	0.01	0.11	0	1
Tot Number of workers (50 +)	2025	0.08	0.27	0	1	1982	0.00	0.03	0	1
Newvaluekap=(Less than 1000)										
Newvaluekap=(1000 - 10,000)	2236	0.45	0.50	0	1	1968	0.42	0.49	0	1
Newvaluekap=(10,000 - 49,999)	2236	0.34	0.47	0	1	1968	0.34	0.48	0	1
Newvaluekap=(10,000 - 49,999)	2236	0.20	0.40	0	1	1968	0.23	0.42	0	1
Outside estab.	2025	0.40	0.49	0	1	1821	0.37	0.48	0	1
Inside estab.	2025	0.60	0.49	0	1	1821	0.63	0.48	0	1
education 2 Categ. (less intermediate, and intermediate and above)										
education 2 Categ. (less intermediate, and intermediate and above)	2234	0.45	0.50	0	1	1986	0.38	0.49	0	1

sources_Finance==DK_Others	2236	0.13	0.34	0	1					
sources_Finance==ROSCA	2236	0.04	0.20	0	1					
sources_Finance==Other_Informal	2236	0.81	0.40	0	1					
sources_Finance==Formal_Loan	2236	0.02	0.14	0	1					
Age	2236	46.07	13.37	18	91	1986	45.90	13.40	19	90
age Square	2236	2301.24	1335.67	324	8281	1986	2286.39	1315.97	361	8100

Table 6.18 shows transition matrices for the changes in wealth status across quintiles for the two periods understudy. The figures indicate that between 1998 and 2006, the wealth of some households increased. This trend is clearly apparent in low-wealth household groups. Around 40% of the HHs in the lowest quintile in 1998 were able to move up to a higher wealth status. The same trend applies to the three following quintiles. Meanwhile, other quintiles—especially the highest quintile in 1998—experience a drop in their wealth status. However, when comparing the households' wealth distribution in 1998 (reflected in the last column) with that of 2006 (reflected in the last row), one can identify a slight improvement in the HHs' situation in 2006. The change is apparent especially in the last wealth quintile where the percentage of households rose from 28.6% in 1998 to 30.6% in 2006.

The second period from 2006-2012 shows a definite trend towards compression with two important changes: (1) the proportion who moved up from the bottom quintiles are 54%, as opposed to 40% in the previous period and (2) the proportion who moved down from top quintile are 45% instead of 31% in previous period. If we aggregate in the last two columns (% who moved down and up) 151% of sample moved down and 164% moved up in 2006-2012 as opposed to 129% and 153% respectively in 1998-2006. Overall wealth slightly increased but with this clear compression, much similar to trends on wage inequality documented in Chapter 4 for all wage earners over the same period.

**Table 6.18: Changes in the Wealth Distribution of Households by Quintiles (1998-2006; 2006-2012)**

Wealth Quintiles 1998	Wealth Quintiles 2006						Total	% moved up	% moved down
	1	2	3	4	5				
1	60.83	24.93	6.55	6.87	0.82	100	39.17	-	
2	24.22	35.47	19.1	13.99	7.22	100	40.31	24.22	
3	6.7	17.48	32.56	26.23	17.03	100	43.26	24.18	
4	2.95	14.06	32.61	19.99	30.39	100	30.39	49.62	
5	0.58	4.8	9.16	16.29	69.17	100	-	30.83	
						column totals	153.13	128.85	

Wealth Quintiles 2006	Wealth Quintiles 2012						Total	% moved up	% moved down
	1	2	3	4	5				
1	46.1	30.2	15.6	6.0	2.1	100	53.88	-	
2	24.5	29.9	22.5	15.8	7.2	100	45.55	24.52	
3	14.5	24.5	23.6	23.1	14.2	100	37.30	39.07	
4	8.0	13.6	21.6	29.2	27.6	100	27.59	43.22	
5	2.3	6.9	12.2	23.7	54.8	100	-	45.18	
						column totals	164.32	151.99	

### 6.5.5 Estimation Results from Panel and Cross Sectional and Panel Analysis

In order to understand the relationship between changes in households' wealth status and changes in the characteristics of the enterprise, the entrepreneur and the household itself. We estimated two models : the first model includes the main characteristics of the MSE itself: such as the informality, the number of workers, the economic activity, the value of capital, the location of enterprise (urban/rural), being inside/outside an establishment.

The second model includes the above, as well as owner characteristics in terms of age and education. Regarding the educational level of owner, it is re-classified into 2 categories less than secondary (takes value 0) and secondary and above (takes value 1). In Addition for 2012, we are able to include in the second model the different categories for sources of finance. Since the dependent variable is continuous and the explanatory variables are binary and continuous, the fixed and random effects time series models were investigated in the panel for 1998-2006 (Table 6.19). Then, Hausman test was applied to investigate between fixed or random effects models. For comparative purposes, and to update analysis for 2012 data we also include the cross-sectional regressions for 2006 and 2012 separately in Table 6.20 below. This also allows to look at the effect of different sources of finance as mentioned above as it would not be possible in panel (due to absence or patchiness of such data in 2006)

In our case, in 1998-2006 the Hausman test (the null hypothesis tested is that the coefficients estimated by random effects estimator are the same as the ones estimated by fixed effects estimator) was implemented and the result was insignificant (can not reject  $H_0$ ) this implies that random effects model should be used. The interpretation of coefficients is similar to the OLS case, except that in the panel, they measure the difference between the two waves from the mean. Formality has significant and positive effect on the wealth index (model 1 and 2). It increases the wealth by 23% for model 1 and 20% for model 2. The urban and rural as well as formality, existing in rural areas decreases the wealth by 40% and 38% for model 1 and 2 respectively.

The wealth index significantly increases with all categories of size of employment and current capital of the enterprises (model 1 and 2). The wealth index significantly increases with education level (model 2), it has a rate of return 47%. However, being a female owned the enterprise decreases the wealth by 23.4% (model 2). The increasing of the age of the owner by one year significantly increases the wealth of the household by 4.5%.

The results of the two models is cross-sectional analysis reveal several interesting results. The factors that changed and thus played a crucial role in raising the households' wealth status between the two comparative years include: The change in the formality status of the enterprise and its relative stability in the market played a major role in changing the household's wealth status and its ability to move to a higher wealth score. The change in the geographical location of the enterprise to urban areas has proven to be of positive influence on the socioeconomic status of the household. The growth in the size of MSEs —especially in the employment category of more than 10 workers or capital size that is more than LE 1,000— was associated with a more positive impact on the household's wealth status. The older age of the entrepreneur, which is usually associated with more work experience proved to play a significant role in improving the household's wealth status as well as the education of the entrepreneur. Interestingly enough the specialization in industry or manufacturing results in higher wealth, specialization in trade is insignificant and finally agriculture has a negative impact (just like rural location)

Finally the most interesting results for 2012, relate to access to finance. Recall that we define four sources of finance: Bank and other formal finance, ROSCA finance, Other informal, and others/unclassified. Of all the above sources, access to finance through ROSCAs was indeed the most significant and largest determinant of higher wealth status. This is followed by other informal sources defined above which were also superior and more significant to bank/formal finance.

The above estimates should be thought of as providing only preliminary estimates of the relationship between enterprise, entrepreneur and finance on household wealth. It is likely to suffer from various endogeneity and selection problems and hence should be interpreted with care. Future drafts of this research will examine other variables such as household expenditure (extrapolated from household expenditure surveys on household characteristics), to avoid problems joint determination of wealth and determinants of enterprise success that affect the current framework.

**Table 6.19: Random Effects estimates of Determinants of Welfare Score of Household Enterprises, 1998-2006**

VARIABLES	RE Model 1	RE Model 2
formal_ent	0.2313*** (0.0324)	0.2004*** (0.0310)
NewEaActReg==Agriculture	-0.4182*** (0.0507)	-0.3196*** (0.0492)
NewEaActReg==Industry	0.0381 (0.0407)	0.1194*** (0.0391)
NewEaActReg==Trade	-0.0968*** (0.0347)	-0.0020 (0.0338)
Urban/Rural	-0.4024*** (0.0306)	-0.3759*** (0.0293)
NewTotNumWrkrEntGrp== (10-50)	0.4227*** (0.0959)	0.3536*** (0.0914)
NewTotNumWrkrEntGrp== 50 +	0.5841* (0.3207)	0.4980 (0.3054)
Newvaluekap== (10,000 - 50,000)	0.3128*** (0.0344)	0.2797*** (0.0330)
Newvaluekap== 50,000 +	0.6373*** (0.0361)	0.5331*** (0.0350)
InOutEstab== Insude	0.4370*** (0.0326)	0.3250*** (0.0319)
Educational Attainment (Less Secondary omitted)		0.4713*** (0.0307)
Age		0.0451*** (0.0067)
ageSqr		-0.0004*** (0.0001)
Female		-0.2340*** (0.0547)
Constant	0.0595 (0.0621)	-1.1994*** (0.1681)
Observations	2761	2761
Hauseman Test:		
chi2(9) =	9.83	5.55
Prob>chi2	0.3643	0.8516

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6.20: Ordinary Least Squares Estimates of Determinants of HH Wealth Status, 2006- 2012**

<u>Independent Variable: Wealth index</u>	<u>2006</u>		<u>2012</u>
	<u>Model excl. sources of finance</u>	<u>Model excl. sources of finance</u>	<u>Model incl. sources of finance</u>
Formal Enterprise	0.1564*** (0.0378)	0.4660*** (0.0374)	0.4644*** (0.0376)
NewEaActReg==Agriculture	-0.1206* (0.0692)	0.0086 (0.0814)	0.0003 (0.0811)
NewEaActReg==Industry	0.1039** (0.0472)	0.1892*** (0.0457)	0.1778*** (0.0456)
NewEaActReg==Trade	-0.0166 (0.0409)	0.0439 (0.0426)	0.0397 (0.0424)
Region==rural	-0.3842*** (0.0361)	-0.5180*** (0.0343)	-0.5102*** (0.0344)
Tot Number of workers (10-49)	0.5317*** (0.1480)	0.1866*** (0.0663)	0.1990*** (0.0661)
Tot Number of workers (50 +)	0.3923 (0.4916)	0.1858*** (0.0646)	0.1767*** (0.0646)
value of Capital =(1000 - 10,000)	0.2834*** (0.0394)	-0.0326 (0.0373)	-0.0666* (0.0380)
value of Capital= (10,000 - 49,999)	0.5262*** (0.0453)	0.0224 (0.0452)	-0.0046 (0.0456)
Location=inside Establishment	0.3201*** (0.0386)	0.2498*** (0.0396)	0.2441*** (0.0395)
Owner Secondary and Above Education	0.4757*** (0.0373)	0.6148*** (0.0373)	0.6244*** (0.0372)
Owner age	0.0397*** (0.0084)	0.0326*** (0.0086)	0.0322*** (0.0086)
Owner ageSqr	-0.0004*** (0.0001)	-0.0003*** (0.0001)	-0.0003*** (0.0001)
sources_Finance==ROSCA			0.3903*** (0.1362)
sources_Finance==Other_ Informal			0.1894* (0.1098)
sources_Finance=Unclassified			0.0121 (0.1191)
Constant	-1.4544*** (0.1990)	-1.1438*** (0.2054)	-1.2918*** (0.2330)
Observations	1806	2023	2023
R-squared	0.379	0.413	0.419

## 6.6 Conclusion

Like with enterprise data, results based on latest house-hold level micro and small enterprises data in Egypt presented in this chapter reveal that the structure of MSEs is relatively small and mainly concentrated in the range of 2-4 employees and this proportion has been drastically increasing over time, particularly as a coping mechanism in recent recessionary times. There is a large degree of informality among MSEs and this has also been increasing consistently since 1988 and more significantly since 2006. The majority of enterprises are concentrated in trade and the main source of capital for MSEs comes from own savings of the entrepreneurs or inheritance sources such as loans , as well as informal sources like family loans and ROSCAs.

More in-depth analysis of wealth status of households based on transition matrices for the changes in wealth status across quintiles for 2006-2012 shows a definite trend towards compression with the proportion who moved up from the bottom quintiles a the proportion who moved down from top quintile much higher than in 1998-2006. Overall wealth slightly increased but with this clear compression, much similar to trends on wage inequality documented in Chapter 4 for all wage earners over the same period.

Regression analysis based on cross-sectional and panel data with MSEs indicate that they are more likely to prosper the larger in size (more than 10 workers and relatively high levels of capital), and this indicates that any policy aiming to sustain and develop MSEs should help them increase their capital through providing continuous and secure access to finance and technical assistance. The positive changes in the enterprise (size, formality and capital) or the entrepreneur's characteristics ( age and education) affect the household's wealth status positively. These positive changes could be triggered and enhanced by continuous training programs that target both entrepreneur and workers which are necessary enabling conditions. Training in areas such as domestic and international marketing, technical aspects of the production process, legal, financial and administrative procedures is required to enable the enterprise to improve their products, add new lines and innovate. Such developments will reflect positively on the entrepreneurs' and also the workers' income and wealth status, and thus will help in poverty reduction.

The results in this chapter based on both descriptive and regression analysis, show that formal loans play a very modest role in financing MSEs, therefore the government should look into the procedures adopted by the banks and try to improve and facilitate them. They also single out one rather promising form of informal financing for household enterprises in Egypt: ROSCAs, which account for a significant proportion of sources of finance for both small and larger enterprises that exceeds both bank loans and household savings. RoSCA finance is also compatible with Islamic rules, especially as it promotes mutual co-operation which arguably conforms to both the spirit as well as the letter of Islamic prohibitions of *riba* (interest) and *gharar* (excessive risk).

Field experiments conducted by El Gamal, El-Komi , Karlan and Osman (2011) in Egyptian villages indicate that ROSCAs can be superior to Grameen type loans for MSEs on grounds of higher take-up rates and good equilibrium. However there are problems with RoSCA on its own (the fact that there is wither zero or low penalty attached to their normal applications), hence a bank guarantee is needed for coordination failure. One policy implication of this finding is to explore the potential for 'formalizing' or extension of these schemes in bank or credit-union guaranteed sets ups, to generate higher take-up and repayment rates, and hence bolster the contribution of MSE's to employment creation and poverty alleviation.

## APPENDIX TABLES

Appendix Table 3.1: Inclusive Growth Scores Based on Country Ranking for Selective Indicators (averaged for 2000-02)

	Growth		Health and Demographics				Labour Force and Employment		Gender
	GDP Growth	GDP per capita Growth	Health expenditure (% GDP)	Mortality rate, under-5 (per 1,000)	Life Expectancy at Birth	Tuberculosis (per 100,000 people)	Wage & Salaried (% of total employment)	Employment-to-Population Ratios (% of 15+)	Female Labour Force (% of total workforce)
<b>North Africa</b>									
Algeria	108	110	164	119	108	107	72	172	180
Egypt	85	105	98	116	116	58	74	161	171
Libya	185	187	151	90	75	80		147	163
Morocco	72	70	135	127	117	124	99	151	164
Tunisia	93	89	90	93	73	53	64	163	166
<b>Other Middle East</b>									
Iran	41	46	127	115	111	64		165	174
Israel	123	152	46	28	11	26	25	135	57
Jordan	51	84	14	91	80	22	44	169	179
Lebanon	120	133	10	67	99	42		162	169
Saudi Arabia	158	174	144	71	88	46		146	178
Syria	63	112	128	80	57	70	89	154	172
Turkey	138	143	117	102	112	83	91	150	162
Yemen	61	120		151	154	123		164	167
<b>Other LDCs</b>									
China	13	15	134	101	90	119		22	72
Chile	103	98	70	43	33	57	62	134	149
Brazil	128	129	52	105	106	91	67	61	98
India	70	82	132	143	151	156		90	160
Indonesia	68	68	186	126	133	150	103	59	131
South Korea	25	20	122	20	43	103	68	76	104
Malaysia	55	87	170	41	78	113	54	66	141
Mexico	137	140	112	92	53	62	69	83	148
Russia	24	16	102	75	136	131	8	105	22
South Africa	97	121	24	135	171			167	89
<b>Countries included</b>	<b>200</b>	<b>200</b>	<b>188</b>	<b>193</b>	<b>202</b>	<b>200</b>	<b>115</b>	<b>173</b>	<b>183</b>
<b>Missing Countries</b>	<b>14</b>	<b>14</b>	<b>26</b>	<b>21</b>	<b>12</b>	<b>14</b>	<b>99</b>	<b>41</b>	<b>31</b>
<b>Total Countries</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>

**Appendix Table 3.1 Cont'd: Inclusive Growth Scores Based on Country Ranking for Selective Indicators (averaged for 2000-02)**

	<b>Education</b>	<b>Sanitation</b>	<b>Inequality</b>	<b>Governance</b>	<b>Inclusive Growth Index (IG<sub>i</sub>)<sup>(a)</sup></b>
	<b>Ratio of Female to Male Secondary Enrolment (%)</b>	<b>Population Using Improved Sanitation Facilities (%)</b>	<b>Gini Index (2000-04)</b>	<b>Corruption Perception Index</b>	<b>max = 100 min = 0</b>
<b>North Africa</b>					
Algeria	52	66			36.1
Egypt	126	84	22	60	47.3
Libya	39	46			39.0
Morocco	141	117	63	45	38.5
Tunisia	65	95	66	33	51.8
<b>Other Middle East</b>					
Iran	124	71			44.2
Israel	98	1	54	19	79.3
Jordan	59	39	52	39	66.5
Lebanon		39			57.5
Saudi Arabia					31.4
Syria	129	79	39		46.4
Turkey	145	84	75	56	35.8
Yemen	169	144			19.6
<b>Other LDCs</b>					
China	122	135	72	60	63.2
Chile	76	65	102	18	59.7
Brazil	23	107	111	47	53.0
India	149	160		70	29.3
Indonesia	112	141	11	90	46.0
South Korea	95	1		43	77.1
Malaysia	27	62	50	35	60.8
Mexico	63	105	91	56	47.5
Russia		111	48	77	69.1
South Africa	26	106	108	36	51.4
<b>Countries included</b>	<b>170</b>	<b>189</b>	<b>116</b>	<b>94</b>	
<b>Missing Countries</b>	<b>44</b>	<b>25</b>	<b>98</b>		
<b>Total Countries</b>	<b>214</b>	<b>214</b>	<b>214</b>		

**Notes:**

<sup>(a)</sup> The overall inclusive scores for each country ( $IG_i$ ) are computed as a geometric mean for that country of the standardised values for different indicators (defined below) according to the following formula:

$$IG_i = \sqrt[n]{s_{1i} \cdot s_{2i} \dots s_{ji}} \quad (1)$$

where:

( $i = 1, \dots, m$ : country  $i$  included in the dataset);

( $j = 1, \dots, n$ : indicator  $j$  included in the dataset); and

$s_j$  is a standardised score for the rankings obtained in respect of indicator  $j$  for country  $i$ . These standardised scores are obtained using the following formula (for each indicator for each country):

$$s_{ji} = 100 \cdot \left( \frac{m_j - r_j}{m_j - 1} \right)_i \quad (2)$$

where  $r_j$  is a country's rank in respect of indicator  $j$  in (descending order) and  $m_j$  is the total number of countries for which data for indicator  $s_j$  is available.

Source: WDI (2012) and Transparency International (2012) for The Corruption Perception Index.

Appendix Table 3.2: Inclusive Growth Scores Based on Country Ranking for Selective Indicators (averaged for 2008-10)

	Growth		Health and Demographics				Labour Force and Employment		Gender
	GDP	GDP per capita	Health expenditure	Mortality rate,	Life Expectancy	Tuberculosis	Wage & Salaried	Employment-to-Population	Female Labour Force
	Growth	Growth	(% GDP)	under-5 (per 1,000)	at Birth	(per 100,000 people)	(% of total employment)	Ratios (% of 15+)	(% of total workforce)
<b>North Africa</b>									
Algeria	99	96	157	120	100	119		167	179
Egypt	38	37	144	107	98	57		153	170
Libya	95	103	170	87	69	89		140	162
Morocco	56	42	133	126	110	121	81	149	164
Tunisia	80	65	96	88	71	74		161	165
<b>Other Middle East</b>									
Iran	113	108	113	111	103	57	77	165	176
Israel	85	95	61	27	9	16	22	123	49
Jordan	53	60	44	100	89	17	38	169	177
Lebanon	12	8	68	57	105	51		156	169
Saudi Arabia	92	119	165	58	81	55		146	183
Syria	60	64	173	80	56	60	69	166	180
Turkey	120	123	94	86	85	77	71	155	163
Yemen	51	77	124	156	145	98		158	168
<b>Other LDCs</b>									
China	9	1	141	82	92	116		25	85
Chile	97	78	55	52	35	58	55	119	136
Brazil	70	50	48	89	97	93	64	52	95
India	18	15	160	144	143	157		111	167
Indonesia	39	23	183	124	125	156	87	65	135
South Korea	93	68	86	30	18	124	58	88	113
Malaysia	81	79	153	41	77	117	52	85	148
Mexico	146	149	98	85	45	53	65	86	146
Russia	136	113	136	65	127	128	4	91	22
South Africa	121	121	40	141	178	201	36	159	100
<b>Countries included</b>	<b>194</b>	<b>194</b>	<b>187</b>	<b>193</b>	<b>196</b>	<b>202</b>	<b>92</b>	<b>173</b>	<b>184</b>
<b>Missing Countries</b>	<b>20</b>	<b>20</b>	<b>27</b>	<b>21</b>	<b>18</b>	<b>12</b>	<b>122</b>	<b>41</b>	<b>30</b>
<b>Total Countries</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>214</b>	<b>2</b>	<b>214</b>

**Appendix Table 3.2 Cont'd: Inclusive Growth Scores Based on Country Ranking for Selective Indicators (averaged for 2008-10)**

	<b>Education</b>	<b>Sanitation</b>	<b>Inequality</b>	<b>Governance</b>	<b>Inclusive Growth Index (IG<sub>i</sub>)<sup>(a)</sup></b>
	<b>Ratio of Female to Male Secondary Enrolment (%)</b>	<b>Population Using Improved Sanitation Facilities (%)</b>	<b>Gini Index (2005-10)</b>	<b>Corruption Perception Index</b>	<b>max = 100  min = 0</b>
<b>North Africa</b>					
Algeria	72	61		103	34.5
Egypt	119	61	14	108	55.2
Libya		51		134	38.6
Morocco		113	55	85	43.5
Tunisia	35	88	60	62	52.4
<b>Other Middle East</b>					
Iran	114	1	44	152	57.0
Israel	69	1		32	82.5
Jordan	41	44	30	49	66.5
Lebanon	13			120	71.1
Saudi Arabia	131			64	40.2
Syria	83	67		133	46.7
Turkey	133	79	51	58	44.2
Yemen	158	128	41	147	33.9
<b>Other LDCs</b>					
China	40	118	64	76	74.1
Chile	58	54	87	23	62.8
Brazil		99	93	75	55.8
India	134	146	21	85	51.4
Indonesia	89	127	25	116	50.3
South Korea	98	1		39	73.2
Malaysia	26	54	73	53	57.6
Mexico	28	91	80	86	52.1
Russia	113	111	59	149	56.2
South Africa	47	98	98	54	44.4
<b>Countries included</b>	<b>163</b>	<b>178</b>	<b>99</b>	<b>179</b>	
<b>Missing Countries</b>	<b>51</b>	<b>36</b>	<b>115</b>		
<b>Total Countries</b>	<b>214</b>	<b>214</b>	<b>214</b>		

Notes and Sources as for Appendix Table 3.1.

Appendix Table 4. A 1: Means and Standard Deviations of Variables by Sector and Gender, Egypt, 2006

Variable	Male						Female						Total	
	Government		Public Enterprise		Private		Government		Public Enterprise		Private		mean	S.D.
	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.
Real Hourly Wage	8.52	25.82	10.37	21.22	5.28	9.46	12.51	50.85	9.18	12.37	5.94	22.38	7.55	25.39
Real Monthly Earnings	1598.20	5033.34	2106.65	4686.13	1156.05	1929.47	1235.36	3742.10	1469.91	1601.77	742.44	1264.52	1324.27	3466.41
Log Real Hourly Wage	1.63	0.80	1.84	0.85	1.35	0.68	1.77	0.94	1.77	0.89	0.95	0.97	1.49	0.81
Experience	22.07	11.82	22.22	12.46	23.10	37.95	16.58	9.92	16.99	12.07	19.44	16.19	17.44	36.29
illiterate	0.07	0.26	0.09	0.28	0.20	0.40	0.02	0.13	0.04	0.21	0.37	0.48	0.78	1.76
Literate without Diploma	0.05	0.22	0.08	0.27	0.14	0.34	0.01	0.09	0.00	0.00	0.10	0.30	0.37	1.22
elementary school	0.07	0.26	0.11	0.31	0.16	0.37	0.00	0.06	0.03	0.17	0.12	0.32	0.49	1.49
Middle School	0.04	0.20	0.08	0.26	0.10	0.31	0.01	0.09	0.00	0.00	0.09	0.29	0.32	1.14
General High school	0.01	0.09	0.01	0.09	0.05	0.22	0.00	0.06	0.01	0.12	0.05	0.21	0.13	0.79
Vocational high school	0.32	0.47	0.35	0.48	0.24	0.43	0.40	0.49	0.57	0.50	0.19	0.40	2.09	2.76
post-secondary institute	0.09	0.28	0.09	0.28	0.03	0.16	0.12	0.33	0.06	0.24	0.02	0.15	0.41	1.44
University	0.35	0.48	0.20	0.40	0.08	0.28	0.43	0.50	0.28	0.45	0.06	0.24	1.40	2.34
Alexandria and Canal Cities	0.08	0.27	0.25	0.43	0.10	0.30	0.14	0.34	0.33	0.47	0.10	0.30	0.99	2.11
Urban Lower Egypt	0.13	0.33	0.13	0.34	0.12	0.33	0.19	0.39	0.11	0.32	0.13	0.33	0.81	2.04
Rural Lower Egypt	0.27	0.44	0.18	0.38	0.26	0.44	0.18	0.39	0.11	0.32	0.25	0.44	1.25	2.41
Urban Upper Egypt	0.23	0.42	0.16	0.36	0.17	0.38	0.28	0.45	0.14	0.35	0.17	0.37	1.14	2.33
Rural Upper Egypt	0.16	0.37	0.07	0.26	0.23	0.42	0.06	0.23	0.01	0.12	0.23	0.42	0.77	1.82
Greater Cairo	0.13	0.34	0.21	0.41	0.12	0.33	0.16	0.37	0.29	0.46	0.13	0.33	1.04	2.23
<b>Sample Size</b>	<b>1950</b>		<b>491</b>		<b>3427</b>		<b>1023</b>		<b>68</b>		<b>416</b>		<b>7558</b>	

Note: With the exception of real hourly wages, log real hourly wages, monthly earnings and the experience variables, all variables in the above table are dummies, therefore the mean refers to the percentage of the relevant variable in the sample.

**Appendix Table 4. A2: Means and Standard Deviations of Variables by Sector and Gender, Egypt, 2012**

Variable	Male						Female						Total	
	Government		Public Enterprise		Private		Government		Public Enterprise		Private		mean	S.D.
	Mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.		
Real Hourly Wage	7.50	10.89	8.32	7.90	5.68	13.25	6.92	7.76	12.23	31.76	4.53	6.50	6.35	11.90
Real Monthly Earnings	1283.60	1573.70	1626.91	1380.23	1068.17	1174.54	1059.60	1066.39	1429.75	1098.20	781.72	883.59	1128.81	1269.81
Log Real Hourly Wage	1.68	0.76	1.83	0.75	1.44	0.66	1.66	0.71	1.88	0.88	1.12	0.82	1.53	0.72
Experience	23.65	11.38	20.81	11.54	19.72	13.89	18.74	11.19	16.67	13.08	19.42	14.23	22.87	15.82
Experience2	688.88	571.90	565.89	566.58	582.00	771.94	476.28	458.21	445.41	554.64	579.51	735.90	773.62	968.36
illiterate	0.07	0.25	0.06	0.24	0.24	0.43	0.01	0.12	0.04	0.20	0.50	0.50	0.24	0.43
Literate without Diploma	0.03	0.18	0.04	0.19	0.06	0.23	0.01	0.07	0.04	0.20	0.03	0.18	0.10	0.30
elementary school	0.06	0.24	0.08	0.27	0.14	0.35	0.00	0.06	0.00	0.00	0.08	0.27	0.14	0.35
Middle School	0.04	0.20	0.06	0.25	0.07	0.26	0.01	0.12	0.04	0.20	0.04	0.19	0.09	0.29
General High school	0.03	0.16	0.02	0.15	0.03	0.16	0.02	0.14	0.02	0.14	0.01	0.12	0.05	0.22
Vocational high school	0.35	0.48	0.40	0.49	0.32	0.47	0.34	0.47	0.29	0.46	0.19	0.39	0.23	0.42
post-secondary institute	0.06	0.24	0.08	0.28	0.03	0.16	0.07	0.25	0.12	0.33	0.02	0.14	0.03	0.16
University	0.36	0.48	0.26	0.44	0.12	0.32	0.53	0.50	0.45	0.50	0.12	0.33	0.12	0.33
Greater Cairo	0.10	0.30	0.18	0.39	0.10	0.30	0.14	0.35	0.39	0.49	0.12	0.32	0.11	0.31
Alexandria and Canal Cities	0.07	0.26	0.29	0.46	0.07	0.26	0.12	0.32	0.35	0.48	0.07	0.25	0.08	0.27
Urban Lower Egypt	0.12	0.33	0.09	0.29	0.11	0.31	0.17	0.38	0.08	0.27	0.08	0.28	0.11	0.31
Rural Lower Egypt	0.19	0.39	0.08	0.27	0.13	0.33	0.22	0.42	0.08	0.27	0.10	0.30	0.14	0.35
Urban Upper Egypt	0.31	0.46	0.23	0.42	0.29	0.46	0.24	0.43	0.04	0.20	0.30	0.46	0.28	0.45
Rural Upper Egypt	0.21	0.41	0.12	0.33	0.29	0.45	0.10	0.30	0.06	0.24	0.33	0.47	0.28	0.45
<b>Sample Size</b>	<b>2306</b>		<b>435</b>		<b>5579</b>		<b>1321</b>		<b>51</b>		<b>416</b>		<b>10160</b>	

Note: With the exception of real hourly wages, log real hourly wages, monthly earnings and the experience variables, all variables in the above table are dummies, therefore the mean refers to the percentage of the relevant variable in the sample.

Appendix Table 4. A3: Means and Standard Deviations of Variables by Sector and Gender, Jordan, 2010

Variable	Male				Female				Total	
	Government		Non-Government		Government		Non-Government		mean	S.D.
	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.		
Log Real Hourly Wages	0.65	0.59	0.28	0.74	0.75	0.56	0.35	0.98	0.50	0.78
Experience	12.60	7.98	14.99	10.64	10.82	8.22	9.31	8.71	14.02	10.48
Illiterate	0.01	0.10	0.05	0.21	0.01	0.12	0.05	0.22	0.03	0.17
Reads and writes	0.03	0.17	0.07	0.25	0.03	0.16	0.05	0.22	0.07	0.26
Basic	0.33	0.47	0.37	0.48	0.08	0.27	0.19	0.39	0.38	0.49
Vocational	0.00	0.00	0.03	0.18	0.00	0.04	0.00	0.07	0.01	0.11
Secondary	0.19	0.39	0.16	0.37	0.09	0.28	0.11	0.32	0.16	0.37
Post Secondary	0.14	0.35	0.11	0.32	0.23	0.42	0.22	0.41	0.12	0.32
University	0.27	0.44	0.18	0.38	0.48	0.50	0.33	0.47	0.19	0.39
Post Graduate	0.03	0.18	0.03	0.18	0.08	0.27	0.04	0.19	0.03	0.18
Amman	0.14	0.35	0.41	0.49	0.13	0.34	0.40	0.49	0.24	0.43
Balqa	0.07	0.25	0.06	0.23	0.11	0.31	0.12	0.32	0.08	0.27
Zarqa	0.12	0.32	0.17	0.38	0.09	0.28	0.13	0.33	0.14	0.34
Madaba	0.04	0.21	0.01	0.12	0.05	0.22	0.03	0.18	0.04	0.19
Irbid	0.16	0.36	0.16	0.36	0.15	0.36	0.15	0.36	0.16	0.37
Mafreq	0.09	0.29	0.04	0.20	0.09	0.29	0.04	0.19	0.07	0.26
Jarash	0.06	0.23	0.04	0.20	0.05	0.22	0.02	0.15	0.06	0.23
Ajloun	0.06	0.24	0.02	0.14	0.05	0.21	0.02	0.15	0.04	0.19
Karak	0.12	0.33	0.03	0.17	0.15	0.36	0.05	0.22	0.08	0.26
Tafileh	0.05	0.22	0.01	0.10	0.07	0.25	0.01	0.10	0.03	0.18
Ma'an	0.05	0.21	0.03	0.18	0.04	0.20	0.01	0.10	0.04	0.19
Aqaba	0.03	0.18	0.02	0.14	0.02	0.15	0.02	0.14	0.03	0.16
Female									0.19	0.39
Public sector									0.49	0.50
<b>Observations</b>	<b>382</b>		<b>430</b>		<b>511</b>		<b>410</b>			

Note: With the exception of real hourly wages, log real hourly wages, monthly earnings and the experience variables, all variables in the above table are dummies, therefore the mean refers to the percentage of the relevant variable in the sample.

**Appendix Table 4. A4: Multinomial Logit Estimates of Work Status Selection Equations, Egypt 2006-2012**

	2006								2012							
	Male				Female				Male				Female			
	Non-wage	Private	Public	Unemployed	Non-wage	Private	Public	Unemployed	Non-wage	Private	Public	Unemployed	Non-wage	Private	Public	Unemployed
age	0.009 (0.012)	-0.001 (0.013)	0.142 (0.014)	-0.024 (0.031)	0.045 (0.015)	0.089 (0.020)	0.182 (0.020)	0.240** (0.099)	0.730** (0.019)	0.786** (0.018)	1.126** (0.026)	0.630** (0.037)	0.179 (0.020)	0.190 (0.027)	0.496** (0.029)	0.456** (0.052)
agesq	0.001 (0.000)	0.002 (0.000)	0.003 (0.000)	-0.002** (0.001)	0.000 (0.000)	0.000 (0.000)	0.005 (0.001)	0.014** (0.005)	0.009** (0.000)	0.010** (0.000)	0.013** (0.000)	0.009** (0.001)	0.002 (0.000)	0.003 (0.000)	0.005** (0.000)	0.008** (0.001)
nlevel2	-0.157 (0.173)	0.049 (0.178)	0.530 (0.208)	0.246 (0.452)	0.634 (0.312)	0.394 (0.383)	1.600 (0.486)	-29.692 (42153)	0.350* (0.183)	0.414* (0.182)	0.554* (0.221)	-0.040 (0.373)	0.339 (0.205)	0.040 (0.273)	1.732* (0.456)	1.392** (0.554)
nlevel3	0.693 (0.159)	0.630 (0.160)	0.323 (0.189)	0.815** (0.410)	0.630 (0.227)	0.204 (0.294)	0.010 (0.587)	1.069 (0.948)	0.614** (0.126)	0.670** (0.121)	0.308* (0.168)	0.700** (0.268)	0.369 (0.142)	0.229 (0.186)	0.297 (0.629)	0.797* (0.452)
nlevel4	0.719 (0.202)	0.951 (0.202)	0.526 (0.232)	-0.737 (0.456)	1.170 (0.294)	0.209 (0.362)	1.330 (0.473)	0.370 (1.264)	1.601** (0.134)	1.626** (0.122)	-0.164 (0.179)	1.928** (0.313)	1.086 (0.194)	1.042 (0.253)	2.490* (0.346)	0.921** (0.431)
nlevel5	1.333 (0.323)	2.090 (0.329)	-0.052 (0.383)	-0.922 (0.641)	2.131 (0.843)	0.714 (0.615)	2.322 (0.709)	-29.728 (99326)	2.660** (0.161)	3.112** (0.142)	0.499* (0.211)	2.512** (0.319)	1.786 (0.391)	1.217 (0.301)	3.984* (0.326)	1.651** (0.395)

	-	-		-					-	-		-				
nlevel6	0.619 *** (0.161 )	0.709 *** (0.16 0)	1.459 *** (0.18 1)	-0.649* (0.345)	1.462 *** (0.169 )	0.462 ** (0.20 0)	3.352 *** (0.27 9)	2.322** * (0.756)	0.841* ** (0.118)	0.750* ** (0.113)	1.283* ** (0.143)	-0.010 (0.216)	0.449 *** (0.108 )	- 0.188 (0.13 9)	4.628* ** (0.256)	3.441** * (0.324)
nlevel7	0.921 *** (0.281 )	0.938 *** (0.27 0)	2.042 *** (0.28 0)	-0.582 (0.519)	2.369 *** (0.398 )	0.227 (0.31 9)	3.776 *** (0.33 2)	1.759* (0.960)	0.880* ** (0.241)	0.976* ** (0.227)	1.676* ** (0.250)	0.184 (0.344)	0.812 ** (0.368 )	0.368 (0.23 9)	5.336* ** (0.288)	3.736** * (0.356)
nlevel8	0.925 *** (0.196 )	1.160 *** (0.19 2)	2.473 *** (0.20 6)	- 0.786** (0.395)	2.703 *** (0.288 )	0.311 (0.23 1)	4.212 *** (0.29 7)	1.454* (0.822)	1.208* ** (0.142)	1.275* ** (0.134)	1.828* ** (0.158)	0.248 (0.231)	0.679 *** (0.212 )	0.951 *** (0.14 4)	6.536* ** (0.263)	4.135** * (0.330)
_lregion _2	0.229 (0.180 )	0.156 (0.16 7)	0.092 (0.18 8)	0.369 (0.307)	-0.438 (0.290 )	** (0.19 8)	0.210 (0.18 8)	0.709 (0.458)	-0.136 (0.159)	-0.095 (0.133)	0.041 (0.167)	0.154 (0.205)	-0.020 (0.286 )	0.084 (0.14 6)	0.566* ** (0.141)	0.239 (0.188)
_lregion _3	0.733 *** (0.169 )	- 0.198 (0.16 3)	0.428 ** (0.17 7)	-0.313 (0.347)	0.685 ** (0.274 )	0.051 (0.23 2)	1.415 *** (0.21 2)	0.704 (0.547)	0.677* ** (0.144)	-0.099 (0.129)	0.776* ** (0.157)	0.007 (0.205)	0.466 ** (0.230 )	0.478 *** (0.15 7)	1.210* ** (0.134)	1.046** * (0.160)
_lregion _4	0.764 *** (0.175 )	- 0.229 (0.17 0)	0.893 *** (0.17 9)	-0.357 (0.346)	1.253 *** (0.235 )	0.794 *** (0.23 4)	1.255 *** (0.19 0)	0.288 (0.538)	0.550* ** (0.139)	-0.176 (0.122)	1.057* ** (0.148)	0.017 (0.193)	0.810 *** (0.212 )	0.883 *** (0.17 0)	1.404* ** (0.129)	0.659** * (0.164)
_lregion _5	0.967 *** (0.159 )	0.009 (0.15 3)	1.091 *** (0.16 5)	-0.641* (0.343)	1.090 *** (0.234 )	0.119 (0.21 5)	1.590 *** (0.21 2)	-0.151 (0.642)	0.801* ** (0.124)	0.059 (0.108)	1.211* ** (0.135)	- 0.376** (0.185)	1.098 *** (0.194 )	0.554 *** (0.13 2)	1.345* ** (0.127)	1.200** * (0.147)
_lregion	0.627	-	0.463	-0.550*	1.566	-	0.464	0.227	0.767*	0.012	1.145*	-0.373*	1.232	-	1.156*	0.122

_6	***	0.441	***		***	1.361	*		**		**		***	1.571	**		
		***				***							***	***			
	(0.161	(0.15	(0.17		(0.222	(0.25	(0.24		(0.127)	(0.110)	(0.141)	(0.193)	(0.195	(0.18		(0.152)	(0.177)
	)	6)	1)	(0.326)	)	8)	0)	(0.555)	)	)	)	)	)	1)			
					-	-	-	-				-		-	-	-	-
siblingl6	0.456	0.346	0.407		0.179	0.863	0.628	0.748**	0.290*	0.204*	0.181*	0.258**	0.081	0.551	0.315*	0.308**	
	***	***	***	-0.015	***	***	***	*	**	**	**	*	**	***	**	*	
	(0.066	(0.06	(0.06		(0.056	(0.09	(0.07		(0.045)	(0.044)	(0.051)	(0.085)	(0.038	(0.06		(0.048)	(0.048)
	)	6)	9)	(0.142)	)	1)	6)	(0.210)	)	)	)	)	)	7)	(0.048)		
siblingm6	0.118	-	0.152		0.282	0.163	0.115			0.131*	0.073*	0.162**	0.124	0.166	0.286*		
	***	0.003	***	0.048	***	***	**	-0.078	0.011	**	*	*	***	***	**	0.012	
	(0.039	(0.03	(0.04		(0.043	(0.05	(0.05		(0.029)	(0.027)	(0.034)	(0.055)	(0.027	(0.04		(0.038)	(0.041)
	)	9)	1)	(0.083)	)	7)	4)	(0.153)	)	)	)	)	)	4)	(0.038)		
stotwga																	
m					0.000	0.000	0.000	-0.001					0.000				
					(0.000	(0.00	(0.00						***	0.000	-0.000	0.000	
					)	0)	0)	(0.000)					(0.000	(0.00	(0.000)	(0.000)	
													)	0)	(0.000)	(0.000)	
Constan	1.645	3.530	2.067		0.726	1.389	4.135	3.695**	11.787	10.484	22.657	10.176*	6.702	4.878	17.491	11.935*	
t	***	***	***	0.654	***	***	***	*	***	***	***	**	***	***	***	**	
	(0.237	(0.23	(0.26		(0.278	(0.28	(0.36		(0.346)	(0.314)	(0.521)	(0.635)	(0.435	(0.50		(0.825)	
	)	0)	2)	(0.460)	)	0)	3)	(0.965)	)	)	)	)	)	4)	(0.611)		
Observa																	
tions	9512	9512	9512	9512	3325	3325	3325	3325	14839	14839	14839	14839	15192	15192	15192	15192	

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Appendix Table 4.A5: Multinomial Logit Estimates of Work Status Selection Equations, Jordan 2010

	Male				female			
	Non-Wage Worker	Private Wage Worker	Public Wage Worker	Unemployed Worker	Non-Wage Worker	Private Wage Worker	Public Wage Worker	Unemployed Worker
age	0.704*** (0.028)	0.613*** (0.021)	0.659*** (0.024)	0.433*** (0.031)	0.339*** (0.069)	0.427*** (0.043)	0.571*** (0.053)	0.418*** (0.082)
agesq	-0.008*** (0.000)	-0.008*** (0.000)	-0.009*** (0.000)	-0.006*** (0.000)	-0.004*** (0.001)	-0.006*** (0.001)	-0.008*** (0.001)	-0.008*** (0.001)
level2	0.866*** (0.248)	0.490** (0.204)	0.999*** (0.269)	0.488 (0.343)	-0.181 (0.429)	-0.523 (0.333)	0.519 (0.502)	0.097 (1.237)
level3	2.077*** (0.235)	1.520*** (0.189)	2.349*** (0.248)	1.605*** (0.311)	-0.017 (0.387)	-0.433 (0.272)	0.563 (0.448)	1.558 (1.019)
level4	2.653*** (0.544)	2.410*** (0.432)	2.326*** (0.532)	2.842*** (0.532)		1.753* (0.974)	3.978*** (1.218)	
level5	0.986*** (0.241)	0.282 (0.194)	1.581*** (0.251)	0.539* (0.323)	0.215 (0.411)	-0.788*** (0.295)	1.263*** (0.448)	1.747* (1.025)
level6	1.577*** (0.286)	1.377*** (0.239)	2.739*** (0.288)	1.216*** (0.392)	0.419 (0.430)	0.993*** (0.271)	2.992*** (0.431)	4.025*** (1.017)
level7	1.807*** (0.273)	1.639*** (0.224)	3.220*** (0.274)	2.346*** (0.343)	0.981** (0.485)	1.619*** (0.279)	4.512*** (0.435)	4.888*** (1.017)
level8	1.529*** (0.436)	1.827*** (0.381)	3.274*** (0.415)	0.707 (0.825)	2.200*** (0.836)	2.665*** (0.478)	5.661*** (0.552)	5.390*** (1.128)
_lregion_2	-0.512*** (0.104)	-0.805*** (0.086)	0.347*** (0.089)	-0.091 (0.118)	0.134 (0.231)	-0.604*** (0.134)	0.406*** (0.129)	0.565*** (0.161)
_lregion_3	-0.887*** (0.161)	-0.646*** (0.120)	0.798*** (0.115)	0.447*** (0.146)	-0.111 (0.356)	-0.575*** (0.199)	1.384*** (0.148)	1.745*** (0.175)
siblingl6	0.312*** (0.058)	0.178*** (0.050)	0.276*** (0.051)	0.012 (0.070)	-0.115 (0.131)	-0.727*** (0.077)	-0.234*** (0.063)	-0.517*** (0.082)
siblingm6	-0.122*** (0.029)	-0.174*** (0.024)	-0.142*** (0.025)	-0.039 (0.033)	-0.009 (0.065)	-0.218*** (0.039)	-0.109*** (0.037)	-0.017 (0.045)
fintabove	-0.042 (0.146)	-0.336*** (0.102)	-0.636*** (0.107)	-0.669*** (0.139)	-0.043 (0.337)	-0.058 (0.149)	-0.531*** (0.149)	-0.361** (0.165)
mintabove	-0.019 (0.173)	-0.152 (0.109)	-0.581*** (0.117)	-0.515*** (0.149)	0.457 (0.403)	0.499*** (0.162)	-0.133 (0.178)	-0.148 (0.180)
fsforemployer	0.399***	-0.253***	0.001	-0.228*	0.148	-0.012	0.015	0.063

	(0.113)	(0.092)	(0.102)	(0.129)	(0.252)	(0.146)	(0.153)	(0.173)
fgovemployee	-0.365***	-0.618***	0.235**	-0.376***	-0.158	0.177	0.403***	-0.019
	(0.125)	(0.094)	(0.097)	(0.127)	(0.277)	(0.135)	(0.136)	(0.159)
stotwgam					-0.001**	0.000	-0.000	-0.000
					(0.000)	(0.000)	(0.000)	(0.000)
					-			
Constant	-14.780***	-9.800***	-12.392***	-8.226***	10.931***	-8.607***	-14.455***	-10.748***
	(0.601)	(0.416)	(0.489)	(0.606)	(1.374)	(0.753)	(1.013)	(1.567)
Observations	7505	7505	7505	7505	7600	7600	7600	7600

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 4. A6: Ordinary least Squares and Selectivity Corrected Wage Equation Estimates, Egypt 2006**

	Ordinary Least Square Estimates					Selectivity Corrected Estimates			
	Total	Male		Female		Male		Female	
		Private	Public	Private	Public	Private	Public	Private	Public
exper	0.058*** (0.002)	0.049*** (0.003)	0.040*** (0.005)	0.065*** (0.013)	0.073*** (0.009)	0.232** (0.111)	0.175 (0.322)	0.343 (1.057)	0.659 (1.047)
expsq	-0.001*** (0.000)	0.001*** (0.000)	0.000*** (0.000)	-0.001** (0.000)	0.001*** (0.000)	-0.003* (0.002)	-0.001 (0.006)	-0.004 (0.026)	-0.002 (0.024)
nlevel2	0.032 (0.041)	0.074* (0.043)	0.095 (0.092)	-0.427** (0.216)	-0.193 (0.341)	0.533 (1.100)	-0.880 (3.889)	-3.957 (13.081)	3.044 (25.072)
nlevel3	0.132*** (0.036)	0.087** (0.037)	0.312*** (0.085)	0.042 (0.185)	0.533 (0.461)	0.440 (0.995)	0.937 (3.796)	3.296 (13.044)	11.816 (34.399)
nlevel4	0.234*** (0.046)	0.199*** (0.049)	0.359*** (0.100)	0.248 (0.247)	0.429 (0.341)	0.541 (1.301)	-0.655 (4.480)	-3.234 (18.518)	2.293 (24.280)
nlevel5	0.468*** (0.098)	0.219* (0.118)	1.106*** (0.193)	0.366 (0.328)	0.797* (0.461)	0.365 (3.417)	12.780 (9.061)	0.315 (35.367)	6.512 (31.833)
nlevel6	0.396*** (0.030)	0.262*** (0.032)	0.697*** (0.074)	0.100 (0.126)	0.897*** (0.201)	1.946* (1.024)	3.589 (4.880)	6.603 (8.138)	12.764 (21.133)
nlevel7	0.602*** (0.043)	0.404*** (0.057)	0.945*** (0.087)	0.112 (0.207)	1.002*** (0.210)	2.558 (1.688)	3.753 (6.016)	-16.794 (13.681)	12.306 (23.839)
nlevel8	0.814*** (0.034)	0.823*** (0.041)	1.125*** (0.075)	0.662*** (0.141)	1.065*** (0.202)	10.138*** (1.455)	4.892 (5.927)	-3.089 (8.663)	9.160 (23.612)
region_2	-0.034 (0.031)	0.036 (0.036)	-0.028 (0.069)	-0.138 (0.114)	-0.157* (0.092)	0.087 (0.947)	-0.158 (2.771)	-6.165 (9.564)	-1.701 (6.752)
region_3	-0.138*** (0.030)	-0.084** (0.038)	0.220*** (0.060)	0.495*** (0.128)	-0.095 (0.085)	-0.722 (1.100)	-3.358 (2.437)	1.196 (11.694)	-0.904 (6.768)
region_4	-0.099*** (0.029)	0.136*** (0.038)	-0.134** (0.053)	-0.090 (0.157)	0.001 (0.079)	-1.607 (1.152)	-2.545 (2.686)	27.807* (15.698)	2.634 (6.745)

region_5	-0.116*** (0.027)	- (0.033)	- (0.051)	-0.253** (0.119)	0.344*** (0.088)	-0.510 (1.017)	-1.293 (2.500)	-8.289 (9.787)	21.227*** (6.635)
region_6	-0.139*** (0.030)	0.114*** (0.035)	0.245*** (0.056)	-0.070 (0.176)	0.017 (0.128)	-1.641 (1.049)	-1.193 (2.647)	-7.919 (16.587)	17.234* (9.581)
female	-0.035 (0.022)								
crgovwg	-0.050** (0.021)								
sel2						-1.920 (1.428)			
sel3							-2.549 (4.351)		
sel5								9.189 (15.323)	
sel6									-1.238 (9.281)
Constant	0.574*** (0.039)	0.654*** (0.092)	0.964*** (0.254)	-0.805** (0.339)	2.458*** (0.425)	3.620** (1.532)	5.573 (12.177)	-8.567 (21.142)	-12.137 (37.723)
Observations	7505	3956	1993	505	1050	1638	1535	156	878
R-squared	0.207	0.175	0.222	0.272	0.222	0.068	0.012	0.103	0.035

Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 4. A7: Ordinary least Squares and Selectivity Corrected Wage Equation Estimates, Egypt 2012**

	Ordinary Least Square Estimates					Selectivity Corrected Estimates			
	Total	Male		Female		Male		Female	
		Private	Public	Private	Public	Private	Public	Private	Public
exper	0.034*** (0.002)	0.025*** (0.002)	0.039*** (0.005)	0.035*** (0.011)	0.029*** (0.006)	0.026*** (0.003)	0.009 (0.010)	0.034*** (0.011)	0.033*** (0.010)
expsq	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	-0.001* (0.000)	-0.000 (0.000)	0.000*** (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
nlevel2	0.026 (0.039)	0.018 (0.044)	0.230** (0.092)	-0.049 (0.246)	0.314 (0.284)	0.013 (0.044)	0.106 (0.099)	-0.017 (0.234)	0.331 (0.293)
nlevel3	0.073** (0.029)	0.004 (0.031)	0.178** (0.079)	0.251 (0.159)	2.325*** (0.398)	0.018 (0.032)	0.098 (0.085)	0.259 (0.162)	2.335*** (0.399)
nlevel4	0.110*** (0.034)	0.012 (0.038)	0.459*** (0.088)	-0.110 (0.218)	0.780*** (0.213)	0.032 (0.040)	0.283*** (0.103)	-0.115 (0.228)	0.790*** (0.234)
nlevel5	0.302*** (0.046)	0.170*** (0.058)	0.712*** (0.104)	0.274 (0.242)	0.969*** (0.193)	0.213*** (0.063)	0.415*** (0.137)	0.203 (0.256)	0.958*** (0.241)
nlevel6	0.278*** (0.023)	0.116*** (0.027)	0.753*** (0.063)	0.022 (0.122)	1.006*** (0.153)	0.141*** (0.027)	0.475*** (0.104)	0.110 (0.122)	0.994*** (0.228)
nlevel7	0.403*** (0.038)	0.235*** (0.057)	0.888*** (0.082)	0.060 (0.206)	1.137*** (0.166)	0.308*** (0.055)	0.522*** (0.136)	0.182 (0.187)	1.114*** (0.256)
nlevel8	0.671*** (0.027)	0.442*** (0.035)	1.209*** (0.065)	0.634*** (0.124)	1.373*** (0.154)	0.496*** (0.037)	0.757*** (0.148)	0.773*** (0.126)	1.329*** (0.289)
region_2	-0.014 (0.028)	-0.083** (0.038)	0.031 (0.068)	-0.202* (0.118)	0.025 (0.069)	-0.009 (0.036)	0.020 (0.068)	-0.188* (0.111)	0.015 (0.073)
region_3	0.172*** (0.027)	0.179*** (0.036)	-0.128** (0.060)	-0.273** (0.131)	0.228*** (0.063)	0.179*** (0.036)	0.216*** (0.066)	-0.375** (0.146)	0.229*** (0.076)
region_4	0.148*** (0.026)	0.119*** (0.035)	0.177*** (0.055)	-0.268* (0.146)	0.190*** (0.060)	0.121*** (0.036)	0.305*** (0.068)	-0.405** (0.186)	-0.196** (0.080)
region_5	0.217*** (0.026)	0.193*** (0.035)	0.245*** (0.055)	0.393*** (0.146)	0.166*** (0.060)	0.196*** (0.036)	0.367*** (0.068)	0.509*** (0.186)	-0.172** (0.080)

	(0.023)	(0.030)	(0.051)	(0.107)	(0.060)	(0.030)	(0.064)	(0.133)	(0.074)
	-		-				-		
region_6	0.074***	-0.019	0.208***	-0.223	-0.157**	-0.027	0.329***	-0.378*	-0.164*
	(0.024)	(0.031)	(0.054)	(0.169)	(0.076)	(0.031)	(0.066)	(0.225)	(0.088)
	-								
female	0.145***								
	(0.019)								
crgovwg	-0.001								
	(0.017)								
sel2						-0.024			
						(0.041)			
							-		
sel3							0.327***		
							(0.095)		
sel5								0.149	
								(0.197)	
sel6									-0.022
									(0.096)
Constant	0.940***	1.162***	0.361***	0.796***	0.074	1.152***	1.552***	0.536	0.129
	(0.035)	(0.044)	(0.094)	(0.147)	(0.172)	(0.048)	(0.358)	(0.353)	(0.478)
Observations	10054	5538	2305	409	1317	5929	2295	460	1314
R-squared	0.146	0.068	0.241	0.184	0.218	0.084	0.242	0.216	0.210

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 4. A8: Ordinary least Squares and Selectivity Corrected Wage Equation Estimates, Jordan 2010**

	Ordinary Least Square Estimates					Selectivity Corrected Estimates			
	Total	Male		Female		Male		Female	
		Private	Public	Private	Public	Private	Public	Private	Public
Experience	0.026*** (0.003)	0.005 (0.013)	0.027 (0.017)	0.028** (0.014)	0.005 (0.010)	0.025*** (0.006)	0.019*** (0.005)	0.028** (0.014)	0.005 (0.010)
Experience Squared	-	-	-	-	-	-	-	-	-
Experience Squared	0.000*** (0.000)	-0.000 (0.000)	-0.001 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000* (0.000)	-0.000** (0.000)	-0.000 (0.000)	0.000 (0.000)
Reads and writes	0.070 (0.072)	0.108 (0.237)	-0.137 (0.390)	-0.144 (0.289)	0.103 (0.239)	0.151 (0.110)	0.175 (0.119)	-0.144 (0.289)	0.103 (0.239)
Basic Education	0.230*** (0.065)	0.310 (0.207)	0.196 (0.359)	-0.190 (0.228)	0.216 (0.212)	0.269*** (0.101)	0.354*** (0.113)	-0.190 (0.228)	0.216 (0.212)
Vocational	0.153 (0.112)	0.334 (0.269)	0.000 (0.000)	-0.537 (0.653)	0.321 (0.554)	0.128 (0.157)	0.333* (0.200)	-0.537 (0.653)	0.321 (0.554)
Secondary	0.331*** (0.068)	0.300 (0.227)	0.222 (0.370)	0.022 (0.239)	0.239 (0.211)	0.432*** (0.108)	0.406*** (0.116)	0.022 (0.239)	0.239 (0.211)
Post Secondary	0.518*** (0.070)	0.288 (0.245)	0.462 (0.377)	0.241 (0.230)	0.511** (0.211)	0.613*** (0.116)	0.545*** (0.122)	0.241 (0.230)	0.511** (0.211)
University	0.844*** (0.068)	0.951*** (0.235)	0.618 (0.376)	0.705*** (0.233)	0.802*** (0.229)	1.061*** (0.112)	0.760*** (0.120)	0.705*** (0.233)	0.802*** (0.229)
Post Graduate	1.088*** (0.083)	0.929*** (0.288)	0.896* (0.456)	1.136*** (0.311)	0.916*** (0.253)	1.298*** (0.155)	1.053*** (0.135)	1.136*** (0.311)	0.916*** (0.253)
Balqa	-0.090** (0.042)	-0.052 (0.174)	-0.004 (0.165)	0.401*** (0.148)	-0.023 (0.093)	-0.053 (0.074)	0.027 (0.060)	0.401*** (0.148)	-0.023 (0.093)
Zarqa	-	-	-	-	-	-	-	-	-
Zarqa	0.117*** (0.035)	-0.006 (0.110)	-0.016 (0.136)	0.374*** (0.138)	0.131 (0.102)	-0.113** (0.052)	-0.013 (0.056)	0.374*** (0.138)	0.131 (0.102)
Madaba	-0.028 (0.057)	0.255 (0.355)	0.013 (0.180)	-0.100 (0.246)	-0.011 (0.119)	0.095 (0.119)	-0.028 (0.068)	-0.100 (0.246)	-0.011 (0.119)
Irbid	-	-	-	-	-	-	-	-	-
Irbid	0.112*** (0.033)	-0.198 (0.121)	-0.152 (0.136)	0.509*** (0.133)	0.103 (0.087)	-0.099 (0.062)	0.052 (0.053)	0.509*** (0.133)	0.103 (0.087)
Mafreq	-0.082* (0.057)	-0.255 (0.355)	0.169 (0.180)	-	-0.152 (0.119)	-0.140 (0.119)	0.106* (0.068)	-	-0.152 (0.119)

				0.723***				0.723***	
	(0.044)	(0.227)	(0.150)	(0.242)	(0.099)	(0.097)	(0.059)	(0.242)	(0.099)
Jarash	-0.054	-0.497**	0.140	-0.052	-0.081	0.036	0.047	-0.052	-0.081
	(0.049)	(0.199)	(0.180)	(0.300)	(0.117)	(0.098)	(0.064)	(0.300)	(0.117)
Ajloun	0.150**	0.462	0.333*	-0.357	0.090	0.208	0.279***	-0.357	0.090
	(0.058)	(0.288)	(0.173)	(0.311)	(0.123)	(0.135)	(0.070)	(0.311)	(0.123)
Karak	0.082*	0.142	0.035	0.208	0.139	0.218**	0.123*	0.208	0.139
	(0.044)	(0.215)	(0.156)	(0.235)	(0.096)	(0.100)	(0.064)	(0.235)	(0.096)
Tafileh	0.013	0.504	0.338*	-0.827*	0.064	0.564***	-0.059	-0.827*	0.064
	(0.062)	(0.363)	(0.190)	(0.438)	(0.115)	(0.153)	(0.079)	(0.438)	(0.115)
Ma'an	-0.003	0.119	-0.063	-0.411	0.092	0.219*	0.005	-0.411	0.092
	(0.058)	(0.203)	(0.213)	(0.437)	(0.130)	(0.120)	(0.075)	(0.437)	(0.130)
Aqaba	0.130**	0.223	-0.236	0.011	0.159	0.435***	0.058	0.011	0.159
	(0.066)	(0.271)	(0.215)	(0.316)	(0.169)	(0.128)	(0.083)	(0.316)	(0.169)
						-			
Selection term male Private						0.213***			
						(0.067)			
Selection term male public							0.013		
							(0.059)		
Selection term female Private								-0.049	
								(0.109)	
Selection term female Public									0.015
									(0.080)
	-	-							
Constant	0.191***	0.343***	-0.046	0.013	0.019	-0.105	-0.070	0.098	-0.022
	(0.070)	(0.108)	(0.118)	(0.229)	(0.214)	(0.129)	(0.172)	(0.313)	(0.313)
Observations	4877	2071	1897	402	507	2047	1892	398	506
R-squared	0.174	0.158	0.142	0.293	0.214	0.158	0.141	0.299	0.215

Standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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