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Advancing the Decent Work
Agenda in North Africa

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RESEARCH
FORUM



منتدى
البحوث
الاقتصادية

Regional Report on **Jobs and Growth** in North Africa 2020

Published in September 2021



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Foreword

The relationship between economic growth and job creation has long been of a key focus in economic research. Over the past two decades North African economies have compared fairly well with other Middle Income Countries (MICs) in terms of GDP growth, but continue to face large deficits in job creation. Growth can be jobless or job-poor, in the sense that it does not generate enough jobs for the number of job seekers, and/or that it is associated predominantly with poor quality jobs, with precarious work increasing with economic growth. With a persistently strong demography, the challenge of job-rich growth is central in North Africa.

Unemployment rates are still widely used as the single leading indicator of the health of labour markets. Yet unemployment rates are poor indicators of labour market dynamics in lower and middle-income countries with segmented labour markets, large informal sectors and narrow social protection systems. Policies for job-rich growth need to be informed by an understanding of labour market dynamics that goes beyond looking at just the unemployment rate. A series of key indicators for the labour markets of North Africa has thus been defined, in line with international standards, but also with a consideration for the developmental specifics of the region.¹ Two decades of labour force survey data in the countries covered by this report has been harmonised and computed by carefully matching at country level the regional definitions with the national survey instruments. Indicators include measures of formality and social

protection, employment regularity and precariousness, monetary and non-monetary remuneration, workplace safety, work hours, labour underutilization, and participation.

Policies for jobs rich growth also require to break silos between macro and micro data sources, and between macroeconomic and labour market analysis. This report is the product of the collaboration between prominent macroeconomists and labour economists at both country and regional levels, through the ERF esteemed network of researchers. The regional report and the country chapters for Algeria, Egypt, Tunisia and Sudan examine the relationship between the pace and pattern of economic growth and the quantity and quality of employment creation in North Africa. It yields important considerations for the economic development models of Algeria, Tunisia, Egypt and Sudan. The COVID19 pandemic has further accentuated long-standing challenges, with those most vulnerable more exposed to unemployment and income losses; for employment to recover from this, recovery strategies need to be informed by the longer-term jobs and growth trends that are revealed in this report.

The report is prepared by the Economic Research Forum (ERF) and the International Labour Organization (ILO) through the ADWA' project "Advancing the Decent Work Agenda in North Africa", with support from the Swedish International Development Cooperation Agency (Sida).

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¹ Assad, R. (2019). Moving beyond the unemployment rate: alternative measures of labor market outcomes to advance the decent work agenda in North Africa (Approach paper: expert group meeting, December 2019). Cairo: ERF and ILO/ADWA'.



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Acronyms

ADS	l'Agence de développement social
ADWA'	Advancing the Decent Work Agenda in North Africa
ANGEM	National Micro Credit Agency (Algeria)
ANSEJ	National Youth Employment Support Agency (Algeria)
CAPMAS	Central Agency for Public Mobilization and Statistics (Egypt)
CBE	Central Bank of Egypt
CBOS	Central Bank of Sudan
CBS	Central Bureau of Statistics (Sudan)
CFI	training insertion contract (Algeria)
CID	graduate integration contract (Algeria)
CIP	professional integration contract (Algeria)
CNAC	Unemployment Insurance Fund (Algeria)
CTA	subsidized work contract (Algeria)
ELMPS	Egypt Labour Market Panel Survey
ERF	Economic Research Forum
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GoE	Government of Egypt
HDI	human development indicators
HIECS	Household Income, Expenditure and Consumption Survey (Egypt)
IFC	International Finance Corporation
ILO	International Labour Organization
IMF	International Monetary Fund

INS	Institut National de la Statistique (National Institute of Statistics, Tunisia)
ITCEQ	Institut Tunisien de la Compétitivité et des Études Quantitatives (Tunisian Institute of Competitiveness and Quantitative Studies)
LFPR	labour force participation rate
LFS	Labour Force Survey
MENA	Middle East and North Africa
NEET	not employed or in education or training
ONS	Office National des Statistiques (National Statistical Office, Algeria)
SDG	Sudanese pounds
SDGs	Sustainable Development Goals
SHBS	Sudan Household Budget Survey
SLFS	Sudan Labour Force Survey
SMEs	small- and medium-sized enterprises
SOEs	State-owned enterprises
TND	Tunisian dinars
UNDP	United Nations Development Programme





Glossary

Discouraged job-seekers

Individuals (aged 15–64) who were not employed, desired to work, were available for work and were not searching for work during the reference week.

Employed

Individuals (aged 15–64) who participated for at least one hour in economic activity (for market purposes) during the reference week.

Employment status

Whenever possible, employment status was classified into eight categories: public sector wage work, private sector wage work inside of establishment, private sector wage work outside of establishment, employer, self-employed inside of establishment, self-employed outside of establishment, unpaid/contributing family worker inside of establishment, and unpaid/contributing family worker outside of establishment.

Employment rate

Ratio of the employed to the working-age population (aged 15–64).

Labour force

Individuals (aged 15–64) either employed or unemployed during the reference week.

Labour force participation rate

Ratio of the labour force population to the working-age population (aged 15–64).

Low-paid earners

Wage workers whose hourly wage is below two thirds of the median monthly wage at the regional level.

NEET (Not in Education, Employment or Training)

Young people (aged 15–24) not employed or enrolled in school. The available data did not allow those in training to be taken into account.

NEET rate

Percentage of those in NEET (ages 15–24) to the overall population aged 15 to 24.

Skills-related underemployment

Percentage of employed individuals whose educational attainment is higher than the one required by their occupation according to an education/occupation correspondence table (see appendix table 1 and table 2).

Time-related underemployment

Percentage of the employed (aged 15–64) working less than 35 hours per week, wanting to change work and/or wanting additional work in total employment.

Unemployed (standard definition)

Individuals (ages 15–64) who were not employed, desired to work, were available for work and were searching for work during the reference week.

Unemployment rate (standard definition)

Ratio of the unemployed (standard definition) to the labour force population.

Working poor

The percentage of workers who live in a household whose expenditure is below the regional poverty line.





Executive summary

This report examines the relationship between the pace and pattern of growth and labour market outcomes in North Africa. Recent experience has shown that the relationship between job creation and the promotion of decent work, on the one hand, and economic growth, on the other, is complex and highly conditional on the growth path pursued. While it is clear that growth is often a necessary condition to promote job creation and to improve the quality of employment, it is by no means sufficient. Not only can growth be jobless, meaning that it does not positively affect employment rates, at least in the short to medium run, but it could also be associated with poor quality jobs and increased precariousness of employment.

The report includes an overview chapter that examines the relationship between jobs and growth comparatively across Algeria, Egypt, Sudan and Tunisia, followed by four country chapters looking at each country in detail. Subject to data limitations, all chapters attempt to cover the period from the early 2000s to 2019, thus describing the situation leading up to the start of the COVID-19 pandemic. While some of the chapters attempt to speculate about the implications of the pandemic on North African labour markets in light of their findings, a full analysis of the effects of the pandemic is beyond the scope of the analysis.

>>> Overview chapter

It is no secret that labour market outcomes in North Africa have been disappointing over the past two decades despite varied and sometimes reasonably good growth performances in terms of GDP growth rates. As a region, North Africa has the highest unemployment rates – both overall and for youth – and, together with the Middle East, some of the lowest female participation rates of all world regions. This chapter attempts to shed light on poor employment performance in the region by examining the relationship between patterns of economic growth and labour market outcomes in the four North African economies of Algeria, Egypt, Sudan and Tunisia. This analysis seeks to look beyond unemployment and participation rates by delving into the type and quality of jobs created in these economies and how they relate to the pattern of economic growth.

A common feature characterizing the nature of growth in most of these countries is that it had, until recently, been driven by extractive sectors, such as petroleum or mining. In some countries, such as Algeria, this is still very much the case, with the petroleum sector accounting for a substantial share of Gross Domestic Product (GDP) and almost all exports. In other countries, such as Sudan, the shift is quite recent, dating to the secession of South Sudan in 2011, when most of Sudan's oil resources went to the South. In Tunisia, the mining sector's share in total exports declined in the last decade due to lower oil reserves and social unrest within the phosphate sector since 2011. Egypt is no longer a large exporter of oil, but its economy has long been affected by the vagaries

of the oil economy, either directly or indirectly through workers' substantial remittances from oil-rich countries. In all four countries, the importance of oil or other mineral revenues has declined in the 2010s, but the legacy of dependence on these sectors and other sources of rents has strongly shaped the structure of their economies. Long-term dependence on hydrocarbon and other mineral rents in North Africa essentially encouraged the growth of non-tradable sectors, such as construction, real estate, wholesale and retail trade, and transport, leading to premature deindustrialization. Even though high-productivity service sectors, such as 'finance and insurance' and 'information and communications' have grown rapidly, they did so from such a small base that they have had limited impact on the overall structure of employment and will continue to represent a small share of overall employment in the future.

One of the important legacies of the heavy reliance on oil and mineral rents accruing primarily to state coffers is a history of an outsized role for the public sector in job creation in all four countries, especially for post-secondary graduates. While Algeria continues to be highly reliant on public sector employment, Tunisia and Egypt have attempted to limit the role of the public sector in hiring since the 1980s, with some degree of success. While public sector employment made up about 40 per cent of all employment in Algeria in the 2010s, its share was down to 22 per cent in Egypt, 15 per cent in Sudan and 22–23 per cent in Tunisia.

Despite success in limiting the role of the public sector in their labour markets, Egypt, Tunisia and Sudan have had less success in growing private sector formal employment. The recent pattern of growth in all three countries has not favoured sectors that generate substantial formal private employment, such as manufacturing, finance, or information and communications. Instead, the bulk of employment growth has been in construction, as well as in the wholesale, retail trade, transportation and storage, accommodation, and food services sectors, with a large share of informal employment.

Productivity decompositions into within- and between-sector productivity growth over the last 20 years reveal different patterns in the four countries but confirm that structural change has mostly favoured low-productivity sectors, with most productivity increases occurring within rather than between sectors. In Algeria and Egypt, structural change contributed negatively to productivity change in all three subperiods examined. In Tunisia, the picture is more mixed, with structural change contributing positively to productivity in two sub-periods (2000–05 and 2010–15), but not in the two others (2005–10 and 2015–18). Overall, the process of structural transformation in the region has generally not been favourable to productivity growth and has thus favoured low-productivity sectors that tend to generate low-quality, often informal jobs.

With regard to labour force participation and employment rates, this analysis finds that rates have either stagnated or declined in recent years, especially for men. This trend is particularly concerning in Algeria and Egypt. It is occurring among men at both ends of the age spectrum and is concentrated among less-educated groups that are less likely to show up among the unemployed. While educated women are more likely to participate than their uneducated counterparts, employment rates among educated women are falling as fewer opportunities are available in the public sector, except in Tunisia after the 2011 revolution.

>>> Algeria

Algeria's growth model has been highly dependent on hydrocarbon revenues, which are also the main driver of public spending. Due to favourable oil prices from 2000 to 2014, Algeria recorded unprecedented growth, which helped it turn the tide of "the black decade" of the 1990s. At the macroeconomic level, two major factors helped Algeria weather some of the worst consequences of the reversal of oil prices in 2014. The first is the balance of payments surpluses, which allowed an accumulation of foreign exchange reserves that reached USD 188 billion – 32 months of imports – at the end of 2013. The second is the establishment of a Revenue Regulation Fund (RRF), valued at the equivalent to 80 billion USD at the end of 2013, which has served as a buffer for fiscal account deficits in recent years.

With the decline in global oil prices in 2014, Algeria is undergoing a new phase of its economic development,

Unemployment in North Africa reflects the labour market insertion problems of young educated new entrants and thus depends critically on the rate at which this group is growing. With the slowdown in the youth population in Algeria, Egypt and Tunisia, unemployment rates have stabilized if not slightly declined in recent years. In Algeria, unemployment rates fell from the very high levels that followed the Algerian black decade in the early 2000s and then stabilized in the 2010s. In Egypt, they have been on a declining trend, except for a positive bump around the time of the Arab Spring. In Tunisia, they were rising prior to 2011, especially for women, as the number of female higher education graduates was exploding. After a spike following the Arab Spring, unemployment rates in Tunisia seem to have stabilized as the number of graduates was brought under control. However, it appears that discouragement is increasing for young people in Tunisia, and to a lesser extent in Egypt, as indicated by rising youth NEET rates.¹

Despite efforts to reorient all four economies towards a more market-led direction, none of the four countries have succeeded in promoting private sector jobs, while cutting public sector payrolls. Private sector employment has been overwhelmingly informal and precarious. This is partly because sectors with the potential to generate formal private sector jobs, such as manufacturing, finance, communications, and some other high-end services, such as tourism, have either grown too slowly or played a limited role in the overall mix of employment. The manufacturing sector can generate a large number of formal jobs with potentially rising productivity. However, it has not lived up to this potential in any of the four countries, where it has instead lost employment share. Instead, the growth of construction, trade and transport has generally generated poor quality, mostly informal and low-productivity jobs. As a result, the four countries are deindustrializing prematurely and backtracking on the structural transformation path to higher incomes.

marked by lower hydrocarbon revenues, large fiscal deficits and a deceleration in GDP growth. Real growth rates fell to 0.8 per cent in 2019, and per capita GDP growth turned negative. Since 2010, hydrocarbon production has been stagnant due to aging oil fields and reduced foreign direct investment (FDI) into the sector, amid poor financial incentives for international firms. The decline in oil prices has pushed the Government to lower spending on public investment, which in turn has resulted in severe problems for some major public enterprises.

An analysis of the evolution of employment according to the major economic sectors reveals that it has increased most in the services sectors, which represented more than 60 per cent of employment in 2019.

¹ NEET stands for "not in employment, education or training."

The share of employment in industry, which was already low in 2001, was less than 13 per cent in 2019. The share of construction-sector employment had increased substantially in the 2000s but fell back a bit after 2014. Meanwhile, employment in agriculture continued its steady decline.

Despite the privatization process that started in the 1990s, the Algerian public sector remains very large, and the Algerian State continues to play a substantial role in economic activity through its fiscal and social policies. The weight of the private sector in the economy is still modest (less than 60 per cent of GDP and 62 per cent of employment in 2019) and it coexists with state-owned enterprise in almost in every sector of the economy.

With regards to the main labour market aggregates, the situation has improved significantly in recent years. The participation rate increased steadily, predominantly among women, especially educated women. Nevertheless, participation declined substantially among less-educated men. The unemployment rate fell sharply in the early 2000s as the economy recovered, and remained stable in the 2010s. Traditionally, the Algerian Government has addressed unemployment

>>> Egypt

Macroeconomic management in Egypt focused for decades on price stability, controlling fiscal deficits, reducing the role of the State and achieving high economic growth. In November 2016, the Government of Egypt (GoE) concluded an agreement with the International Monetary Fund (IMF) and implemented a reform programme that helped the economy improve its macroeconomic aggregates. Indeed, in 2019, Egypt's GDP growth rate reached 5.6 per cent, inflation rate fell to 9.4 per cent, the unemployment rate declined to 7.9 per cent, and the overall fiscal deficit dropped to 8 per cent after having peaked at 16.5 per cent in 2014, while international reserves increased to USD 44 billion after plummeting to USD 14.9 billion in 2013. Yet poverty increased to 32.5 per cent in 2018, up from 27.8 per cent in 2015, only to drop back to 29.7 per cent in 2019. Moreover, the living standard of the middle class has deteriorated as wages and pensions have not kept up with inflation.

The main findings in the Egypt chapter are that the major indicators of the Egyptian labour market have worsened over the last two decades. Although unemployment rates have declined, so have employment rates, suggesting an increase in the extent of discouraged unemployment. The slowdown in the growth of the youth and young adult population (due to the aging of the youth bulge) largely explains the easing of demographic pressure on the labour market, which has resulted in a fall in youth unemployment rate. This slowdown in demographic pressure is only temporary, however, and the labour market will have to cope by the middle of this decade with an upsurge of large cohorts of new entrants into the labour market.

through subsidized temporary employment and entrepreneurship programmes. However, there are doubts about their continued effectiveness in the absence of a broader economic recovery. Moreover, despite the substantial resources invested in these active labour market programmes, there is scant evidence about their effectiveness. Although they mainly create temporary jobs, no information is available on their long-term impact, on the 'graduation' of beneficiaries and on their eventual exit from such programmes.

The chapter concludes that Algeria's labour market is rigid and tends to favour insiders versus outsiders. Therefore, improving labour market flexibility may have important effects on reducing unemployment, both in the short and in the medium term, by reducing search and hiring costs to integrate young outsiders into the labour market. It further concludes that the high level of unemployment among young graduates is the result of mismatches between labour market demand and supply. The private sector has not been able to create sufficient demand for skilled workers and the distribution of Algerian students is highly unbalanced towards disciplines that do not supply the skills most needed by the private sector.

The quality of jobs and the skills mismatch have deteriorated in Egypt over the past two decades. Precarious types of employment have become more prevalent, particularly among the most educated graduates, reflecting the disproportionate growth of the construction and trade sectors. The shift in the employment mix in the Egyptian labour market, with the strong emergence of wage employment outside establishments and rising informality even in jobs inside establishments, was associated with a heightened sense of vulnerability among workers. There has been a rapid increase in working poverty, especially among certain types of employment, such as informal private wage employment, both inside and outside of establishments. In addition, real hourly wages decreased in 2018, mainly due to the drop in real hourly wages in formal private sector jobs and informal private sector jobs inside of establishments. In contrast, real wages in informal private sector jobs outside of establishments increased steadily. Low-paid jobs were mostly concentrated in informal private wage employment outside of establishments (among men) and inside of establishments (among women).

Patterns of declining real wages in potentially better-quality jobs, combined with rising wages in more volatile and informal jobs, are expected to shift the preferences of job-seekers towards short-term financial gains in informal jobs and away from long-term gains in the formal sector, especially sectors that contribute to the value-added and rise in exports, such as manufacturing.

The labour market is still inhospitable to women. In addition to the above transformations, there is a strong norm that workers should put in long hours (more than 40

hours per week). This inhibits women's choices to work, given the burden of domestic responsibilities that they mostly shoulder. Women are also more likely than men to work in low-wage employment, although they are also more likely to work in jobs offering paid and sick leaves.

Economic growth patterns did not help improve Egypt's labour market performance for four reasons. First, most of the growth drivers in Egypt were rather capital intensive.

>>> Sudan

Sudan, a lower-middle-income economy, has been subject to a number of shocks leading to substantial volatility in its macroeconomic performance. In 1999, Sudan began exporting oil, leading to a period of increasing reliance on oil from 1999 to 2011. This had both positive and negative consequences. On the positive side, oil revenues allowed for an increase in consumption and public expenditure, a rising rate of economic growth, growing exports, and an increase in foreign direct investment directed towards the oil sector. Oil revenues in fact allowed Sudan to move from the ranks of low-income economies to those of lower-middle income economies. On the negative side, the heavy dependence on oil subjected the economy to greater volatility and vulnerability to highly fluctuating oil prices in the international market and an increasing lack of diversification. The global financial crisis in 2008 resulted in low global oil prices, reducing Sudan's GDP growth. A greater dependence on oil also resulted in substantial structural change that led to the decline in the role of agriculture, which used to be the main source of export revenues. After the secession of South Sudan in 2011, Sudan's economy lost around 75 per cent of its oil revenues, which had immediate negative effects on the fiscal stance and balance of payments and more lasting effects on the ability of the economy to grow.

>>> Tunisia

Prior to the political change in 2011, Tunisia recorded solid growth, averaging about 4.3 per cent per annum between 2000–10. Poverty fell from 25.4 to 20.5 per cent over the same period. However, between 2011 and 2019, average annual growth did not exceed 1.7 per cent. Meanwhile, 2020 had a projected negative growth rate of -8.6 per cent, as a result of the COVID-19 pandemic.

Over the last two decades, Tunisia's real GDP growth has followed a saw tooth pattern. The economic and financial crisis of 2008–09 was one of the sparks that ignited the popular uprising of 2011. The economy has never recovered, due to the absence of a stable political and macroeconomic environment. Men's labour market participation has not changed radically over the last 15 years, with the exception of those with low levels of education and especially those without education. The latter group has seen its participation rate drop from 69 to 61 per cent. This decline, may reflect a sense of discouragement among this group, which is mainly composed of those 50 and older. Employment rates were also quite stable. The employment rate trend was more stable for men than for women, except for those

Second, while the share of the private sector increased in the economy, its productivity declined. Third, the FDI was mostly concentrated in the highly capital-intensive oil sector. Moreover, the growing shares of non-tradable and low value-added sectors, such as the construction and transport sectors, in the GDP have contributed to the creation of vulnerable and low-skilled jobs.

Labour market trends in Sudan are somewhat uncertain given the scarcity of available data. Only three data points are available for labour market outcomes for 2009, 2011 and 2014/15. These data reveal that labour force participation grew slightly, from 49 per cent in 2009 to 53 per cent in 2014/15. This reflected a drop in participation among males and an increase among females. The unemployment rate increased during the same period, from 14 per cent in 2009 to 20 per cent in 2014/15. This increase can be explained by the contraction of Sudan's economy following the secession of the South in 2011.

As the Sudanese economy adjusted to the loss of oil revenues, the share of wage employment and self-employment declined, and that of unpaid family workers increased, as a growing numbers of workers were returning to family-based agriculture, a sector that traditionally acts as an absorbing sector for surplus labour in an economy such as Sudan's.

The results of productivity decomposition indicate that within-sector has been the main driver of aggregate productivity growth over the last two decades, but the between-sector component has had a negative contribution on overall productivity.

with 'no certificate', who saw their employment rate drop significantly. In recent years, the employment rate for university-educated women has improved, but still remains below that reached in 2007.

One of the most striking indicators of labour market dysfunction in Tunisia is the high rate of unemployment, which is particularly high among youth and women. The unemployment rate increased sharply in 2011 – reaching 18.6 per cent for the first time – due to the decline in economic activity. After 2011, the unemployment rate returned to historical levels, but did not drop significantly. Unemployment peaked again at 18 per cent during the second quarter of 2020 as a consequence of the COVID-19 crisis.

The high unemployment rate among young people is believed to reflect the difficult transition between school and work, and the inefficiency of labour market intermediation mechanisms. These problems, coupled with low labour market participation and discouraged groups, leads to the underutilization of the labour force and therefore wasted human resources.

On the demand side, the main result is that the different sectors of the economy have not created enough jobs to absorb the growing demand, particularly the country's increasingly educated youth cohort. The most productive sectors, particularly finance and communication, have experienced weak job creation.

A further indicator that helps to better understand the functioning of the labour market is the rate of discouraged job-seekers. Surprisingly, it is the youngest men who show the highest rate of discouragement. Among women, it is the least educated who are the most discouraged, but, among men, it is those with secondary education.

There has been an inability of sectors other than the public sector to attract university graduates. Almost half of this group (men and women) are in the public sector. This result is not surprising when analysing the industrial structure of the Tunisian economy, which is based on small and medium-sized enterprises (SMEs) that are unable to absorb graduates. One in three employed university graduates is in the informal private sector and this rate has increased steadily in recent years.

Real wages have not improved significantly over the last decade. The trend observed in the different sectors is also explained by the centralization of wage negotiations in Tunisia between a strong trade union, the Government and the employers' organization. Wages in the informal sector generally follow the evolution of wages in the formal sector.

The problems of the Tunisian economy have also been aggravated over the last decade by the historically unprecedented slowdown of two strategic sectors, namely phosphates and oil, due to protests in the south. The downturn in these sectors has had a multidimensional impact on public finances. The decline in growth has also further aggravated a structural problem of the Tunisian economy, namely the low investment rate.

It cannot be said that the Tunisian economy has really succeeded in its structural transformation, as evidenced by the share of value added in the various primary sectors. As noted, the weak dynamics of job reallocation also hamper productivity improvement.





Economic growth and labour market outcomes
in North Africa:

An overview of developments in Algeria,
Egypt, Sudan and Tunisia since 2000

By

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Introduction

There is general consensus that employment outcomes in North Africa in recent decades have been disappointing at best and have been major contributors to political turmoil in the region (Campante and Chor 2012; Diwan 2013). This chapter attempts to shed light on poor employment performance in the region by examining the relationship between patterns of economic growth and labour market outcomes in four North African economies, namely Algeria, Egypt, Sudan and Tunisia. Much has been said of the high unemployment rates in the region, especially among youth (Ahmed et al. 2012; Drine 2012; Kabbani 2019). The ILO reports a youth unemployment rate in Northern Africa of 29.8 per cent in 2020, the highest among all world regions and more than twice the world average of 13.7 per cent (ILO 2020). Labour markets in North Africa, like those in the Middle East, have also been noted for their low and stagnant female participation rates (Assaad 2014; Assaad et al. 2020). This analysis seeks to look beyond unemployment and participation rates by delving into the type and quality of jobs created in these economies and how they relate to the pattern of economic growth.¹

A common feature characterizing the nature of growth in these four countries is that it had, until recently, been driven by extractive sectors such as petroleum or mining. In some countries, such as Algeria, this is still very much the case, with the petroleum sector accounting for a substantial share of Gross Domestic Product (GDP) and almost all exports. In other countries, such as Sudan, the shift is quite recent, dating to the secession of South Sudan in 2011 when most of Sudan's oil resources went to the South. In Tunisia, the mining sector's share in total exports declined in the last decade (BCT 2018) due to lower oil reserves and also to social unrest within the phosphate sector since 2011. Egypt is no longer a large exporter of oil, but its economy has long been affected by the vagaries of the oil economy, either directly or indirectly through workers' substantial remittances from oil-rich countries. In all four countries, the importance of oil or other mineral revenues has declined in the 2010s, but the legacy of dependence on these sectors and other

sources of rents has strongly shaped the structure of their economies, leading to premature deindustrialization and the increasing importance of non-tradable sectors such as construction, real estate, trade and transportation.

Due to a variety of reasons, all four economies managed to achieve higher growth rates in the 2000–08 period than in the subsequent 2010–18 period. Algeria and Sudan benefited from the recovery of oil prices in the early 2000s, with the added benefit of the resumption of peace in Algeria after the black decade of the 1990s. Egypt and Tunisia achieved higher growth rates partly as a result of business climate reforms. After the modest slowdown triggered by the global financial crisis in the late 2000s, uprisings in Egypt and Tunisia in 2011 resulted in a recession in Tunisia and a major slowdown in Egypt. Sudan's growth also decelerated with the secession of the South in 2011 and Algeria's with the dramatic drop in oil prices in 2014.

One of the important legacies of the heavy reliance on oil and mineral rents accruing primarily to state coffers is a history of an outsized role for the public sector in job creation in all four countries, especially for post-secondary graduates (Assaad 2014). While Algeria continues to be highly reliant on public sector employment, Tunisia and Egypt have attempted to limit the role of the public sector in hiring since the 1980s, with some degree of success. While public sector employment made up about 40 per cent of employment in Algeria in the 2010s, its share was down to 22 per cent in Egypt, 15 per cent in Sudan and 22–23 per cent in Tunisia.

Despite success in limiting the role of the public sector in their labour markets, Egypt, Tunisia and Sudan have had less success in growing private sector formal employment. The recent pattern of growth in all three countries has not favoured sectors that generate substantial formal private employment, such as manufacturing, finance, or information and communications. Instead, the bulk of employment growth has been in construction, as well as in the 'wholesale, retail trade, transportation and storage, accommodation and food services' sector, with a large

¹ See Assaad 2021, which details a number of labour market indicators in the North African context that go beyond the labour market aggregates of unemployment, employment and labour force participation rates. The relevance of these indicators to the North African context were discussed during an Expert Group Meeting on Jobs and Growth in North Africa hosted by the Economic Research Forum (ERF) in December 2019.

share of informal employment. With the loss of much of its oil sector since 2011, Sudan has seen growing employment in agriculture, which has acted as an absorbing sector for excess labour in the economy. As expected, much of this was in the form of self-employment and unpaid family work.

Prior to the COVID-19 crisis, Algeria had already been growing slowly since 2016. It managed to use the substantial reserves it had accumulated during the period of high oil prices in the 2000s and early 2010s to sustain growth for a couple of years after the fall of oil prices in 2014, but that proved unsustainable. Tunisia had been suffering anaemic growth rates since its uprising, with substantial social pressures to maintain high levels of public spending and increase public sector workers' employment and wages. This has resulted in lower wage inequality since 2011 (Marouani et al. 2020) but fewer resources for public investment. Although Egypt has managed to resume growth at fairly respectable rates since 2015, it has unfortunately been mostly jobless, as indicated by steadily falling employment-to-population ratios since 2010. After growing fairly rapidly from 2015 to 2017, Sudan's economy has been in deep crisis since

the explosion of political unrest in 2018. Moreover, the absence of recent employment data for Sudan makes it difficult to assess the effects of recent developments on employment outcomes.

In what follows, the pace and pattern of economic growth are described in each of the four countries, including the evolution in the sectoral composition of GDP and employment, patterns of public, private and foreign investment, and the links between employment growth and productivity growth. Productivity variation in intra-sectoral and structural change components are decomposed following the methodology of McMillan and Rodrik (2011). Next is an assessment of labour market outcomes, starting with the trends in labour market aggregates – labour force participation, employment and unemployment – disaggregated by age group and education. Finally, this chapter offers an analysis of the distribution of employment by type – meaning public, formal private, informal private, and non-wage employment – over time, and relates this to the pattern of employment growth by industry.





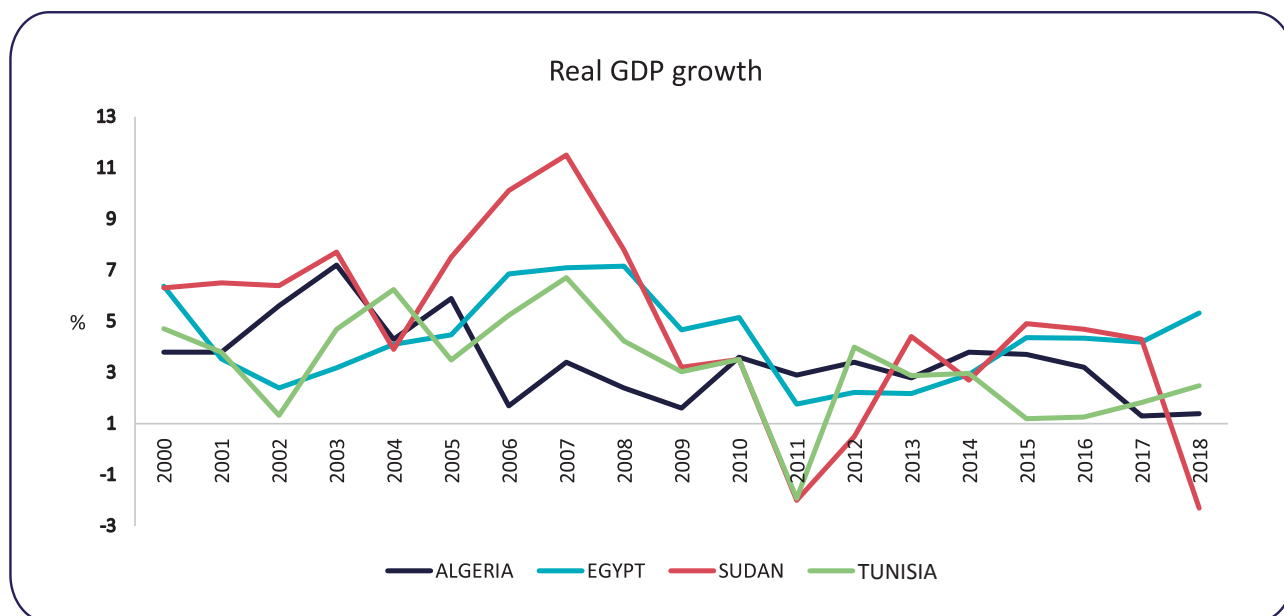
1.1. The pace and pattern of growth

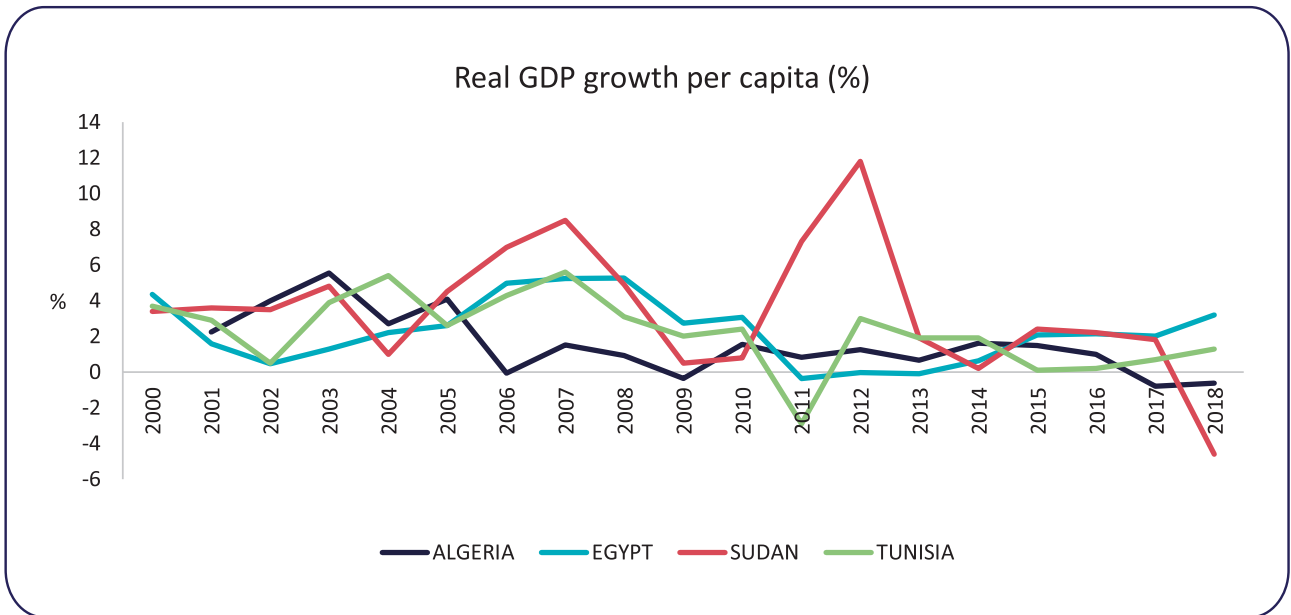
>>> 1.1.1. Real GDP and per capita GDP growth and the employment-to-population ratio

The four MENA economies have recorded higher high GDP growth rates in the 2000–08 decade than in the following one (2010–18). Oil prices (Algeria, Egypt, Sudan), civil peace (Algeria) and business climate reforms (Egypt and to a lesser extent Tunisia) are among the main explanations for the superior growth performance in the earlier phase. As shown in Figure 1, after the global financial crisis and the Arab Spring uprisings of 2011, which hit Tunisia and Egypt in particular, Egypt resumed growth after 2015, fueled mainly by public investment growth. Meanwhile,

hampered by increasing public consumption and a large external deficit, Tunisia has been unable to reignite growth. In Sudan, the secession of the South and the associated loss of oil revenues has had a negative effect on growth, which was compounded by the political unrest of 2018. In Algeria, low oil prices since 2014 have dried out the substantial foreign exchange reserves put aside by the Government in previous years, resulting in negative per capita GDP growth observed for the first time in 2018.

► **Figure 1.** Real GDP and GDP per capita growth, by country, 2000–18





Source: Authors' compilation, based on data from the National Statistical Office of Algeria (ONS); Egypt's Ministry of Planning; and World Bank, World Development Indicators for Sudan and Tunisia. 2000–2018.

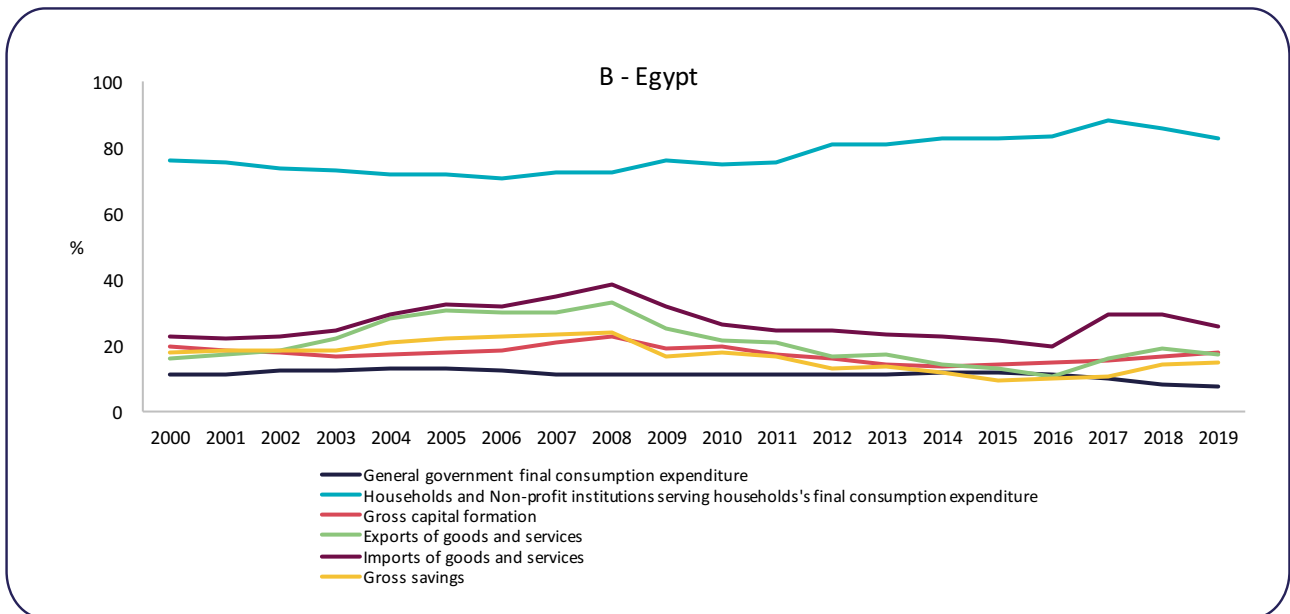
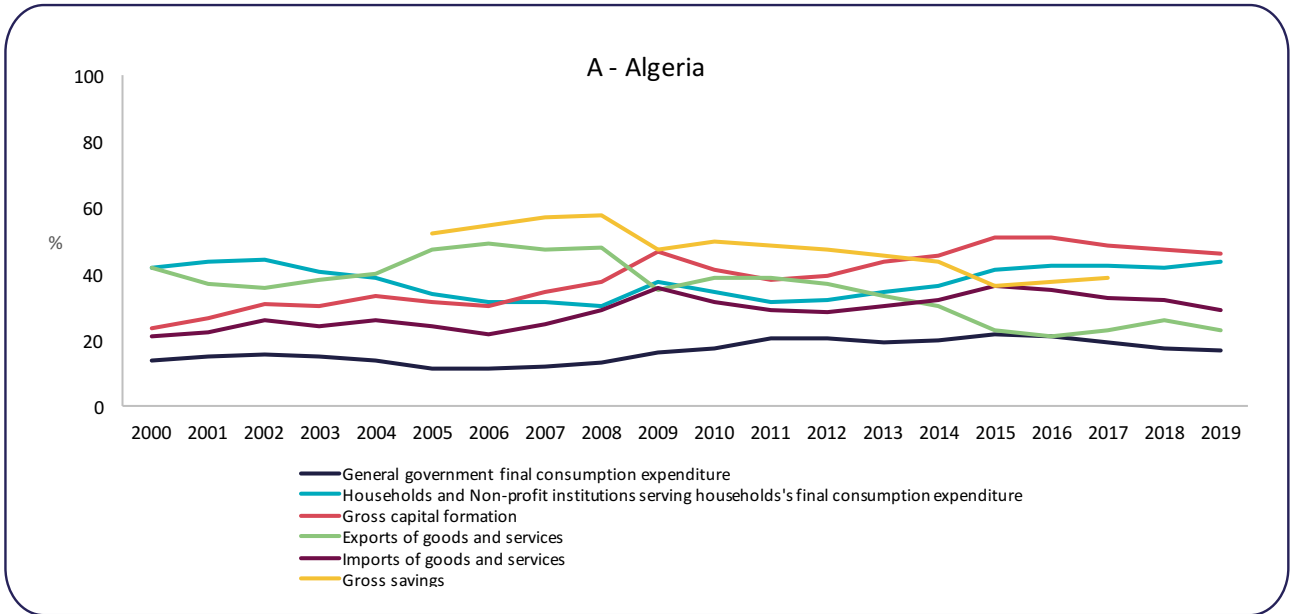
1.1.2. Composition of GDP (at current price by expenditure method)

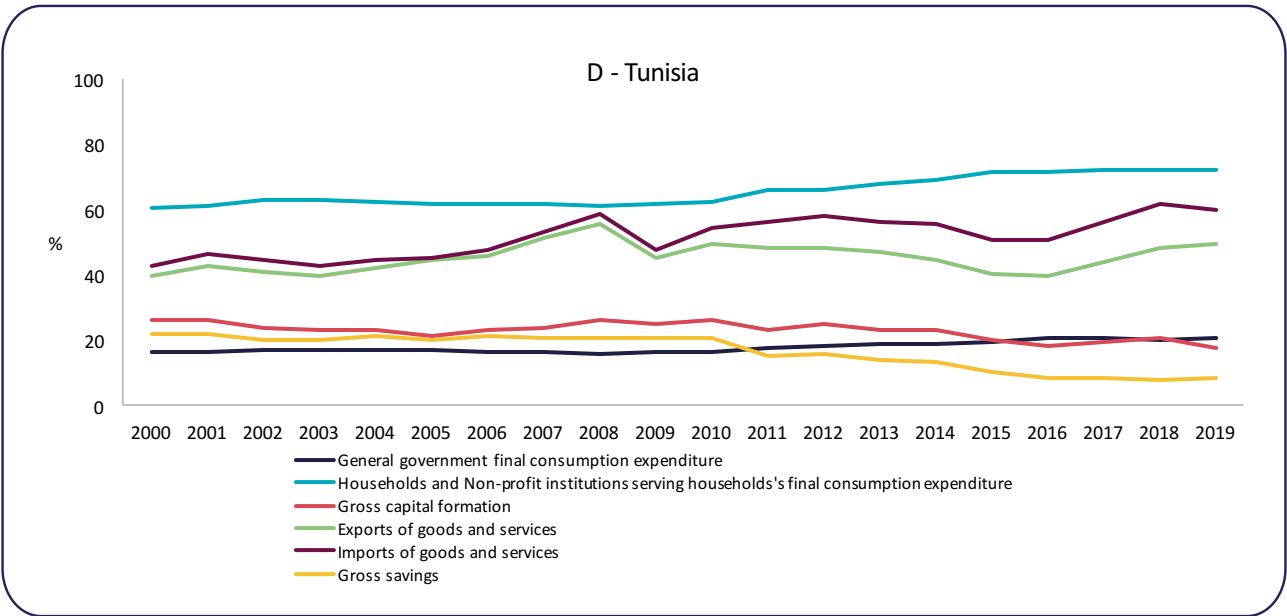
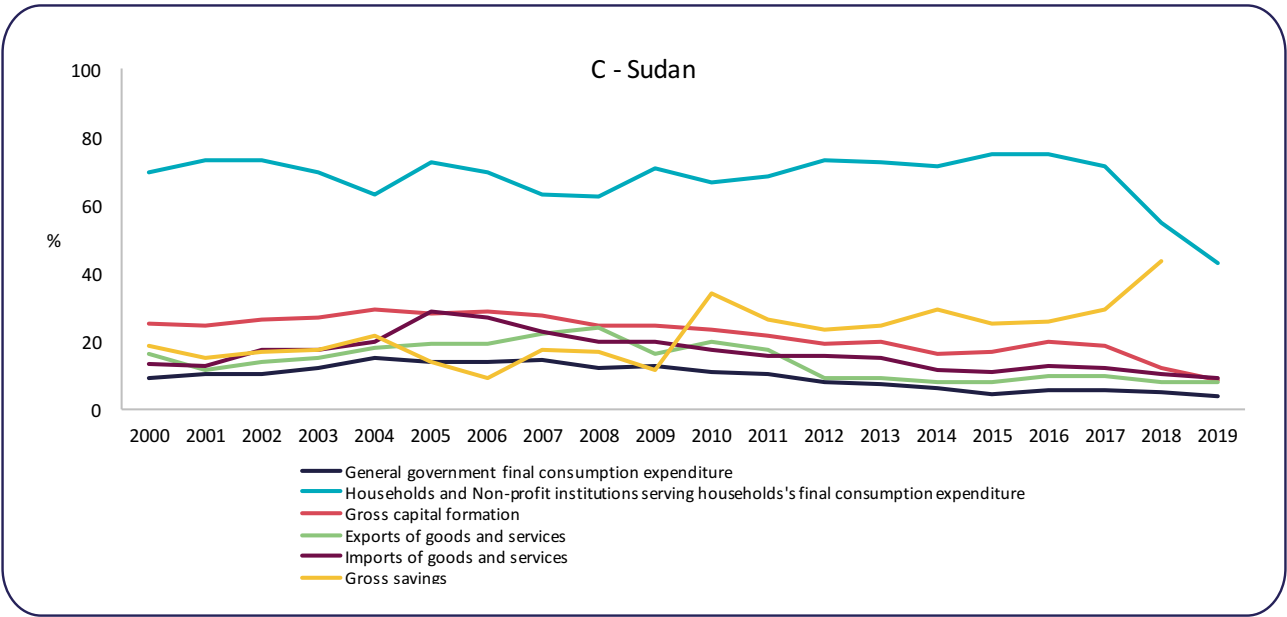
The North African region is characterized by the dominance of household consumption and a low investment-to-GDP ratio, except in Algeria where a significant share of oil revenues is devoted to investment. On the public spending and investment front, two opposite dynamics can be seen in Tunisia and Egypt. As shown in figure 2, government consumption in Tunisia has increased as a result of political pressure since 2011.

Conversely, in Egypt, the share of public consumption has declined while public investment has increased (figure 3). Finally, all three countries must cope with an external deficit that is particularly harmful for Algeria, which relies heavily on oil reserves for its economic and social programmes. In Sudan, the share of foreign trade is much lower in the economy. It has constantly decreased with the decrease of oil exports.



► **Figure 2.** GDP decomposition, by expenditure method





Source: Authors' computations, based on Algeria's ONS and World Development Indicators for Egypt, Sudan and Tunisia. 2000–2019.

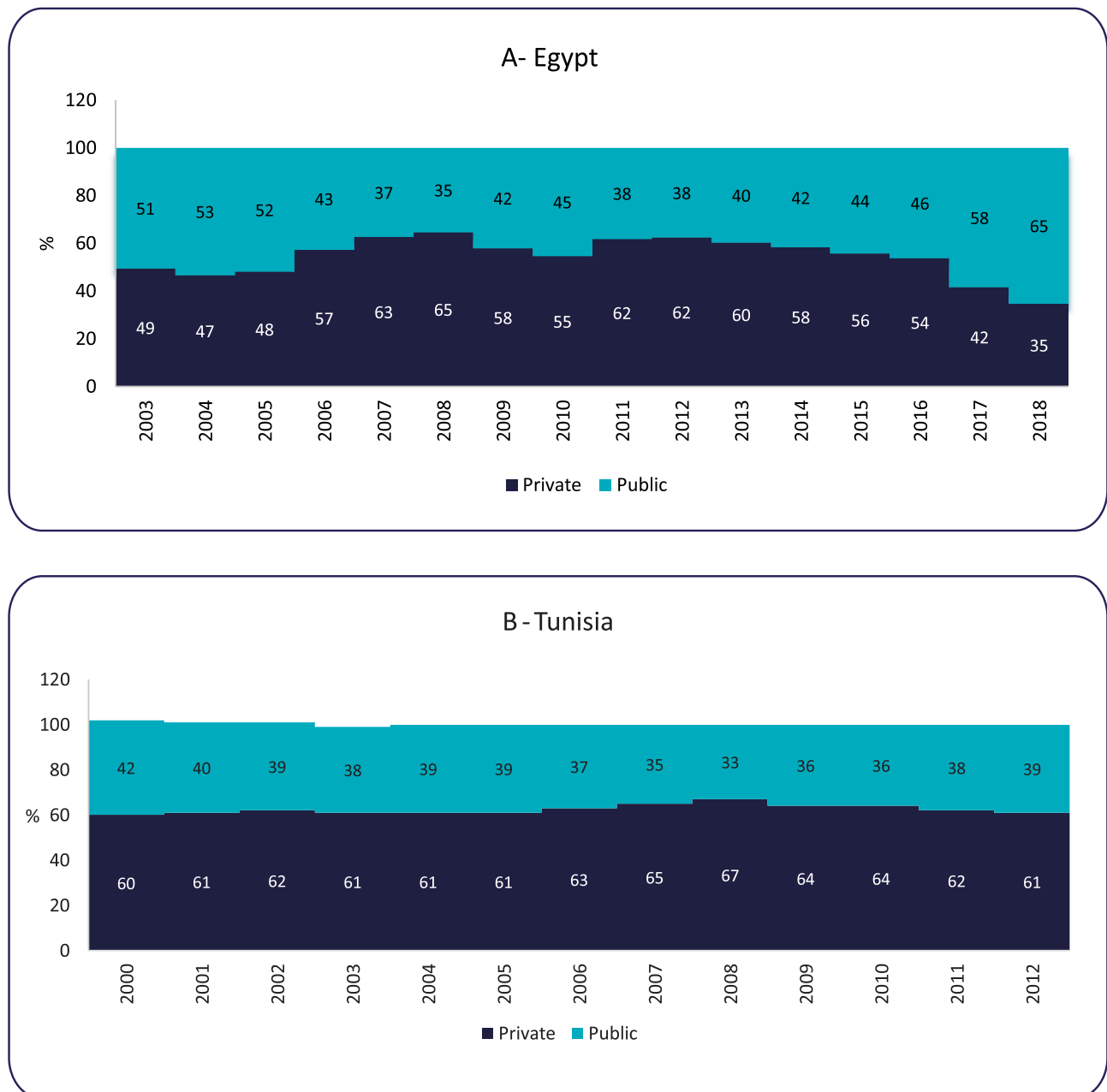


1.1.3. Pattern of public and private investment

While Algeria continues to be very dependent on public sector investment to fuel growth, Egypt and Tunisia have had modest success in increasing the share of the private sector in investment. In Tunisia, the private sector has made more than 60 per cent of investments since 2000, with a slight increase from 2000 to 2008, followed by a modest decline. Egypt managed to increase the private

sector's share of investment from just over 40 per cent in the early 2000s to 65% per cent in 2008 (figure 3). However, this trend has sharply reversed in recent years, with the private sector's share in investment falling to well under 40 per cent in 2019, highlighting the growing role of the Egyptian State in investment.

► **Figure 3.** Share of private and public investment in total investment, Egypt and Tunisia

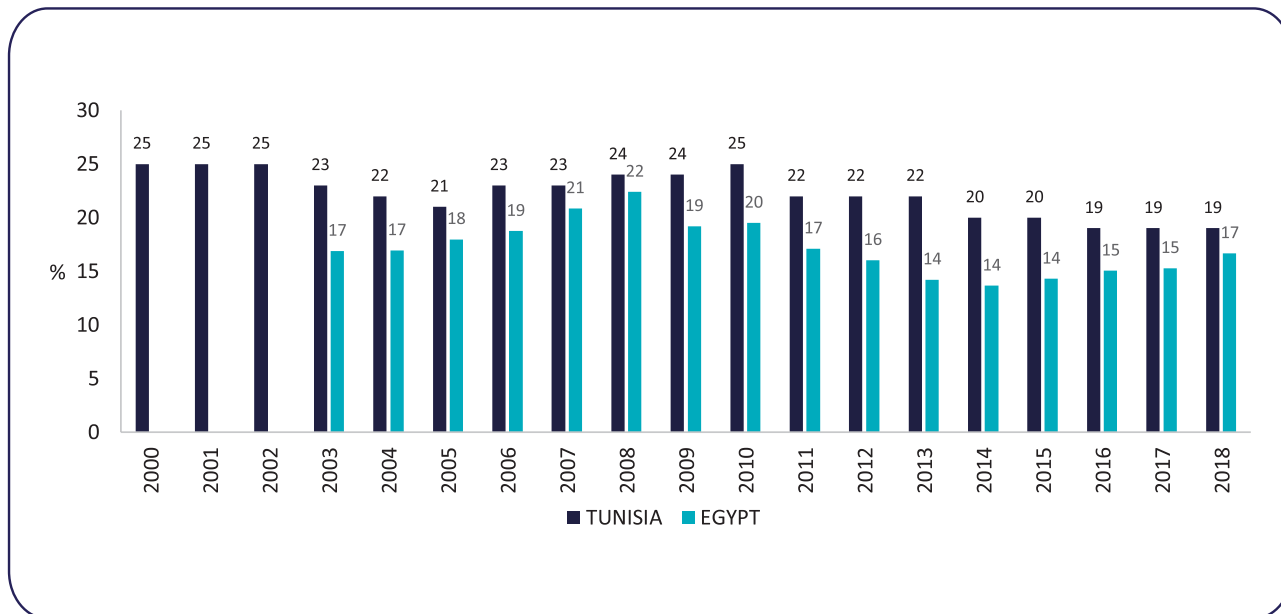


Source: Authors' computations, based on Egypt Ministry of Planning, 2000–2018; and Tunisia's National Institute of Statistics (INS), 2000–2012.

In Egypt, the 2004–08 growth episode was led by private investment, while the more recent growth recovery is fully driven by public investment, as shown in figure 4. In Tunisia, the share of private investment is generally higher and more stable. However, as shown in figure 4, in the recent decade both public and private investments went down from 25 per cent of GDP in 2010 to less than

20 per cent in 2016 (OECD 2018). These low investment rates have a negative impact on current and future GDP growth rates, as they reduce productivity growth – which was around 2 per cent on average in Tunisia between the 1980s and the end of the last decade. (Marouani and Mouelhi 2015).

► **Figure 4.** Share of investment as a percentage of GDP, Egypt and Tunisia



Source: Authors' computations, based on Egypt's Ministry of Planning and Tunisia's INS. 2000–2018.

»»» 1.1.4. Domestic credit and Foreign Direct Investment (FDI) to GDP

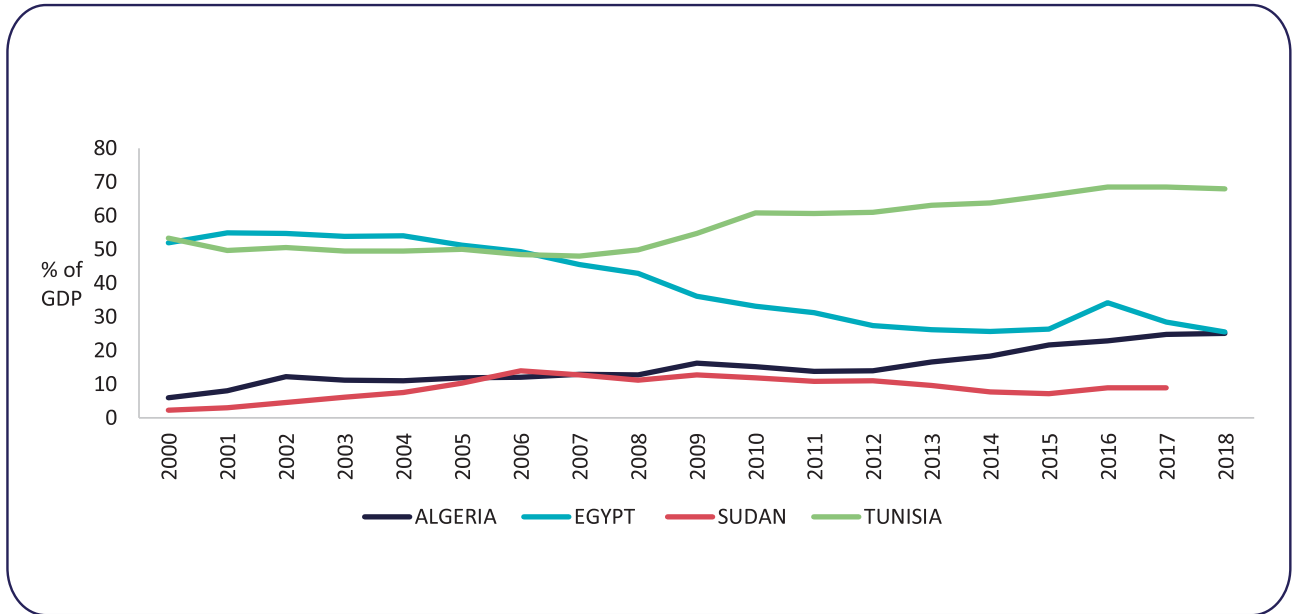
» Domestic credit to GDP

The levels of domestic credit to the private sector to GDP were similar in Egypt and Tunisia until 2007 (around 50 per cent); then, they diverged significantly (figure 5). In Tunisia, the level was around 70 per cent in 2018, while it decreased to around 25 per cent in Egypt (reaching

the Algerian level, which started at almost zero in 2000). These figures show a major weakness of the economies of the region. Dynamic economies, such as China, have levels well above 100 per cent – 165 per cent in 2019 (World Bank, n.d.).



► **Figure 5.** Domestic credit to the private sector as a percentage of GDP



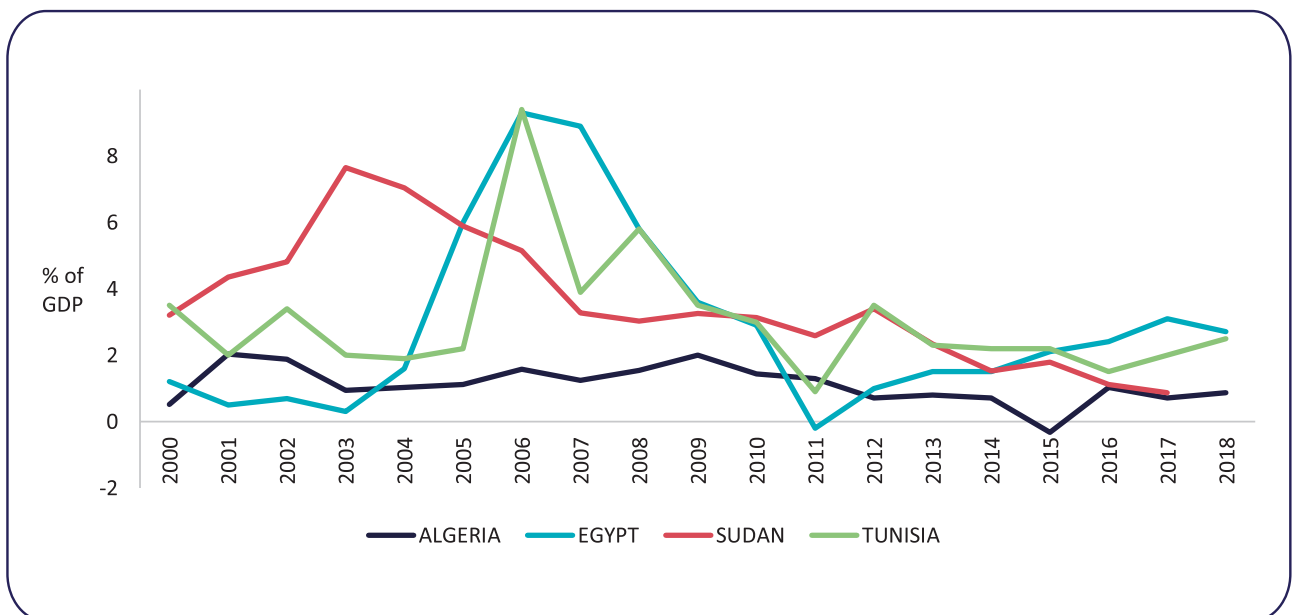
Source: Authors' computations, using Central Bank of Egypt (CBE) and the World Bank, World Development Indicators Database for Algeria, Sudan and Tunisia. 2000–2018.

» **FDI to GDP**

As shown in figure 6, FDI levels have been relatively low in the region, except the 2005–08 peak in Egypt and Tunisia (the 2006 peak corresponds to the selling of Tunisie Telecom for the latter). Moreover, FDI distribution shows that oil always ranks first (see Egypt in particular).

The oil sector has few interlinkages and spillovers to the other sectors of the economy and does not generate much employment per unit of economic activity. Thus, its impact on technological transfer, job creation and structural change is low (Marouani and Mouelhi 2015).

► **Figure 6.** FDI net in-flows, as a percentage of GDP



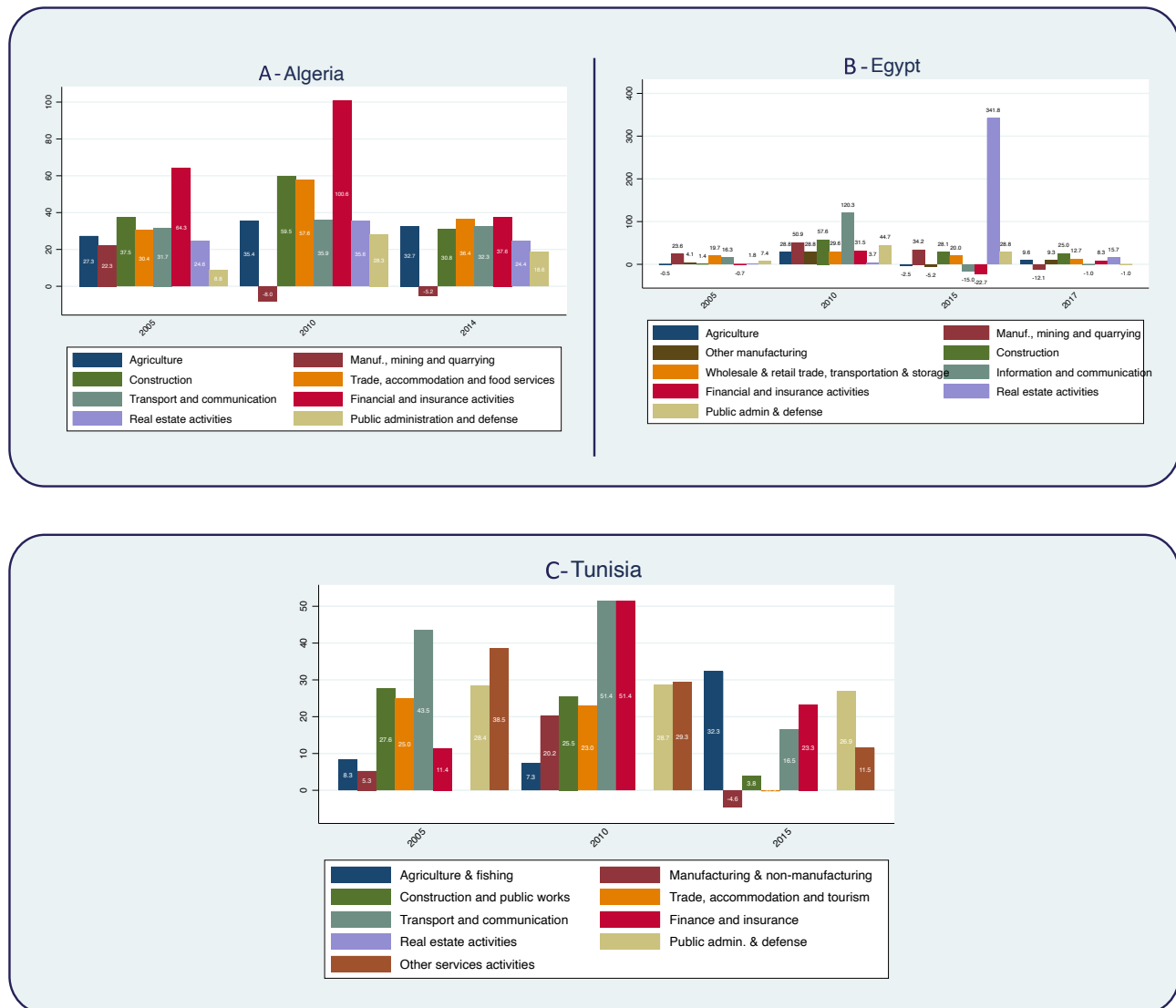
Source: Authors' computations, using the Central Bank of Egypt and the World Bank, World Development Indicators Database for Algeria, Sudan and Tunisia. 2000–2018.

1.1.5. Growth rate as a percentage of added value and employment, by industry

In the last two decades, the North African region has witnessed the rapid development of information and communication services as well as the construction and real estate industries. Banking loans were heavily directed towards these three sectors. As shown in figure

7, information and communication, finance and insurance, construction and real estate (particularly in Egypt after 2015) have seen their value added increase the most. The growth of manufacturing has been modest.

► **Figure 7.** Growth rate of value added, by broad industry sector

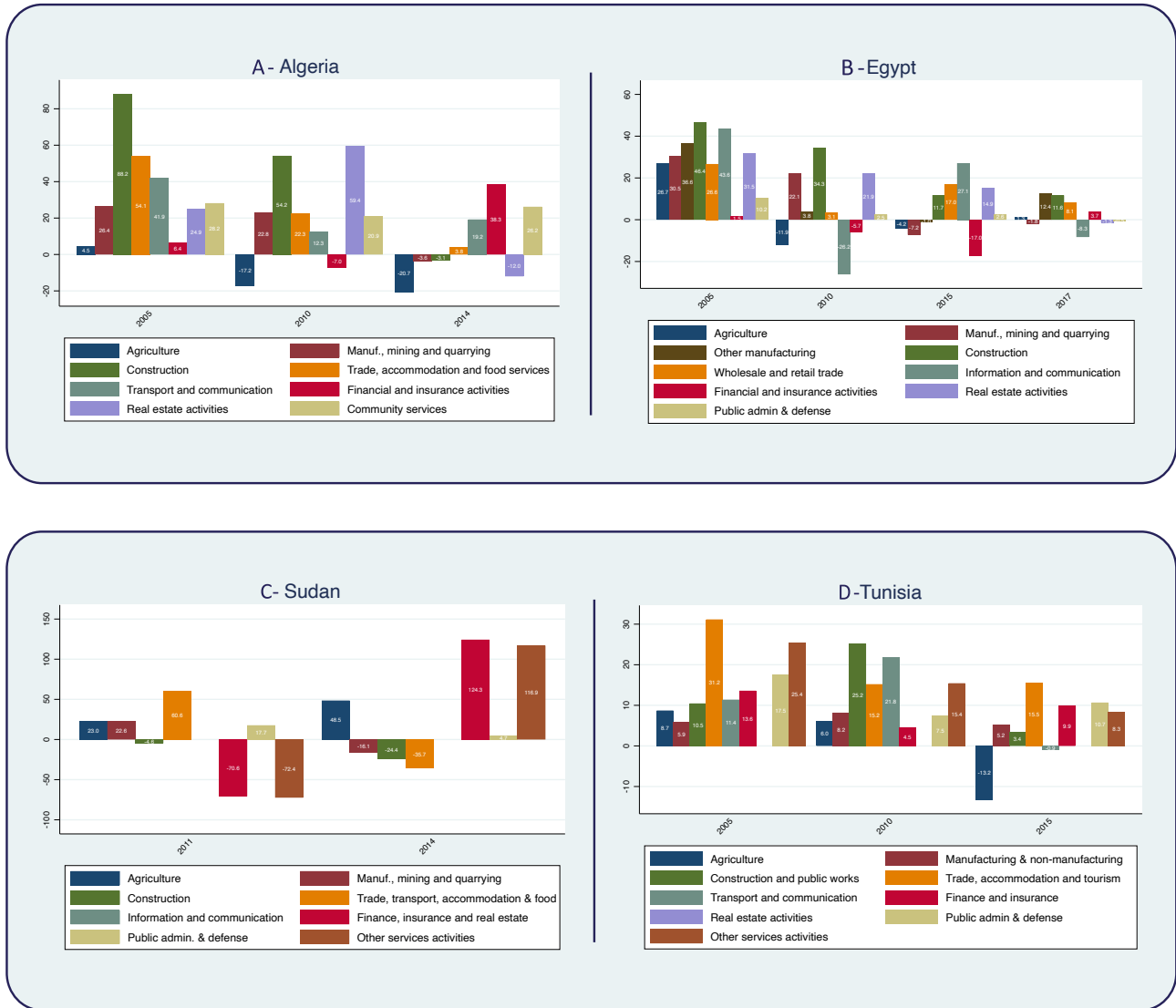


Source: Authors' computations, based on Algeria's ONS; Egypt's Ministry of Planning; and Tunisia's INS and Tunisian Institute of Competitiveness and Quantitative Studies (ITCEQ).

When examining those sectors that created the most jobs, as shown in figure 7, those that dominate are construction (Algeria, Egypt and Tunisia), communication (Egypt, Tunisia and to a lesser extent Algeria), wholesale and retail trade, finance and public administration and defense (except Egypt). If we exclude the latter for sustainability reasons, most "good jobs" created are in communication

and in finance, given that a large share of jobs created in construction and trade are informal and precarious. As illustrated in figure 8, the share of finance and communication is initially so low, in both the economy and in employment, that the significant increase they witness is not enough to modify outcomes at the macroeconomic level.

► **Figure 8.** Growth rate of employment, by broad industry sector



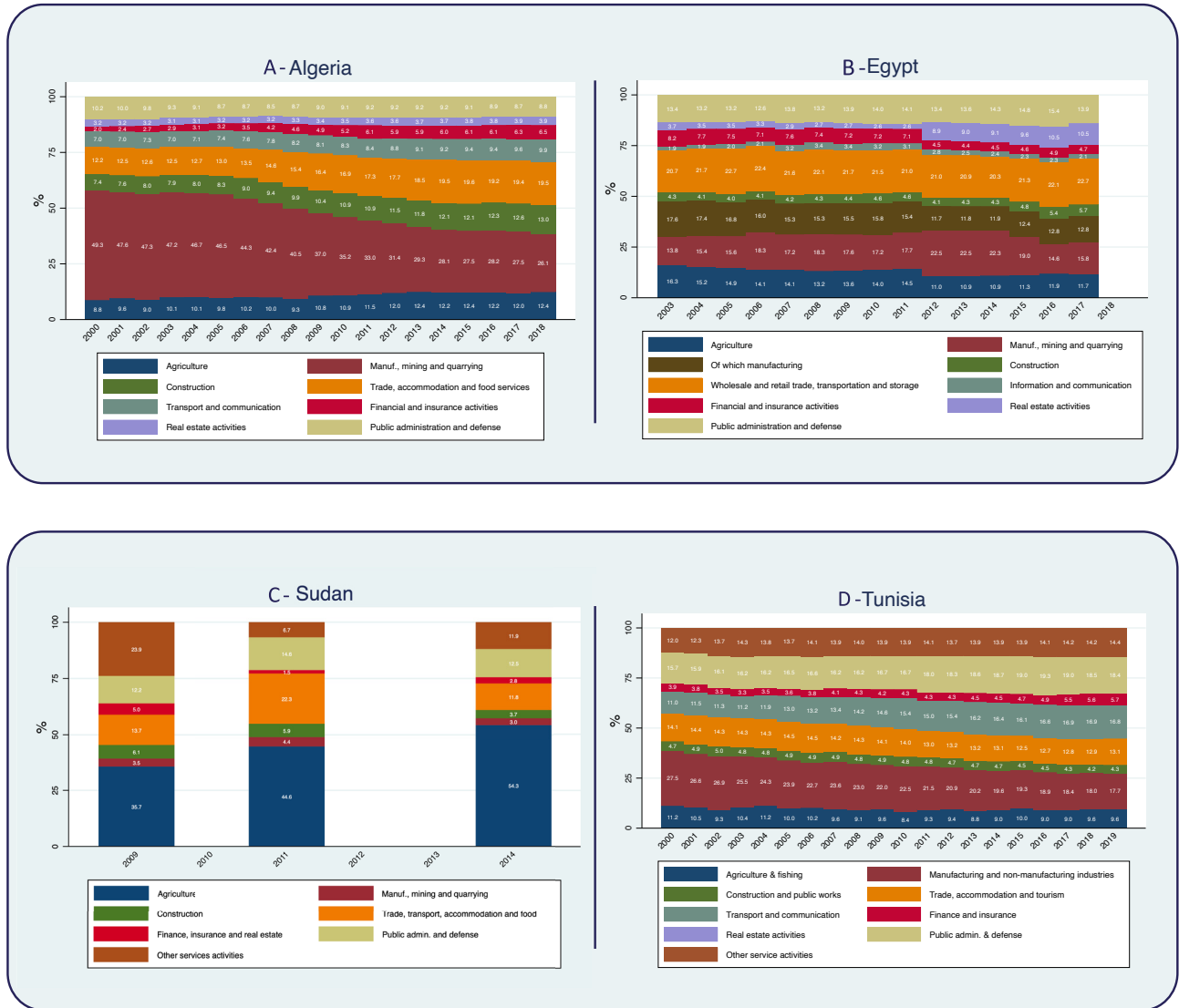
Source: Authors' computations, based on Algeria's ONS 2005, 2010, 2014; Egypt's Labour Force Survey (LFS) 2000–2011 and 2003–2017; the Sudan Household Budget Survey (SHBS) 2009, 2014/15 and Sudan Labour Force Survey (SLFS) 2011; and Tunisia's INS 2005, 2010 and 2015.

»»» 1.1.6. Distribution of value added and employment, by broad industry sector

The evolution of the sectoral composition of the economy is very informative. As shown in figure 9, wholesale and retail trade is now the largest sector (in Egypt and Tunisia) or the second-largest sector of the economy (in Algeria). Transport and communication are also both becoming important sectors (in Algeria and Tunisia). Manufacturing

is losing ground everywhere while the share of agriculture is more or less stable (higher in Sudan). Construction (Algeria) and real estate activities (Egypt) are becoming key in some economies. Finally, the share of government activities is stable at fairly high levels.

► **Figure 9.** Distribution of value added by broad industry sector



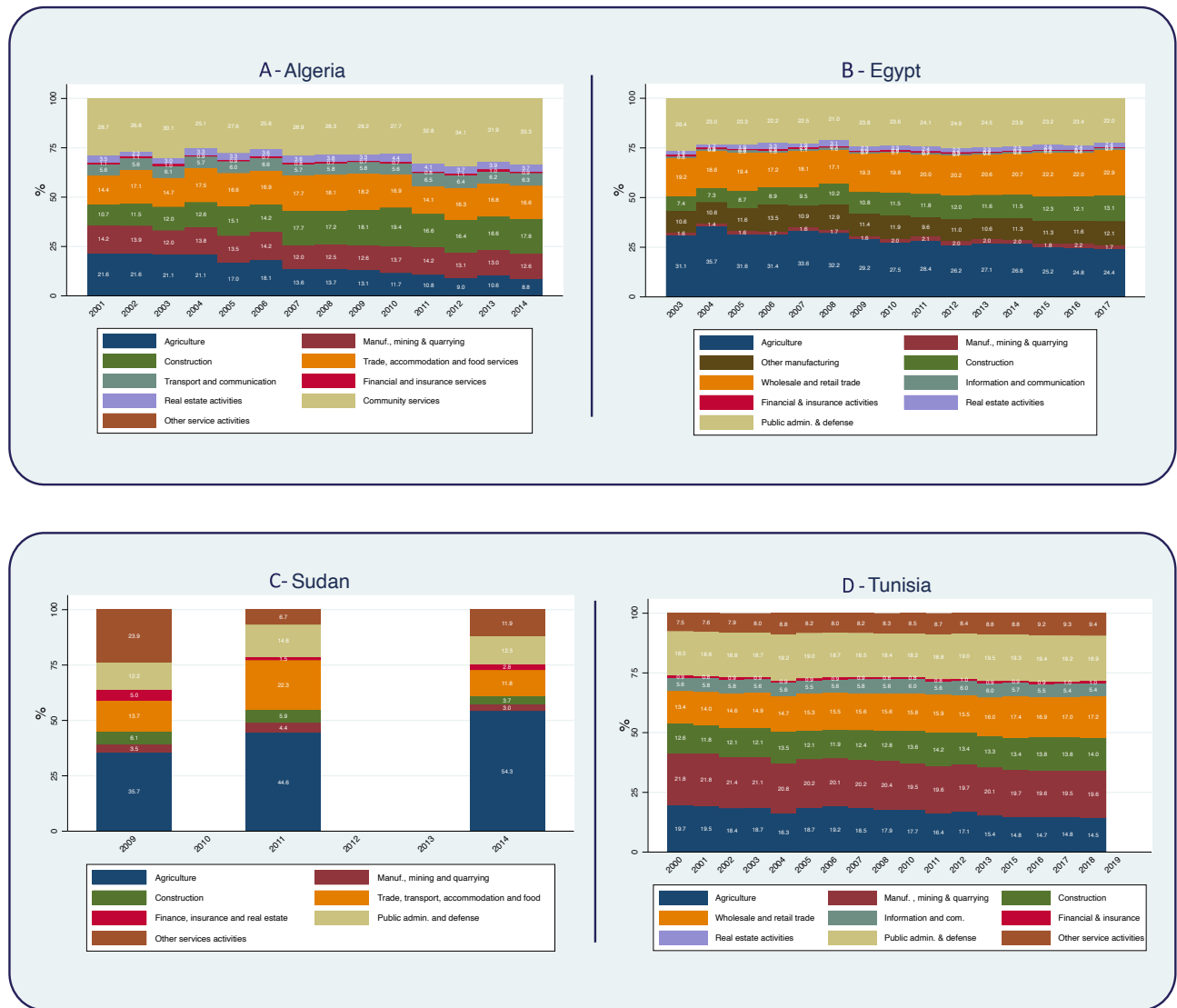
Source: Authors' computations, using Algeria's ONS 2003–2018; Egypt's LFS; Sudan's SHBS 2009 and 2014/15 and SLFS 2011; Tunisia's INS and ITCEQ 2000–2019.

As shown in figure 10, the share of agriculture in employment is decreasing everywhere, except in Sudan, where it seems that agriculture plays a role as an employer of last resort. The public administration is still a very large employer, mainly in Algeria (33 per cent), and its share is increasing, except in Egypt. The development

of services in the region takes the shape of a bigger share of trade and construction jobs. These sectors create the most informal jobs, as will be seen in the next section. Meanwhile, manufacturing, which was the main driver of the emergence of a middle class of workers in Tunisia in the 1970s, has seen its share decrease.



► **Figure 10.** Distribution of employment, by broad industry sector



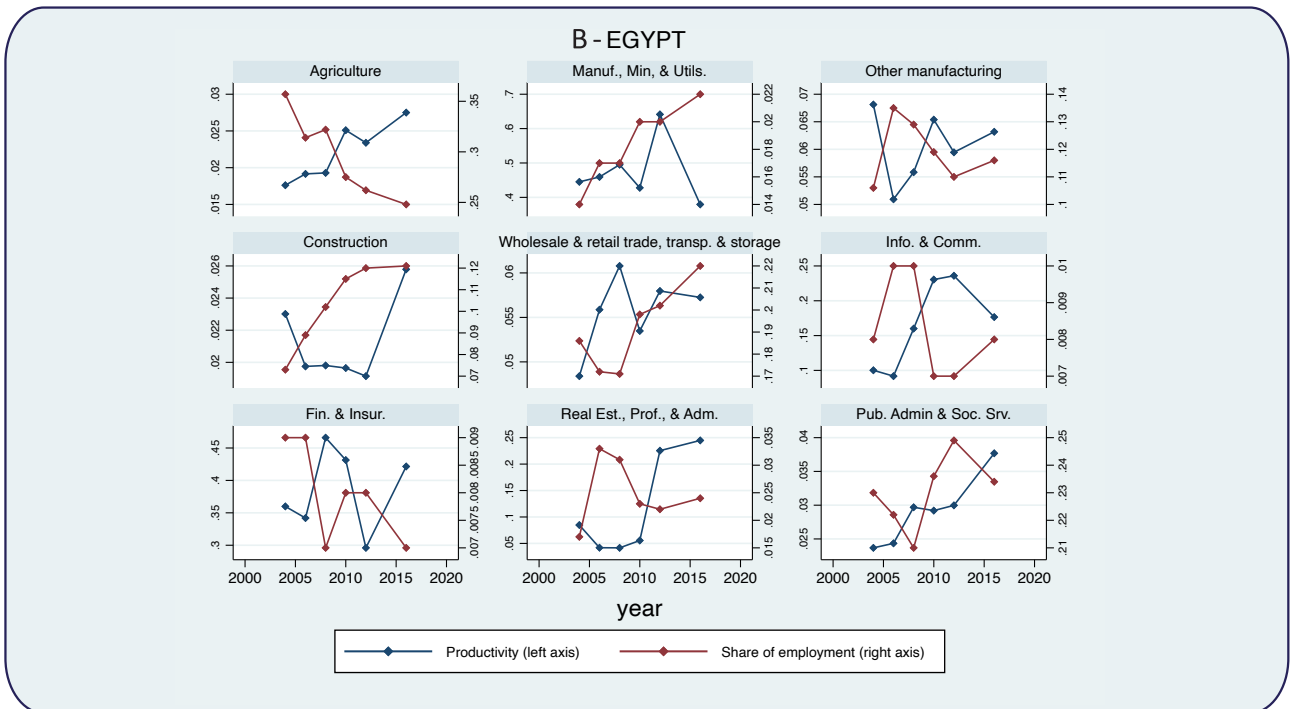
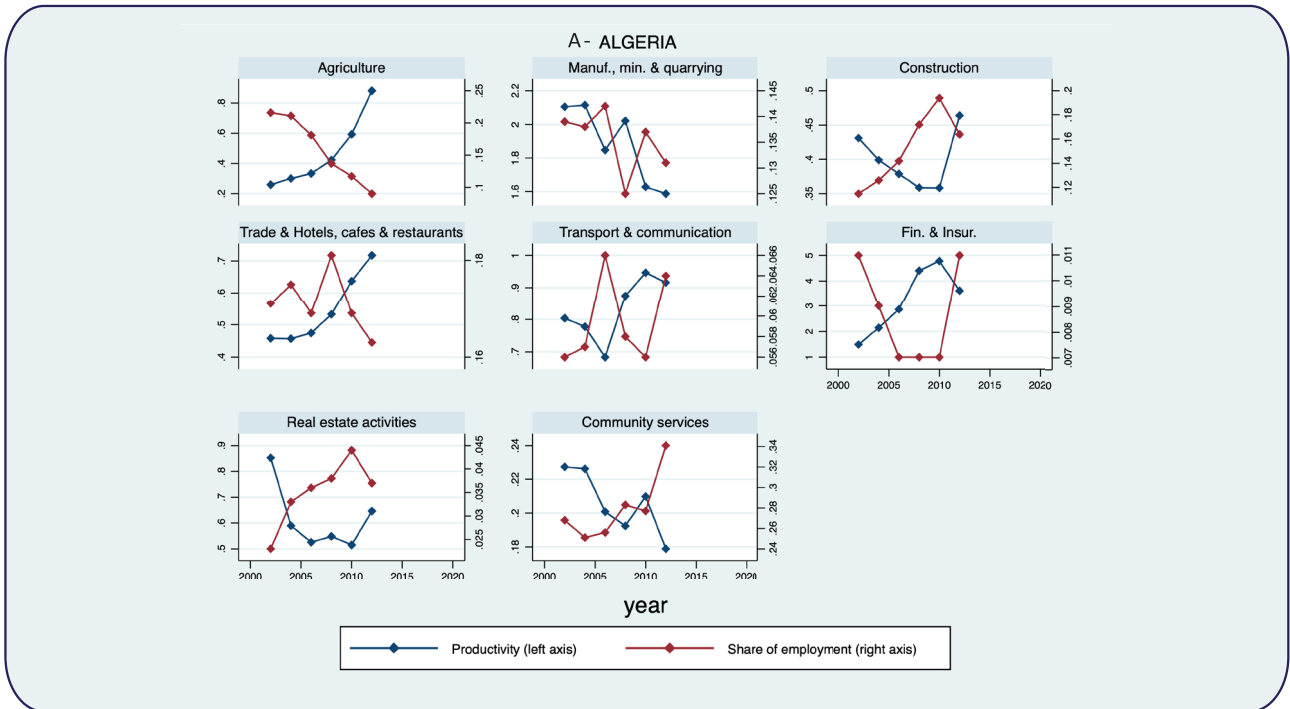
Source: Authors' computations, using Algeria's ONS; Egypt's LFS; Sudan's SHBS 2009, 2014/15 and SLFS 2011; and Tunisia's INS 2000-2019.

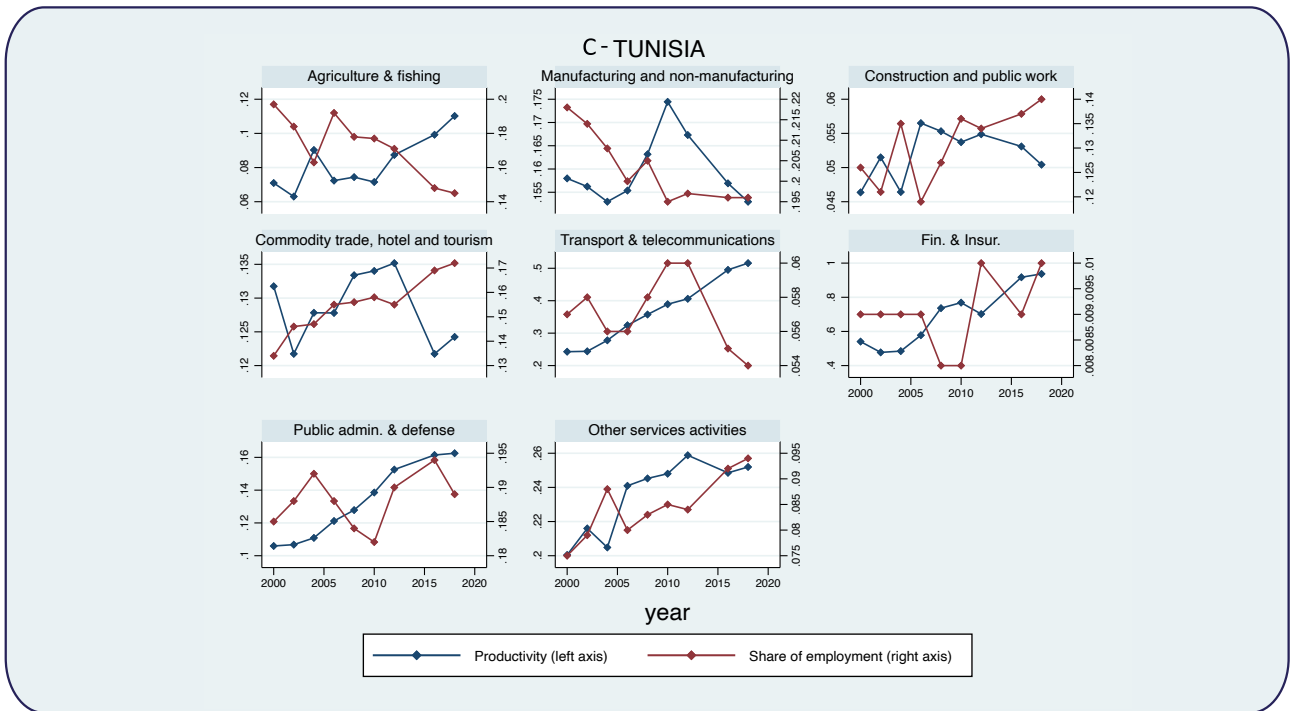
1.1.7. Productivity growth and share of employment variation

This subsection seeks to assess the joint dynamics of employment and labour productivity growth. In agriculture, increased productivity is accompanied by lower employment in most countries. In construction, there are more jobs and productivity is more stable. The rare cases of an increase of both variables are the finance sector and 'other services' activities in Tunisia.

McMillan and Rodrik (2011) have shown that in South-East Asia's period of rapid growth, jobs were created in labour-productivity-increasing sectors. This is what they characterized as productivity-increasing structural change. This issue will be investigated further in the last section of the report.

► **Figure 11.** Growth rate of employment and productivity, by broad industry sector





Source: Authors' computations, using Algeria's ONS; Egypt's LFS and Ministry of Planning data; Tunisia's INS and ITCEQ.

1.1.8 Sectoral employment/growth elasticity

In Algeria, the elasticity of employment to sectoral growth² has been close to 1, on average. It has been negative in agriculture in Algeria and very low in the financial sector, which means a capital-intensive growth in the sector. The highest levels of elasticity are in sectors controlled by the Government, such as public administration and mining. In Tunisia, the elasticity increased from 0.5 in the 2000–11 period to 0.72 in the 2011–18 period.

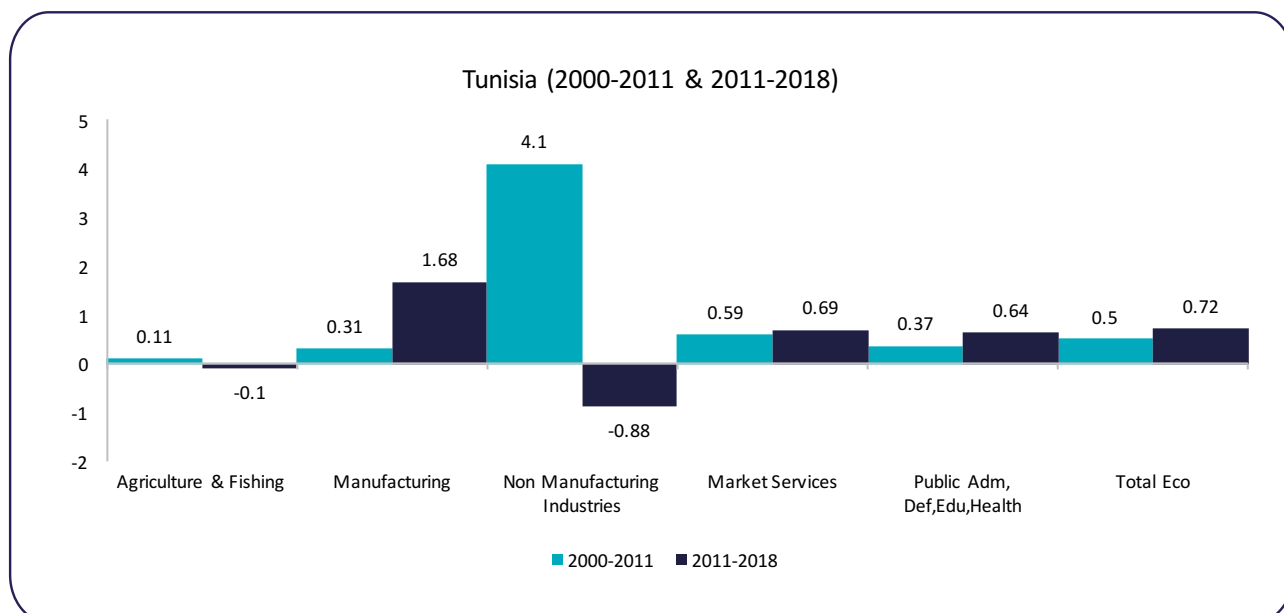
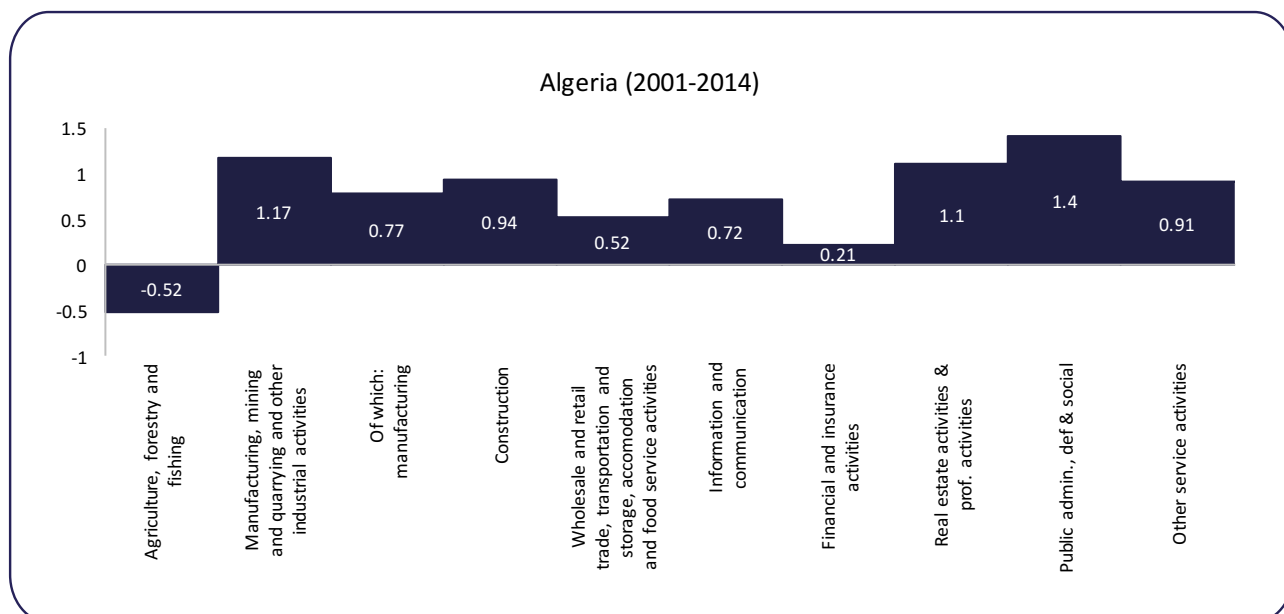
Two interesting results can be highlighted. First, in the mining sector (non-manufacturing), job creation by

the Tunisian Government in the 2000–11 period was disproportionate in a very capital-intensive sector, which should have a very low elasticity. However, what is even more striking is that job creation continued even though the sector was shrinking in absolute terms in the 2011–18 period. The second interesting point is that the elasticity of employment to growth has increased significantly in the manufacturing sector. This is illustrated well in section 1.6, in that the share of manufacturing in total value added decreased much more than the share of employment.



² Employment/growth elasticity is the percentage of employment variation associated with a 1 per cent variation in the growth rate.

► **Figure 12.** Sectoral employment and growth elasticities



Source: Authors' calculations, based on Algeria's ONS 2001–2014 and Tunisia's INS. 2000–2018.

››› 1.1.9. Productivity decomposition

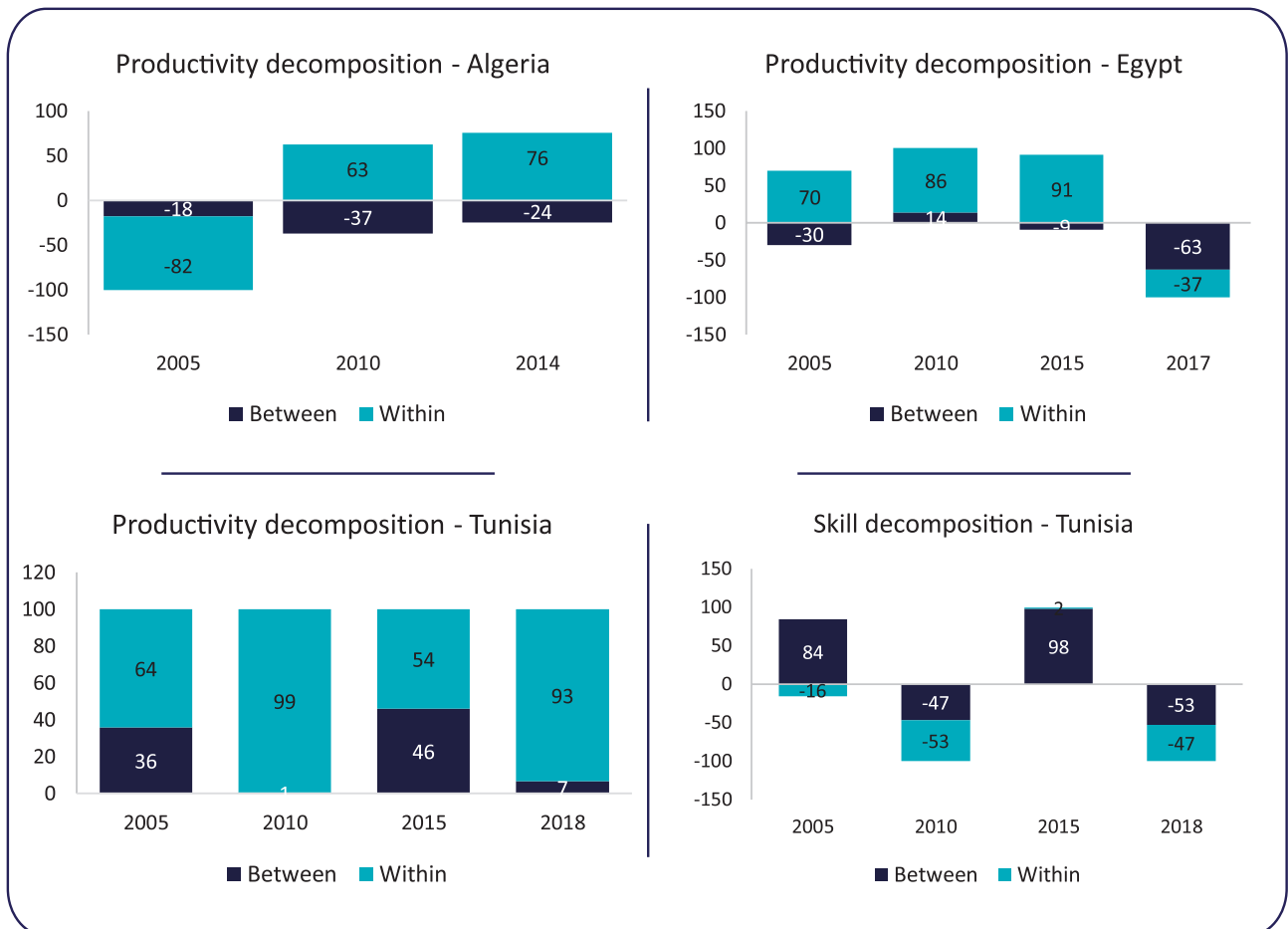
To understand the contribution of structural change to economic growth, a productivity decomposition (both between and within sectors) was undertaken in three of the countries analysed.³ The first result from the productivity decomposition over the last 20 years is that Algeria, Egypt and Tunisia have different performances and patterns. In Tunisia, productivity has been growing since the 2000s, and both the within-sector and structural change components have been contributing positively, although the former with more weight. This confirms the analyses of Asik et al. (2020) and Marouani and Mouelhi (2015). However, what cannot be appreciated in figure 13 is that the rate of growth of productivity has decreased significantly since 2010.

In Algeria, productivity growth was low, then resumed between 2005 and 2010 and is solely due to intra-sectoral progress. Structural change has seen productivity decreasing, which means that the sectors with the lowest productivity increased their share in the economy.

The Egyptian situation is similar to that of Tunisia between 2005 and 2015. However, between 2000 and 2005, structural change saw productivity decreasing and after 2015 both between and within-sector components of labour productivity decreased. The loss due to structural change is higher.



► **Figure 13.** Productivity decompositions



Source: Authors' calculations, based on data from: Algeria's ONS; Egypt's LFS and Ministry of Planning; and Tunisia's INS and ITCEQ.

³ No data were available for productivity decomposition in Sudan.



1.2. Labour market trends

1.2.1. The evolution of labour market aggregates: participation, employment and unemployment

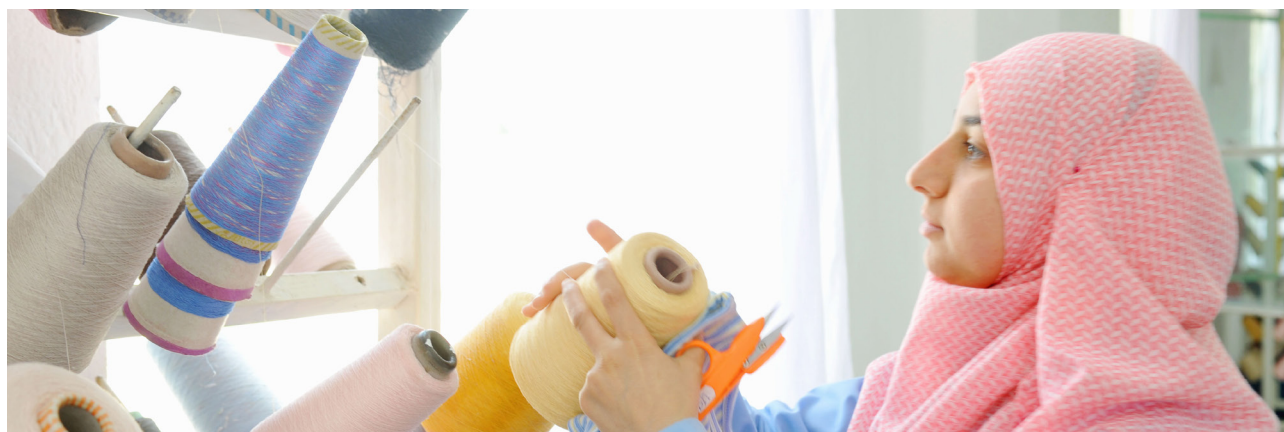
North African labour markets are characterized by low labour force participation by international standards. At 48 per cent in 2018, overall participation rates of the population aged 15–64 in the subregion are roughly two-thirds the world average of 66.5 per cent (ILO, n.d.). Over the past two decades, the participation rates hovered around 50 per cent for Egypt, Sudan and Tunisia, and were slightly below this level for Algeria. These participation rates are so low largely as a result of these countries' female labour force participation rates, which are among the lowest in the world. At 23 per cent, the female participation rate in North Africa is less than half the world average of 53 per cent in 2018 (ILO, n.d.). At 74 per cent in 2018, male participation rates in North Africa are more comparable to the world average of 80 per cent, but still somewhat lower.

Despite participation rates being relatively low to start with in the four countries under consideration, trends in overall participation are virtually flat, as shown in figure 14. These flat overall trends reflect falling levels among men and slightly rising levels among women. The falling participation trend among men is especially pronounced among young men and could be an indication of higher education enrolment. However, as illustrated below, it is more likely an indication of extended transitions

from school to work and increased discouragement. Participation rates tend to be very high among younger adult males (aged 25–34) and those of prime working age (aged 35–59), but there is some evidence of a decline, even among these groups. This is especially true for Sudan and for Tunisia since their respective secession and uprising in 2011. Male participation is lower for older men (aged 60–64) and also declining since 2010, except in Tunisia, where it increased.

As shown in figure 14, female participation is highest for women aged 25–34 and lowest for those aged 60–64 in all four countries. It tends to exhibit a slightly rising trend for younger and prime-age adults, but not for the oldest and youngest age groups.⁴ In Egypt and Tunisia, the rising trend for adult women seems to have slowed, if not stalled altogether, in recent years.

Low labour force participation rates affect all four countries, including some of the lowest female participation rates in the world. Overall trends reflect stagnating or falling participation levels among men and slightly rising levels among women.



⁴ In Sudan, ILO modeled estimates suggest rising female participation among all age groups except for the youngest (15–24) (see appendix).

► **Figure 14.** Labour force participation rates, by sex and age group, ages 15–64, (percentage)

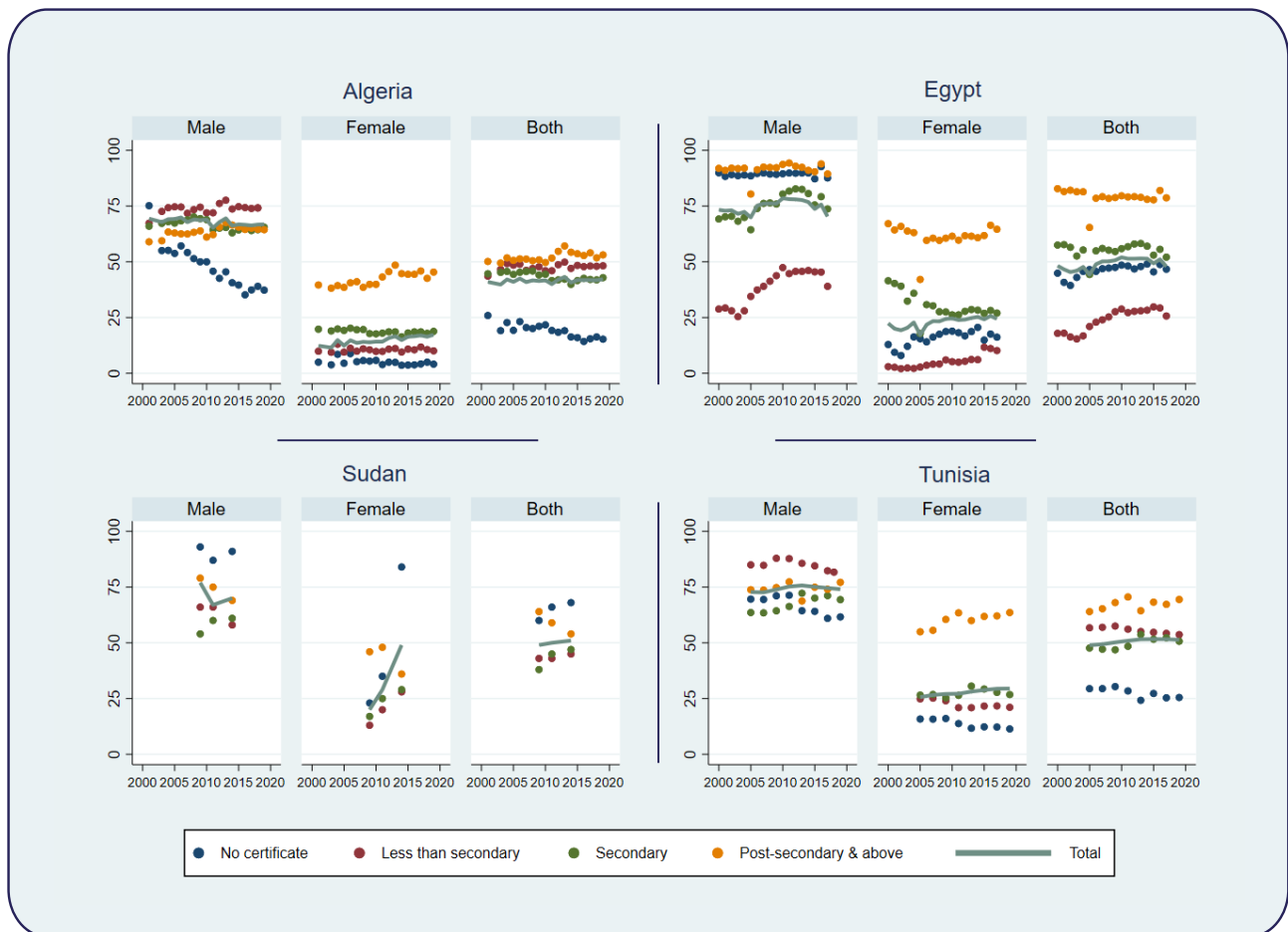


Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

The declining trend in male participation exhibits varying patterns by education in different countries. As shown in figure 15, the declining trend is most pronounced in Algeria among males with no educational certificate, which represents an older age group whose preponderance in the population is shrinking over time, as educational attainment rises. In Egypt, there are substantial recent declines in participation among secondary school graduates, most of whom have technical secondary degrees. This is a more concerning trend since it involves an important and growing segment of the Egyptian population. In the 2000s, there was a marked increase in male participation among those with less than secondary degrees in Egypt, and to a lesser extent those with secondary degrees, but this increase has stalled if not reversed in the 2010s. In Sudan, the declining participation trend among men appears to be limited to less-educated groups, namely those with no certificate and those with less than secondary education. As is well established, female participation has a strong association with education in all countries, with

secondary- and post-secondary-educated females participating at much higher rates than their less-educated counterparts (Assaad et al. 2020). The increasing trend in female participation is therefore mostly driven by the shift in the composition of the working-age population towards more educated groups over time. Holding education constant, however, the trend in participation varies by country. As shown in figure 15, the trend among post-secondary female graduates in Algeria was rising in the early 2010s, then stalled. That of secondary graduates was flat or slightly declining. In Egypt, there was a downward trend among both post-secondary and secondary female graduates in the 2000s, which then stabilized in the 2010s. In Sudan, there is a declining trend among post-secondary female graduates, but a rising trend among secondary graduates. In Tunisia, there has been a slightly rising trend among post-secondary graduates but, as will be discussed later, it is mostly due to rising unemployment rather than employment. In contrast, the trend among female secondary graduates there is slightly declining, as is the case for the trend among lesser-educated women.

► **Figure 15.** Labour force participation rates, by sex and educational attainment, ages 15–64, (percentage)



Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

Turning now to an examination of employment-to-population ratios or employment rates, the first thing one can observe is that the direction of overall employment rates, with some notable exceptions, generally reflects the pattern of economic growth – albeit with a degree of inertia.

Productivity decompositions over the last 20 years reveal different patterns (positive in Tunisia, negative in Algeria, and mixed in Egypt) but confirm that structural change has mostly favoured low-productivity sectors, with most productivity increases occurring within rather than between sectors, with the resulting low-quality, often informal jobs.

In Algeria, as the economy began recovering from the difficult decade of the 1990s, employment rates rose in the early 2000s (figure 16). As the economic growth rate moderated in the mid-2000s, employment rates

stabilized. Surprisingly, despite the collapse in growth following the 2014 oil price decline, employment rates have not dropped. This is probably due to the fact that they used their accumulated international reserves for several years after the decline in oil prices to maintain high levels of public sector employment.

In Egypt, employment rates increased in the 2000s in response to fairly robust economic growth just prior to the global financial crisis and then reversed sharply, post-2010. They have continued to fall since then despite the resumption of economic growth in 2014.

While there are limited data for Sudan, ILO modelled estimates indicate that employment rates were flat – at around 43 per cent from 2000 to 2009, amid a period of rapid growth fueled by oil revenues. Employment rates then declined to 40 per cent by 2012 and remained at that level through 2017. Similarly, employment rates were flat in Tunisia from 2005 onward, with the exception of a dip in 2011, amid the uprising.

► **Figure 16.** Employment rate, by sex and age group, ages 15–64, (percentage)



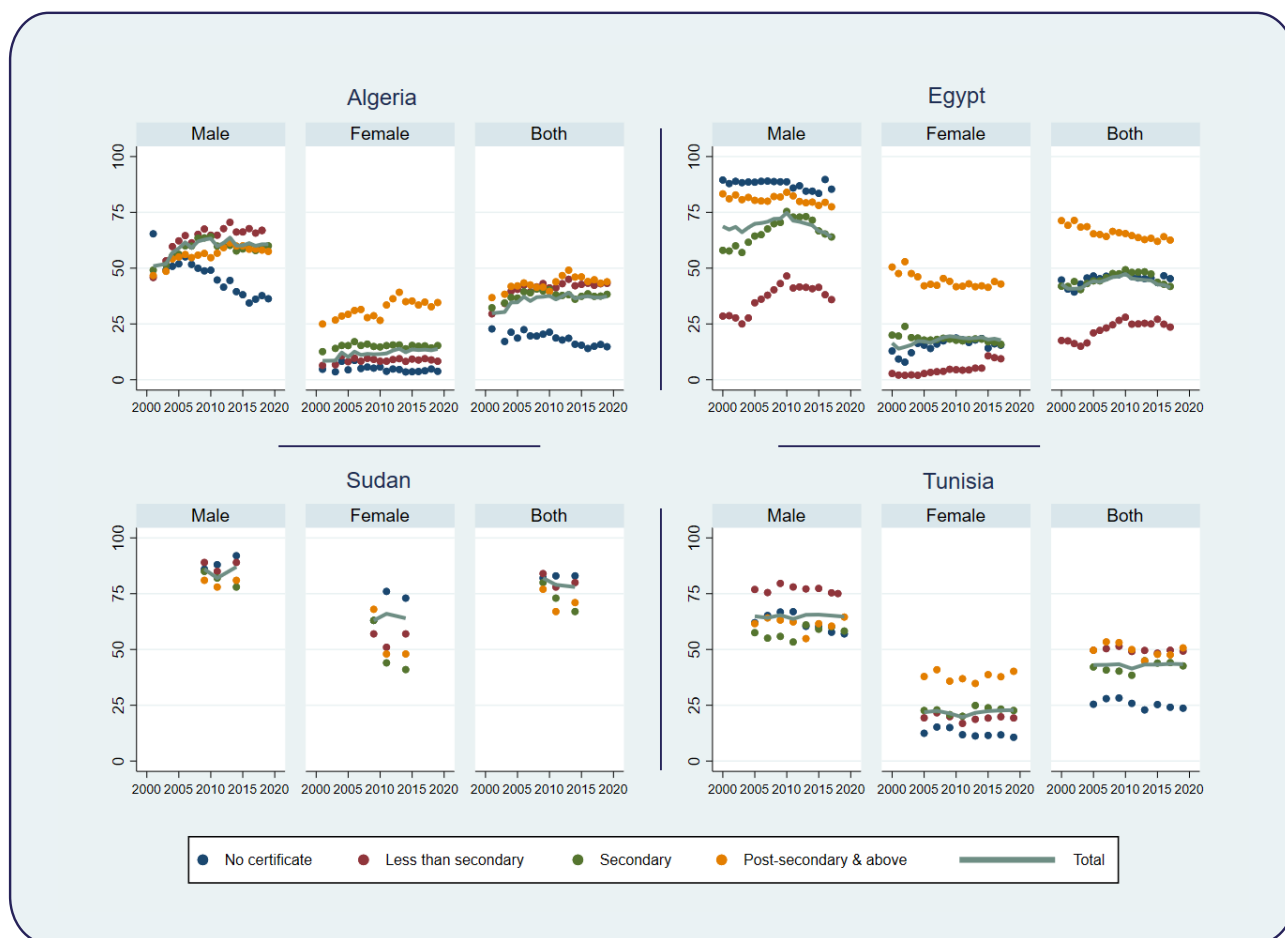
Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

The age and education patterns of employment closely reflect labour force participation patterns. The main exceptions are for post-secondary graduates in Egypt and Tunisia. While participation rates for these groups were flat or rising, employment rates were declining, reflecting a rise in unemployment rates among these groups. As shown in figure 17, this is especially pronounced among post-secondary female graduates in both countries prior to the Arab Spring, a time of declining public sector

hiring. As shown below, female graduates have a strong preference for public sector employment and, thus, their employment trends mostly depend on the extent of public sector hiring (Assaad 2014; Assaad et al. 2020). After their respective uprisings, Egypt and Tunisia resumed public sector hiring to respond to political pressure from the middle class, which explains the stabilization of female graduate employment rates there.



► **Figure 17.** Employment rate, by sex and educational attainment, ages 15–64, (percentage)



Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

A well-established fact about North African labour markets is their high unemployment rates, in particular among youth. According to ILO modelled estimates, at 11.8 per cent, the unemployment rate for the population aged 15+ in Northern Africa in 2018 was the highest among all world regions and more than twice the world average of 5.4 per cent (ILO, n.d.). Similarly, at 28.5 per cent, youth unemployment rates in Northern Africa are also the highest in all world regions and more than twice the world average of 13.5 per cent.

Since much of the unemployment in North Africa is concentrated among youth and young adults, it is worth focusing on the trends among these two age groups. As shown in figure 18, prior to the Arab Spring uprisings of 2011, youth and young adult unemployment rates were falling throughout North Africa, but especially in Algeria and Sudan, and to a lesser extent in Egypt.⁵ Tunisia was the main exception to this trend, with stable unemployment

rates among men and rising rates among women. Despite the declining trends in youth unemployment rates in the 2000s in Algeria and Egypt, these rates remained high, indicating that even a decade of high economic growth did not substantially reduce high youth unemployment.

In Algeria, youth and young adult unemployment began rising again around 2008, a couple of years after the high growth rates of the early 2000s abated. The increase began with rising unemployment for young women, followed by a rise for young men as well. In Egypt, the downward trend was clearly reversed in 2011, first for young men, then for young women. According to ILO modelled estimates, male youth unemployment rates were stable in Sudan, but female rates rose significantly from 2008 to 2011 (ILO, n.d.). In Tunisia, youth and young adult unemployment rates spiked in 2011, then stabilized at fairly high levels thereafter.

⁵ Again, the trend in Sudan is based on ILO modelled estimates, available in the appendix.

► **Figure 18.** Unemployment rate, by sex and age group, ages 15–64, (percentage)



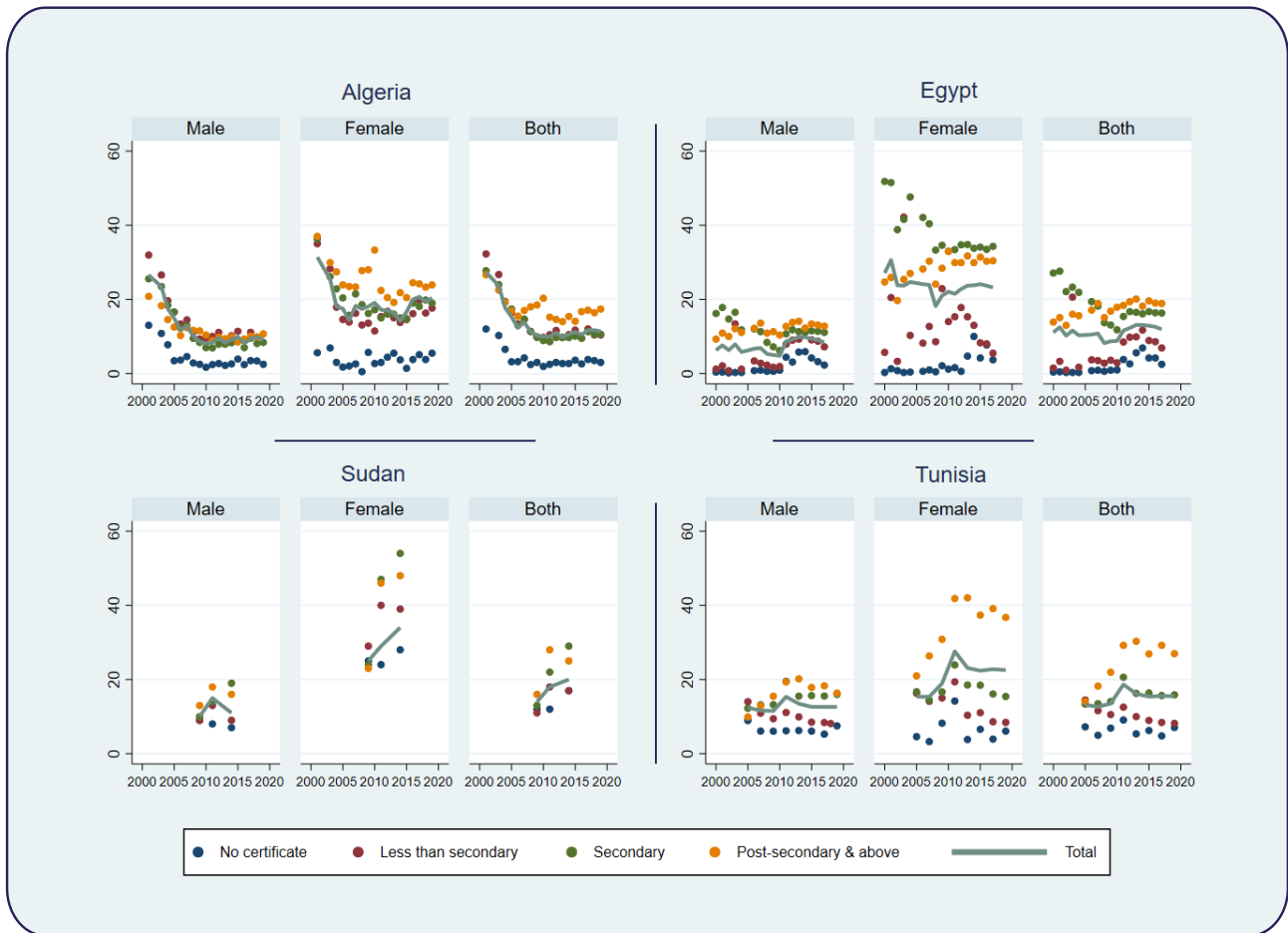
Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

Another well-established fact is that unemployment in North Africa is primarily an educated worker phenomenon. As a labour-market-entry phenomenon affecting youth, unemployment primarily involves job-seekers searching for their first formal job (Assaad 2014). Since less-educated workers have a fairly small chance of getting a formal job, they see no reason to remain unemployed and enter the informal economy as either informal or casual workers, and are thus not captured among the unemployed (Krafft and Assaad 2014). Which workers end up in open unemployment therefore depends on which workers would be seeking formal jobs in each country. In Algeria, with its more public sector dominated labour market, this affects all educational levels except for the lowest, as shown in figure 19. In Egypt, Sudan and Tunisia, this involves mostly secondary and post-secondary educated workers.

Because educated women are even more likely than men to be seeking formal jobs, especially public sector jobs, they have much higher unemployment rates than their male counterparts in all countries. This is often

exacerbated by the very rapid increase in the number of female secondary and post-secondary graduates who, unlike their less-educated counterparts, participate at higher rates and tend to seek public sector jobs. When public sector jobs are forthcoming, as was the case in Algeria in the first half of the 2000s, graduate unemployment rates fell (figure 19). When the flow of public sector jobs dried up, as was again the case in Algeria post-2014, graduate (and especially female graduate) unemployment rates rose. In Egypt and Tunisia, there were efforts to curb public sector employment in the years prior to the Arab Spring. This resulted in very high and often rising unemployment rates among female graduates. The same appears to be happening in Sudan, but the short time series makes it less possible to ascertain the true trend. Part of the reason for the apparent decline in the very high unemployment rates among female secondary school graduates in Egypt prior 2011 appears to be discouragement, as indicated by their falling participation rates during that period.

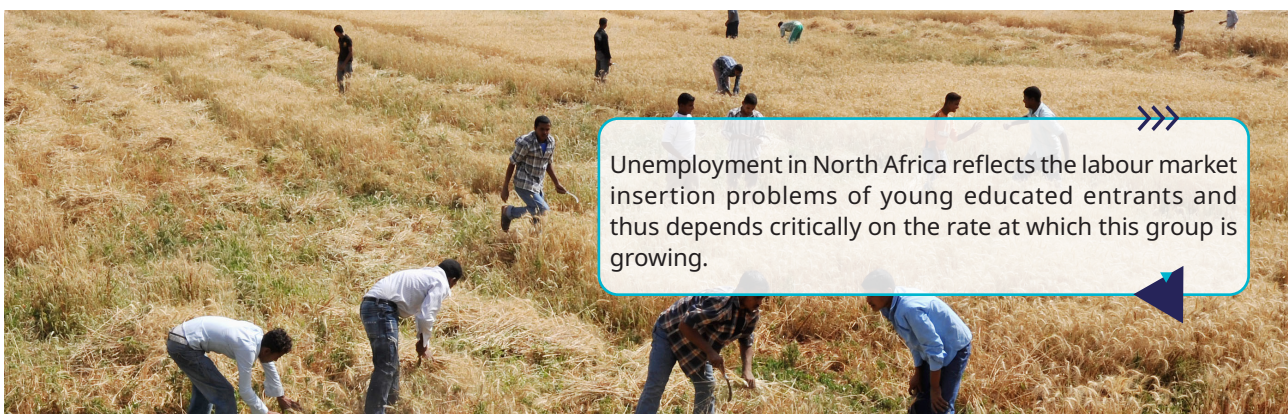
► **Figure 19.** Unemployment rate, by sex and educational attainment, ages 15–64 (percentage)



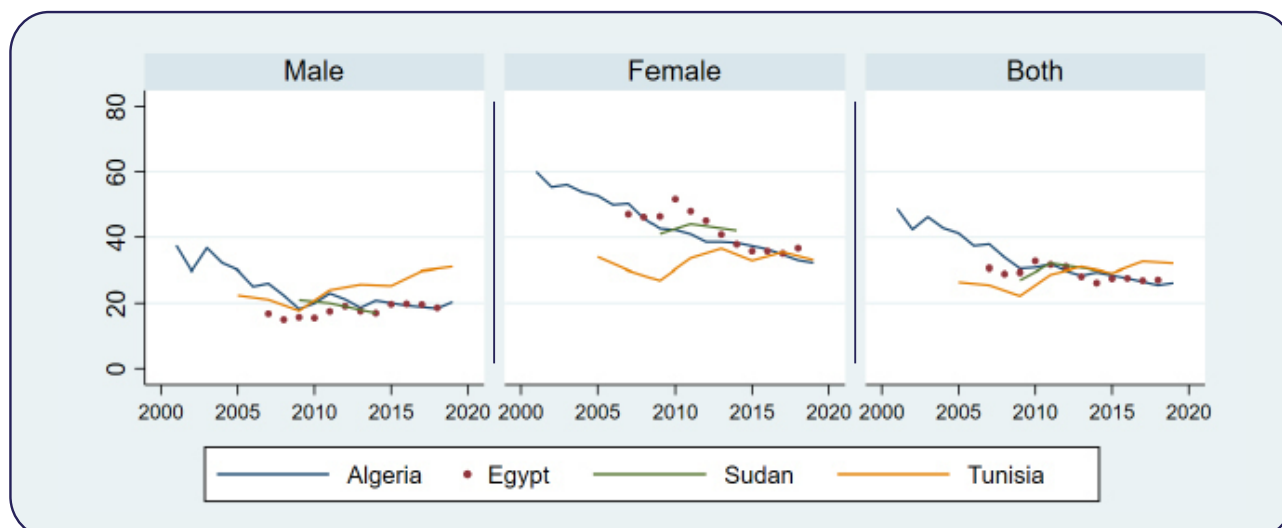
Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

Besides falling participation rates, the extent of youth discouragement and withdrawal from economic activity is indicated by the rate of youth not in employment, education or training (NEET). As shown in figure 20, the NEET rate has been falling in Algeria, especially during the 2000–06 period, when the economy was growing rapidly and the Government could afford to boost public sector hiring. It continued falling for a few years after that as public sector hiring continued, fueled by large foreign exchange reserves. Although the NEET rate stabilized after 2009 for young men, it continued to fall for young

women. In Egypt, the NEET rate was rising prior to the 2011 uprising for both young men and young women. It stabilized thereafter for young men but declined through 2015 for young women as more opportunities were made available in the public sector. In Sudan, the NEET rate was stable during the period for which data are available. However, in Tunisia, the NEET rate kept rising from 2009 onwards. Unlike other countries, where the NEET rate is much higher for young women than for young men, Tunisia's NEET rate is almost the same for both sexes.



► **Figure 20.** Youth NEET rate, by sex and country, ages 15–24 (percentage)



Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

»»» 1.2.2. The evolution of the structure of employment

The quality of jobs is highly dependent on the type of job created, which is in turn dependent on the growth path of the country and the extent of public sector involvement in the economy. For Egypt and Algeria, where the data are most complete, employment is classified into seven types. A six-type classification is used for Tunisia and a five-type classification for Sudan. The typology used depends on the sector (public or private), ownership, formality of employment, employment status, and whether the employment is in a fixed establishment or not. The seven types for Algeria and Egypt are: (i) public sector employment, which is almost always formal wage employment within establishments, (ii) private formal wage work, which is almost always within establishments, with formality defined by social insurance coverage, and, (iii) private informal wage employment inside establishments, (iv) private informal wage employment outside of establishments, (v) employers, (vi) self-employed individuals, and (vii) unpaid family work. Because the in/out of establishment variable is not available in Tunisia, the two informal wage employment categories are collapsed into one, resulting in a six-part typology. In addition to this limitation, the distinction between formal and informal wage employment is not available in Sudan, leading to a five-type classification, namely: (i) public sector, (ii) private wage employment, (iii) employers, (iv) self-employed, and (v) unpaid family worker. Constraints on data availability restrict the results to 2001–14 in Algeria; 2008–19 in Egypt; 2009, 2011 and 2014 in Sudan; and 2013–19 in Tunisia.

Public sector employment, which includes civil service employment as well as employment in state-owned enterprises, plays a varying role in the four countries. As shown in figure 21, the public sector is still very dominant in the Algerian economy, accounting for about 30–40 per cent of overall employment throughout the period

under consideration. Its share started at 41 per cent in 2001, decreased to 31 per cent in 2005, then climbed back up to 40 per cent by 2014. Public sector employment is particularly important for women in Algeria and has increased substantially more for them than for men, going from 51 per cent in 2001 to 63 per cent in 2014. As a result, job creation in Algeria has been, and continues to be, highly susceptible to state resources and, by extension, to the hydrocarbon revenues that undergird these resources.

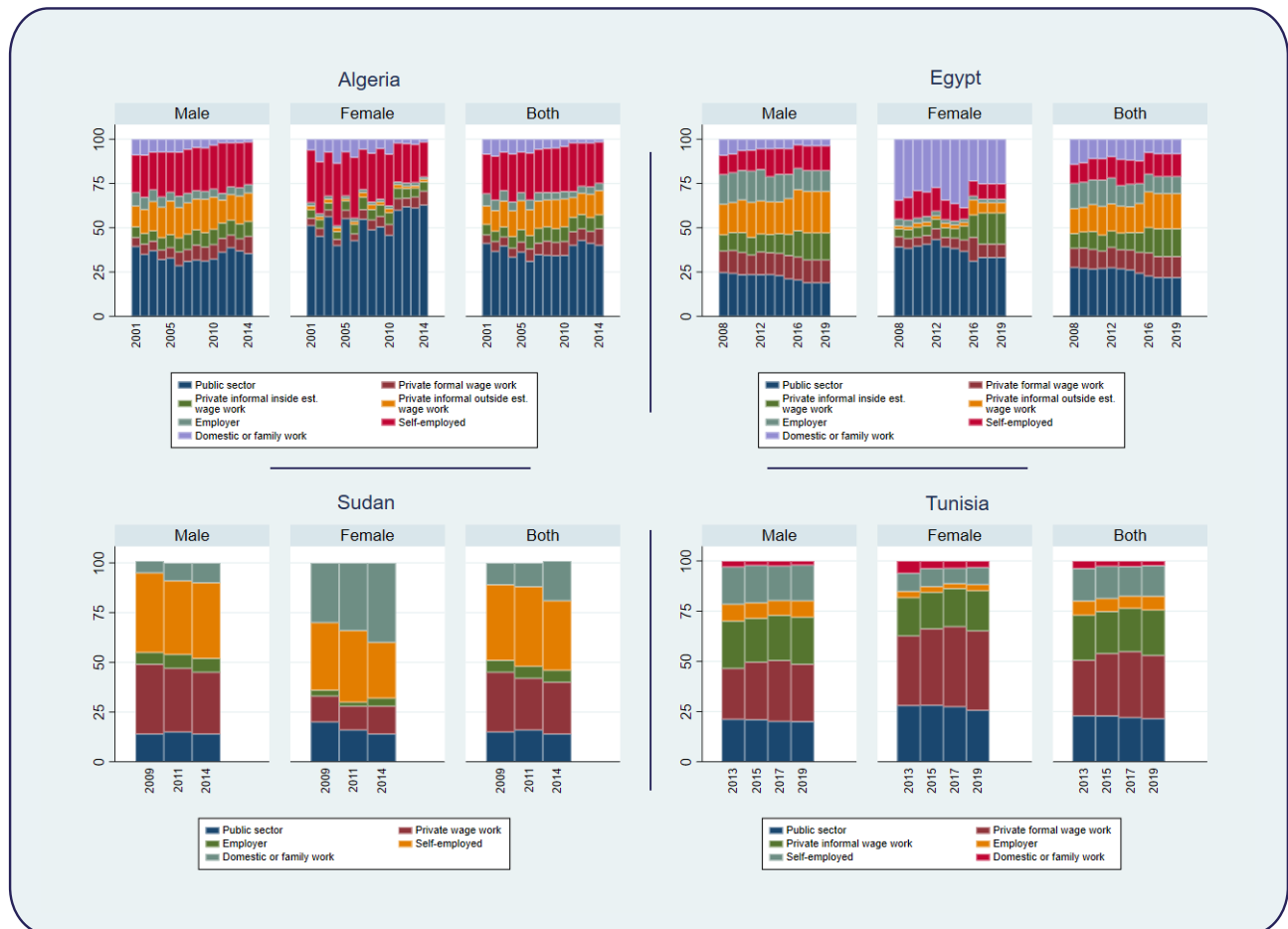
The share of the public sector in employment in the other three countries is much more limited by comparison. In Egypt, it had been falling since the 1970s and has continued to decline in the period reflected in this analysis, from 27 per cent in 2008 to 22 per cent in 2019, although the rate of decline has slowed since 2011. As in Algeria, the public sector plays a much larger role in women's employment than in men's in Egypt. At 33 per cent, the share of the public sector in female employment in 2019 is 1.7 times higher than its share in male employment and has been declining somewhat less rapidly than the male share.

While the data on the distribution of employment by type over time in Sudan and Tunisia are more limited, it is possible to note that the share of public sector employment has remained fairly low and stable in both countries – at about 15 per cent in Sudan (from 2009–14) and 22–23 per cent in Tunisia (from 2013–19). Although the public sector share was higher among women than among men in Sudan in 2009, the male and female shares had converged by 2014. Like the other countries, the share of public sector employment in Tunisia is higher among women than among men (26 per cent vs 20 per cent in 2019) and has been declining for both sexes over time”

Private formal wage employment plays a limited role in both Algeria's and Egypt's labour markets and a somewhat larger role in Tunisia's. More importantly, as shown in figure 21, the role of formal employment in the private sector has not increased substantially over time in Algeria and Egypt despite attempts to reorient their economies in a more market-oriented direction. In Algeria, the share of private formal wage employment increased from just 5 per cent in 2001 to 7 per cent in 2014.⁶ In Egypt, it increased from 11 per cent in 2008 to just 12 per cent in

2019, clearly not making up for the substantial decline in public sector employment and thus leading to an overall decline in the share of formal wage employment. In Tunisia, the share of private formal wage employment is much higher, at 28 per cent in 2013, rising to 32 per cent in 2019. While the available data do not allow a distinction between formal and informal wage employment in Sudan, all private wage employment constituted only 30 per cent of total employment in 2009, falling to 26 per cent in 2014.

► **Figure 21.** Distribution of employment, by type and sex, ages 15–64, (percentage)



Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

One of the most rapidly expanding types of employment in Algeria and Egypt is private informal wage employment. This type increased from 16 per cent in 2001 to 21 per cent in 2014 in Algeria, and from 22 per cent in 2008 to 36 per cent in 2019 in Egypt. Meanwhile, the share of informal wage employment in Tunisia remained stable, at 22-23 per cent from 2013 to 2019.

A substantial share of informal wage employment is employment outside of establishments, such as work in fields, construction sites, vehicles or streets. This

type of employment tends to be of particularly low quality, characterized by a high degree of irregularity, underemployment, and vulnerability (Assaad, AlSharawy and Salemi 2019). Employment outside of establishments constitutes about two-thirds of informal wage employment in Algeria and from 55 to 64 per cent in Egypt, depending on the year. Thus, rising shares of informal wage employment indicate increasing vulnerability in the labour market.

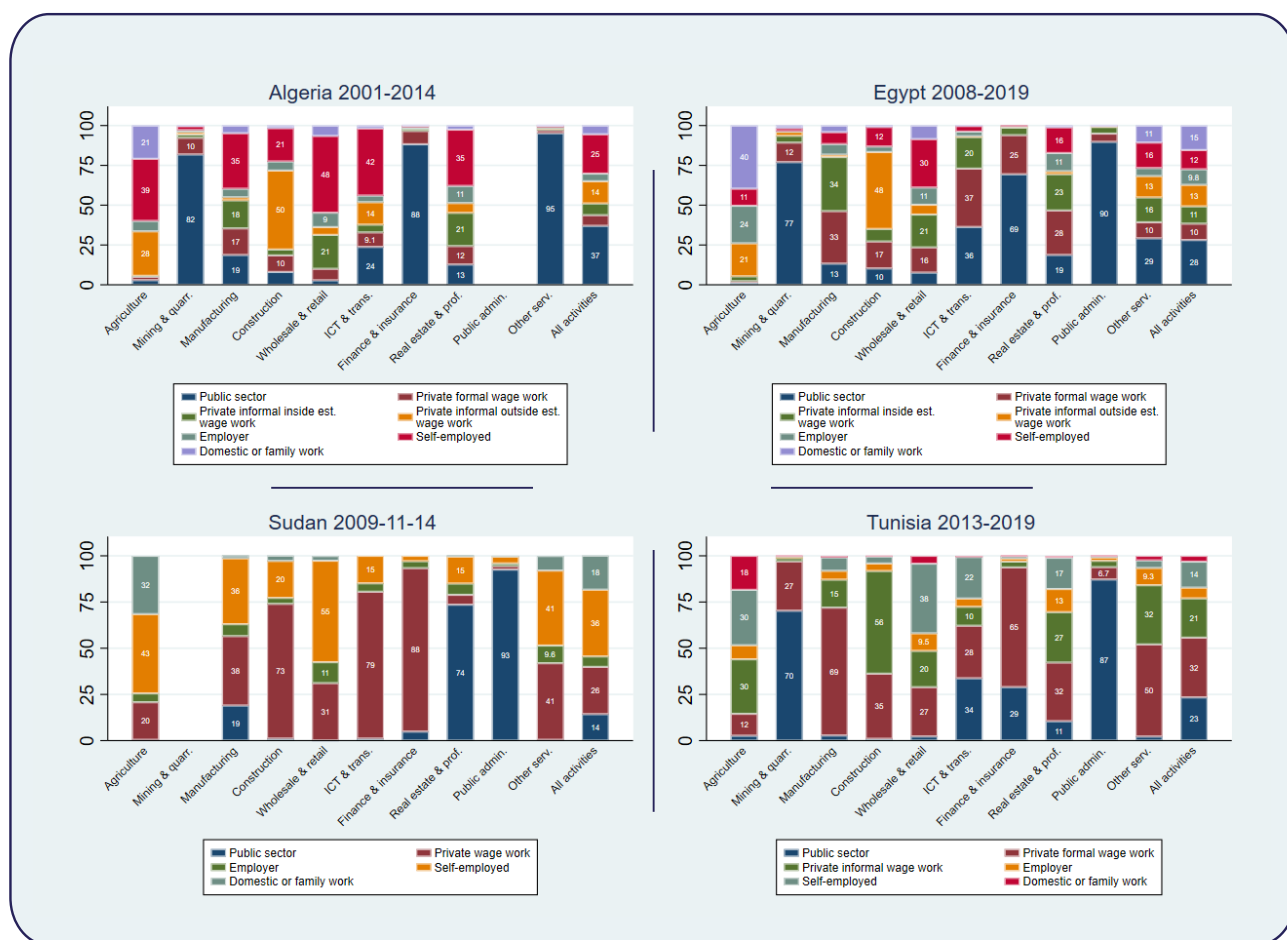
⁶ Although the data show that it reached 9 per cent in 2014, this one-year increase is too large to be credible.

The prevalence of informal wage employment is lower for women than for men in all three countries for which there are data on informality. In Algeria, at 7 per cent in 2014, it is a third as high as the share for men. In Egypt, at 23 per cent in 2019, the prevalence for women is 60 per cent what it is for men, and, in Tunisia, at 20 per cent in 2019, it is 15 per cent lower than that for men. The main reason for the lower shares of informal wage employment among women is that women strongly eschew wage employment outside of establishments as a type of employment that is perceived as threatening to their physical and sexual safety. While two in three informally employed men in

both Algeria and Egypt work outside of establishments, only one in five informally employed women in Algeria and one in four in Egypt work outside establishments.

To establish the relationship between type of employment and economic growth, it is useful to know the type of job generated by different industries. Figure 22 shows the distribution of employment according to the typology discussed above for each sector of economic activity in the four countries. To construct the figure, data are pooled across the years for which they are available in each country.

► **Figure 22.** Distribution of employment, by type in various economic activities, pooled data across years



Source: Authors' calculations, based on data from national labour force surveys, with the exception of Sudan, where data from 2009 and 2013/14 are from the SHBS and data from 2011 are from the SLFS.

In Algeria, it can be readily observed that the mining and quarrying sector, the finance and insurance sector, and the 'other services' sector primarily generate public sector employment. Half of the jobs in construction are informal outside fixed establishments, with much of the remainder being in the form of self-employment. Agricultural employment is also highly informal, with more than 60 per cent of it in the form of either self-employment or unpaid family labour, and much of the remainder is in the form of informal wage employment outside of establishments. Manufacturing employment is more diversified, with a quarter of it in the form of self-employment. It has the highest share of private

formal wage employment of any sector (17 per cent), but also substantial shares of public sector employment (19 per cent) and private informal wage employment in establishments (18 per cent). Wholesale and retail trade and real estate and professional services are also more diversified, but a plurality of their employment is in the form of self-employment, followed by informal wage employment within establishments. The information and communication, and the transportation sector has substantial self-employment as well, but also a large share of public sector employment.

The present analysis of employment growth by sector of economic activity in Algeria revealed that the employment share of the mining, manufacturing and utilities sector was fluctuating over time, with a tendency to decline, as the hydrocarbon industry slowly loses its dominance in the Algerian economy. Since these sectors tend to generate formal public and private sector jobs, this explains the relatively slow growth of these types of jobs in Algeria. The resurgence of public sector employment in the 2011–14 period appears to be related to the growth of employment in transport and communications, finance and insurance, and community services. The growth in informal wage employment outside establishments appears to be related to the growth of employment in the construction industry, which nearly doubled its share in total employment in Algeria from 10 per cent in 2000 to 18 per cent in 2014.

In Egypt, three sectors of economic activity are dominated by public sector employment. These are mining and quarrying, finance and insurance, and public administration, defense and social services. By far, the largest of these three is public administration, defense and social services, which has been losing its employment share, going from 23 per cent of employment in 2000 to 18 per cent in 2017. This explains the steadily falling share of public sector employment in Egypt. The sector with the highest share of private formal wage employment (33 per cent) is manufacturing. This sector has also been gradually losing its employment share in Egypt, going from 14 per cent in 2000 to 9 per cent in 2011, only to recover somewhat to 12 per cent in 2017. Again, this partly explains the slow growth of private formal employment in Egypt. As in the case of Algeria, the growth of private informal wage employment outside of establishments is associated with the growth of the construction sector – nearly half of employment takes this form in Egypt. The share of the construction sector in total employment in Egypt has increased from 8 per cent in 2000 to 13 per cent in 2017. Another sector accounting for the growth of informal employment in Egypt is wholesale and retail trade, transportation, accommodation and food services. Much of its employment is informal, including self-employment (30 per cent) and informal wage employment inside establishments (21 per cent). The employment share of wholesale and retail grew from 17 per cent in 2000 to 23 per cent in 2017. Thus, the decline of public administration and the expansion of construction and trade account for much of the informalization of employment observed in Egypt. The main pattern counteracting this trend is the decline in the employment share of agriculture, which is also mostly informal, but dominated by non-wage work.

In Sudan, 60 per cent of overall employment is made up of non-wage employment, reflecting the importance of the agricultural sector, the ‘wholesale and retail trade’ sector, and ‘other services’, which have high shares of non-wage employment. The only industry sector to have seen its share of employment grow consistently from 2009 to 2014 is agriculture. Other sectors saw fluctuating trends. The employment shares of ‘manufacturing’, of ‘wholesale and retail trade, transportation, accommodation and food services’, of ‘information and communication’, and of ‘public and community services’ first increased in 2009–11 and then decreased in 2011–14, whereas the employment shares of ‘finance and insurance’ and of ‘other services’ did the opposite. ‘Construction’ lost its employment share in both periods. The whole period reflects a slowdown in the Sudanese economy following the oil boom of the early 2000s. The consistent growth in the share of agriculture indicates its role in labour absorption when employment slows down in other sectors. The construction sector, in particular, is highly responsive to oil booms and it is not surprising that its employment share contracted post-oil boom.

In Tunisia, broad industry sectors whose employment has grown faster than average in recent years include ‘construction’, ‘retail and wholesale trade’, ‘information, communication and transport’, ‘public administration’, and ‘other services’. As shown in figure 22, ‘construction’ is a sector that produces predominantly informal wage employment (59 per cent). Employment in retail and wholesale trade is also of relatively low quality, made up predominantly of self-employment (40 per cent), private formal wage employment (25 per cent) and private informal wage employment (17 per cent). Unfortunately, Tunisian data lump together ‘information and communications’, which produce relatively high-quality jobs, with ‘transport’ which generates relatively low-quality jobs. The combined sector has 30 per cent of its employment in self-employment, 26 per cent in public sector employment and 26 per cent in private formal employment. The growth of the public administration sector, especially after the Tunisian uprising, has counteracted the impact on public sector employment of the decline in the mining sector, which also generates mostly public sector jobs. Finally, the ‘other services’ sector is a mixed sector that generates both formal (49 per cent) and informal (32 per cent) private wage employment. Thus, the pattern of growth in Tunisia has been mixed in terms of its effects on type of employment, resulting in the relative stability of the employment distribution by type observed from 2013 to 2019.



Conclusions

As noted in the introduction, North African economies have long been noted for their very high youth unemployment rates and low female participation rates. This chapter has sought to go beyond these well-established facts by relating labour market outcomes, including the type and quality of employment created in these economies, to the pace and pattern of economic growth.

With regard to labour force participation and employment rates, this analysis finds that despite fairly low rates by international standards, rates have either stagnated or even declined in recent years, especially for men. The declining participation and employment rates for men are particularly concerning in Algeria and Egypt. They are occurring among men at both ends of the age spectrum and are concentrated among less-educated groups who are less likely to show up among the unemployed. While educated women are more likely to participate than their uneducated counterparts, employment rates among educated women are also falling as fewer opportunities are available in the public sector, except in Tunisia after the 2011 uprising.

The recent history of dependence on oil and other mineral resources as the main engines of growth in these economies has meant a large flow of rents into government coffers, which has enabled an outsized role for the public sector as an employer.

Unemployment in North Africa reflects the labour market insertion problems of young educated new entrants and thus depends critically on the rate at which this group is growing. With the slowdown in the youth population in Algeria, Egypt and Tunisia, unemployment rates have stabilized if not slightly declined in recent years. In Algeria, unemployment rates fell from the very high levels that followed the Algerian black decade in the early 2000s and then stabilized in the 2010s. In Egypt, they have been on a declining trend with the exception of a positive bump around the time of the uprisings. In Tunisia, they were rising prior to the uprising, especially for women, as the number of female higher education graduates was exploding. After a spike following the Arab Spring, unemployment rates in Tunisia seem to have stabilized as the number of graduates was brought under control.

However, it appears that discouragement is increasing for young people in Tunisia, and to a lesser extent Egypt, as indicated by rising youth NEET rates.

The main contention of this analysis regarding the relationship between the pattern of growth and labour market outcomes is that the recent history of dependence on mineral resources and other rents as the main engines of growth in these economies has led to structural change that favoured low-productivity and thus low-quality, often informal, jobs. In fact, oil and other rents have encouraged the growth of non-tradable sectors, such as construction, real estate, wholesale and retail trade, and transport, essentially leading to premature deindustrialization. Even though high productivity service sectors, such as 'finance and insurance' and 'information and communications' have grown rapidly, they did so from such a small base that they had limited impact on the overall structure of employment and will continue to be a small share of overall employment in the future. The flow of rents into government coffers has also enabled an outsized role for the public sector as an employer. While the public sector continues to play a critical role in employment in Algeria, its role had been declining until recently in Egypt and Tunisia. Nonetheless, since the uprisings in Tunisia, and to a lesser extent in Egypt, there has been considerable pressure to resume government hiring, slowing the trend away from public sector employment.

Despite efforts to reorient all four economies towards a more market-led direction, none of the four countries have succeeded in promoting private sector jobs, while cutting public sector payrolls. Private sector employment has been overwhelmingly informal and precarious. This is partly due to the fact that sectors with the potential to generate formal private sector jobs, such as manufacturing, finance, communications, and some other high-end services, such as tourism, have either grown too slowly or played a limited role in the overall mix of employment. The manufacturing sector in particular can generate a large number of formal jobs with potentially rising productivity. However, it has not lived up to this potential in any of the four countries, where it has instead lost employment share. The growth of construction, trade and transport has generally generated poor quality, mostly informal and low-productivity jobs. Thus, the four countries are deindustrializing prematurely and backtracking on the structural transformation path to higher incomes.

Productivity decompositions confirm that structural change has mostly favoured low-productivity sectors, with much of the increase in productivity occurring within sectors rather than between them, through sectoral reallocation. In Algeria and Egypt, structural change contributed negatively to productivity change in all three subperiods examined. In Tunisia, the picture is more mixed, with structural change contributing positively to productivity in two sub-periods (2000–05 and 2010–15), but not in the two others (2005–10 and 2015–18).

The key challenge of job-rich growth can be summed up in growing sectors that are labour-intensive (like light manufacturing), which take advantage of the relative abundance of labour in North African countries in factor endowments. The mineral extraction and hydrocarbon industries generate economic rents that tend to lead to overvalued exchange rates that discriminate against tradable industries, such as manufacturing. Economic policy needs to counterweigh these effects by making business start-ups easier, hiring and firing more flexible, and ensuring competitive exchange rates. Economies will

continue to deindustrialize unless an ambitious industrial policy is pursued, where the State plays a facilitating and stimulating role – with fiscal, financial, educational and research and development measures. With the right incentives, the economies of the region can be reoriented towards a growth trajectory that can create higher-quality jobs. With the possible exception of Algeria, countries in North Africa are gradually, and sometimes painfully, shedding their dependence on oil and other mineral resources. Whether these trends will lead to the successful pursuit of growth strategies that make better use of their most abundant resource, namely labour, remains to be seen. Although this analysis revealed a number of commonalities across the four countries, it also revealed significant differences that are a function of each country's resource endowment, growth trajectory, and institutional history. While this chapter has attempted to discuss some of these specificities here, readers are invited to read the individual country chapters to further explore the specific relationship between jobs and growth in each setting.



Despite efforts to reorient all four countries' economies towards a more market-led direction, none have managed to substantially increase formal employment in the private sector over time.





The continuing legacy of oil dependence: Jobs and growth in Algeria

By

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Introduction

This chapter aims to examine the link between economic growth and labour market performance in Algeria during the 2001–19 period, as part of the Economic Research Forum (ERF) and International Labour Organization (ILO) project “Advancing the Decent Work Agenda in North Africa (ADWA)”. The study first outlines the

trends in labour market outcomes and macroeconomic performance and then decomposes aggregate labour productivity growth into its sectoral components. It also decomposes aggregate labour productivity into within-sector and structural change components.





2.1 The pace and pattern of growth

Algeria's growth model has been based on an excessive dependence on hydrocarbon revenues, the main driver of public spending. Due to favourable oil prices, from the beginning of 2000 until 2014, Algeria registered unprecedented economic growth, which helped turn the page of what has been dubbed the "black decade". At the macroeconomic level, two major factors helped Algeria restore its margin of financial maneuvering. The

first is that the balance of payments surplus allowed an accumulation of foreign exchange reserves that reached US\$188 billion at the end of 2013. The second is the establishment of a Revenue Regulation Fund denominated in dinars, equivalent to US\$80 billion at the end of 2013, which has served as a buffer for fiscal account deficits in recent years.

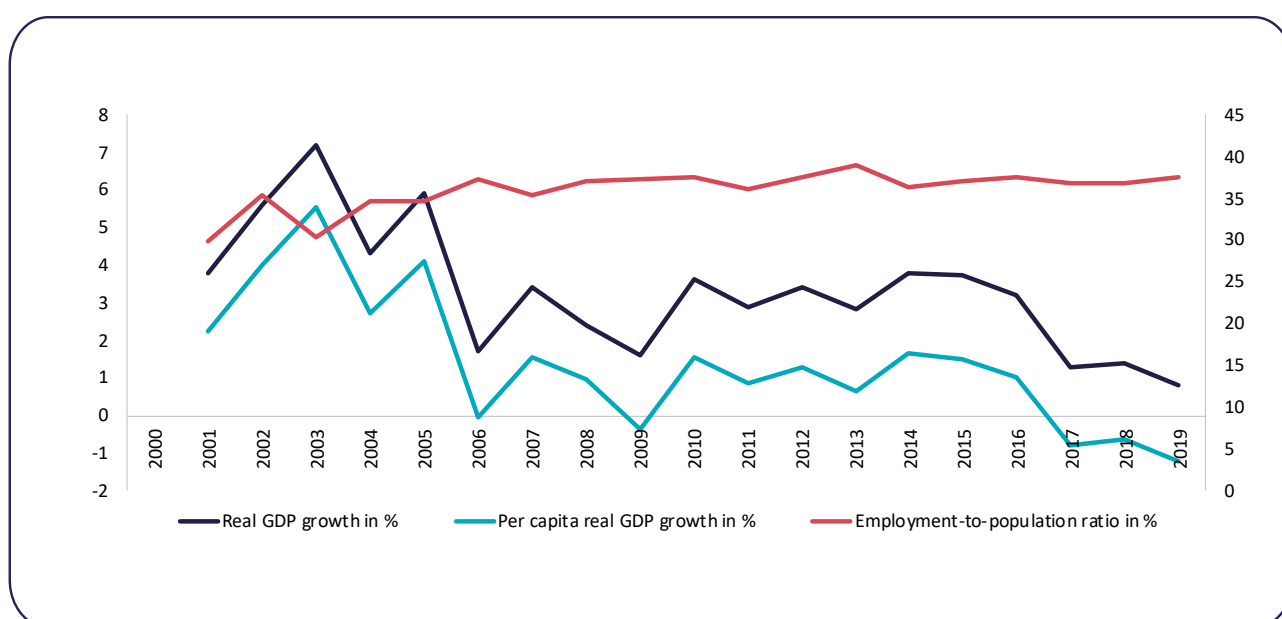
2.1.1 Labour force participation, employment and unemployment

Algeria's massive public investment (see figures 1 and 2) has boosted economic growth and has also been associated with an improvement in socioeconomic conditions. Real Gross Domestic Product (GDP) growth reached 7.2 per cent in 2003, compared to an average

of 2.1 per cent over the five previous years. At the same time, GDP per capita growth reached 5.5 per cent and, after some fluctuations in the beginning of 2000, the employment-to-population ratio remained modest, at around 37 per cent.

2.1.2 Real GDP, GDP per capita and employment

► **Figure 1.** Real GDP growth, GDP per capita growth and employment-to-population ratio in Algeria

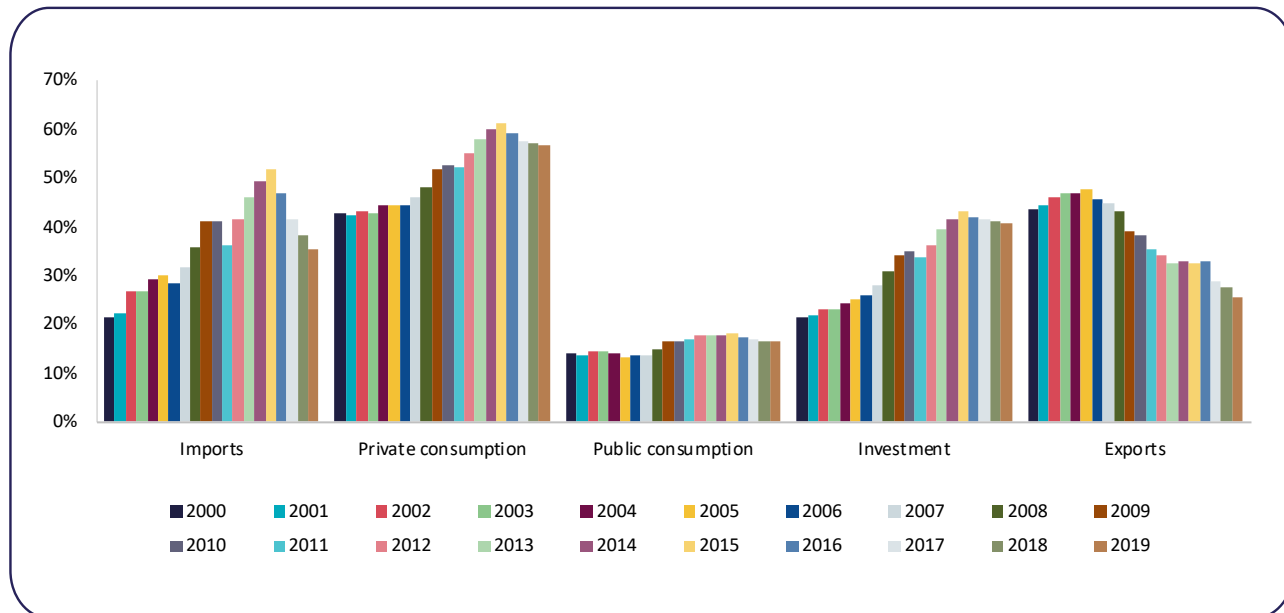


Source: Authors, based on *Retrospective des comptes économiques de 1963 à 2018*, collections statistiques N 215/2020, serie E: statistiques économiques N 102, Office National des Statistiques (ONS), Les comptes nationaux trimestriels 4ème trimestre 2019, collections statistiques N 889/2020, ONS and Activite, Emploi & chômage Mai 2019, collection statistique N 879.

On the demand side (figure 2), the contribution of investment to the GDP grew from 21.9 per cent in 2001 to 43.2 per cent in 2015, reflecting high public investment, primarily in public housing and infrastructure. The contribution of private consumption to growth reached

61 per cent in 2015, while the contribution of public consumption grew from 13.5 per cent in 2001 to 18.1 per cent in 2015. This phase also witnessed an improvement in human development indicators (HDI).¹

► **Figure 2.** Composition of GDP, %



Source: Authors, based on *Retrospective des comptes économiques de 1963 à 2018*, collections statistiques N 215/2020, serie E: statistiques économiques N 102, Office National des Statistiques (ONS), les comptes nationaux trimestriels 4ème trimestre 2019, collections statistiques N 889/2020, ONS and *Activite, Emploi & chômage Mai 2019*, collection statistique N 889/2020.



¹ Between 1990 and 2015, according to the United Nations Development Programme (UNDP), Algeria's HDI score increased from 0.577 to 0.745 (UNDP 2020). Life expectancy increased from 70 to 76 years between 2000 and 2017. The hospital sector has grown considerably, and the pharmaceutical sector is performing well, covering 55 per cent of national needs. Thanks to its generous policy on subsidies and social transfers, income inequality is low, with the Gini index reaching 27,6 in 2011 according to the latest income-expenditure survey of 2011 (*L'enquête sur les dépenses de consommation et le niveau de vie des ménages 2011*, collections statistiques n° 183 série s : statistiques sociales, ONS 2014) no recent survey has been conducted since then).

With the decline in global oil prices in 2014, Algeria has been undergoing a new phase in its economic development, marked by lower hydrocarbon revenues, large fiscal deficits and a deceleration in GDP growth. According to the last ONS data, real growth rates fell to 0.8 per cent in 2019, down from 1.3 per cent in 2017 and 1.4 per cent in 2018, mainly due to the contraction in the production of hydrocarbons² and per capita GDP growth turning negative. Since 2010, hydrocarbon production has been stagnant due to ageing oil fields and reduced foreign

direct investment (FDI) in the sector, amid poor financial incentives for international firms.

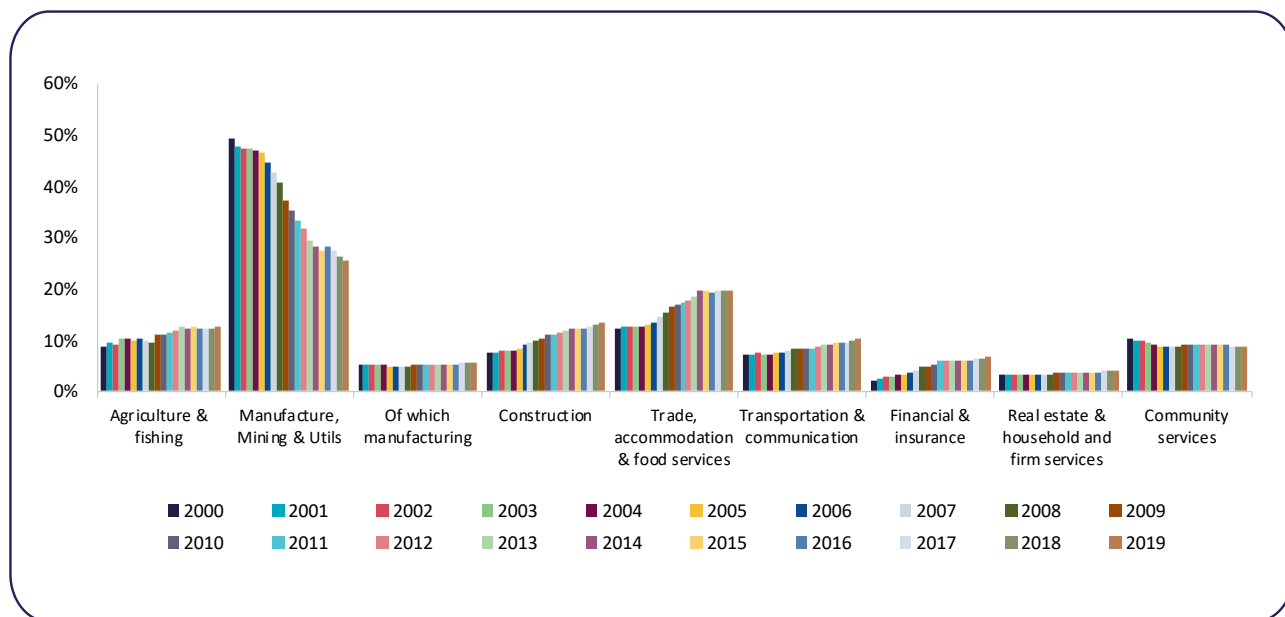
The decline in oil prices has pushed the Algerian Government to lower public spending, which has resulted in the bankruptcy of many companies linked to public procurement (particularly in the construction sector) and has put others in financial difficulty with some having more than 70 per cent of their turnover pending settlement.

>>> 2.1.3 Distribution of value added³

Between 2000 and 2019, Algeria's industrial sector contributed markedly to value added (figure 3), especially where state-owned enterprises (SOEs) are dominant – notably iron, metals, mechanics, electric and electronic industries, water and energy – and have supported growth in the industrial sector. However, it bears noting that the industrial sector's contribution to value added dropped from 49.3 per cent in 2000 to 25.2 per cent in 2019 (a loss of 24.1 percentage points), signaling decreasing investment in this sector in particular. In addition, the added value created by the 'trade, accommodation & food services' sector has increased by 7.5 percentage points: from 12.2 per cent in 2000 to 19.7 per cent in

2019, while 'agriculture and fishing' remains stable, representing around 10 per cent of value added. Despite massive public investment, the construction sector is dominated by firms facing difficulties amid slowing public procurement, so its contribution is still modest, growing only by 5.8 percentage points between 2000 and 2019 – from 7.4 to 13.2 per cent. Finally, for the 'transport and communication' sector, 'financial and insurance activities', and 'real estate and professional activities', the development of which remains weak in Algeria, their contribution to the value added did not exceed 10 per cent taken separately.

► **Figure 3.** Percentage composition of value added



Source: Authors, based on *Retrospective des comptes économiques de 1963 à 2018*, collections statistiques N 215/2020, serie E: statistiques économiques N 102, Office National des Statistiques (ONS), Les comptes nationaux trimestriels 4 emme trimestre 2019, collections statistiques N 889/2020.

²Hydrocarbon production fell by -2.4 per cent in 2017, -6.4 per cent in 2018 and -4.9 per cent in 2019., This data come from Les comptes nationaux trimestriels 4emme trimestre 2019, collections statistiques N 889/2020, ONS.

³Algeria classifies its sectors differently to the ILO classification. The transportation is included with communication and not with storage, accommodation and food service activities.

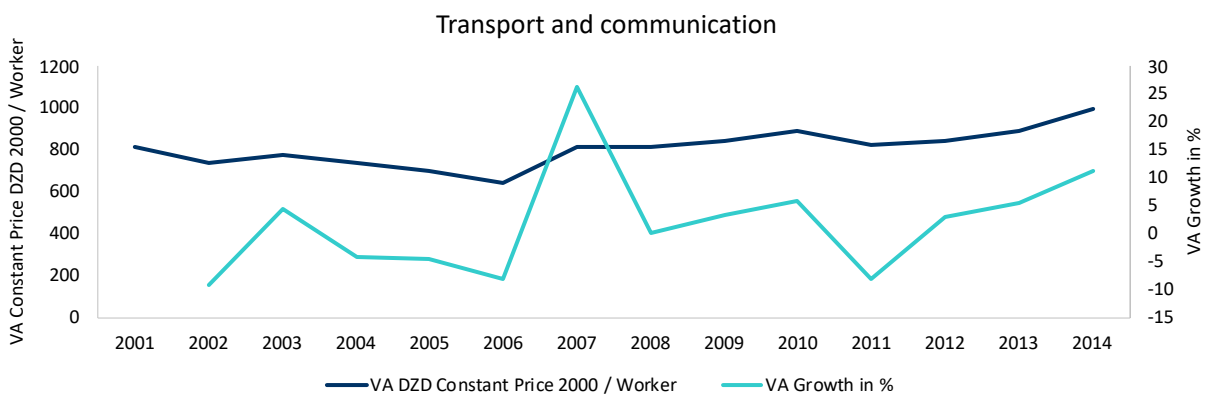
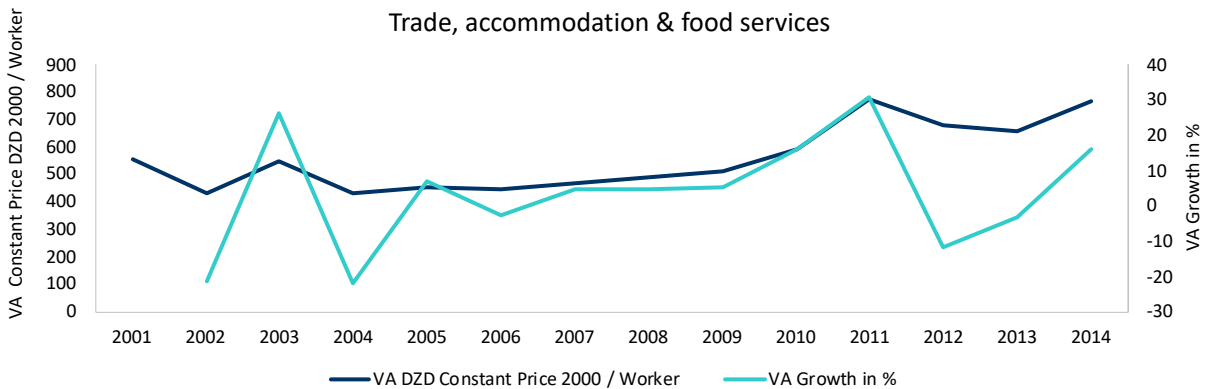
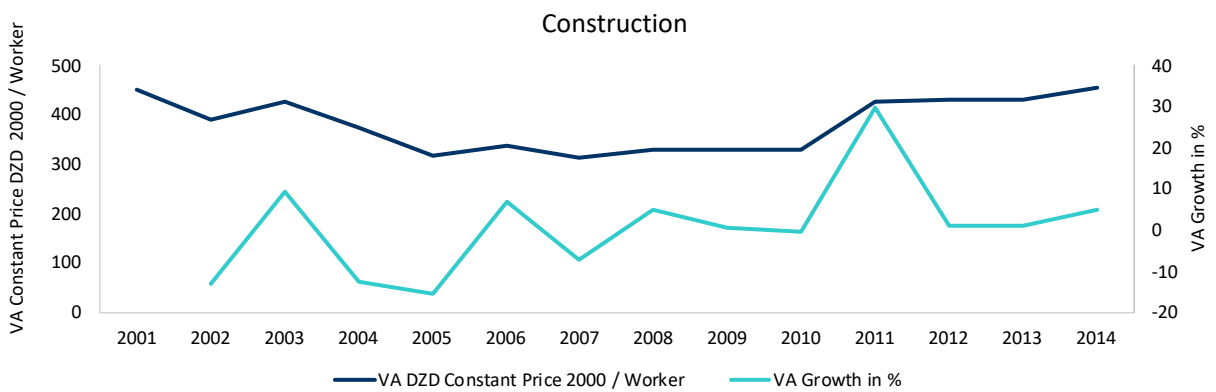
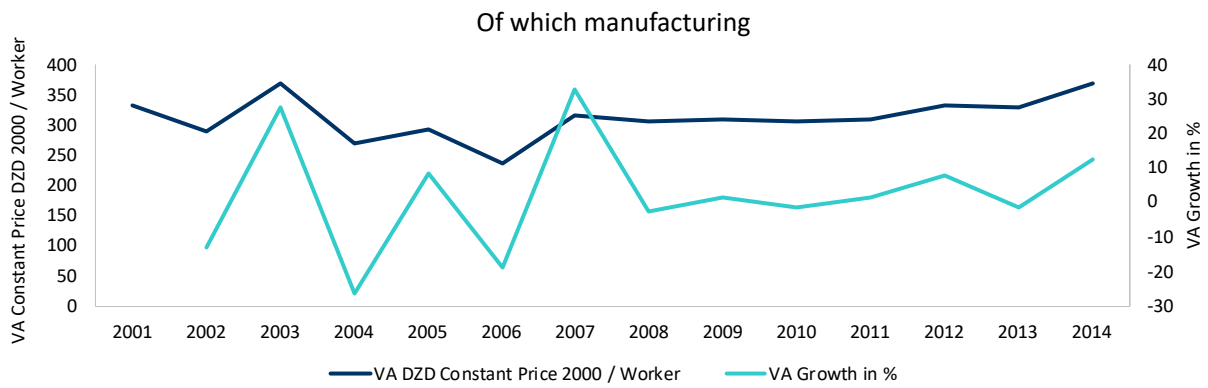
>>> 2.1.4 Labour productivity

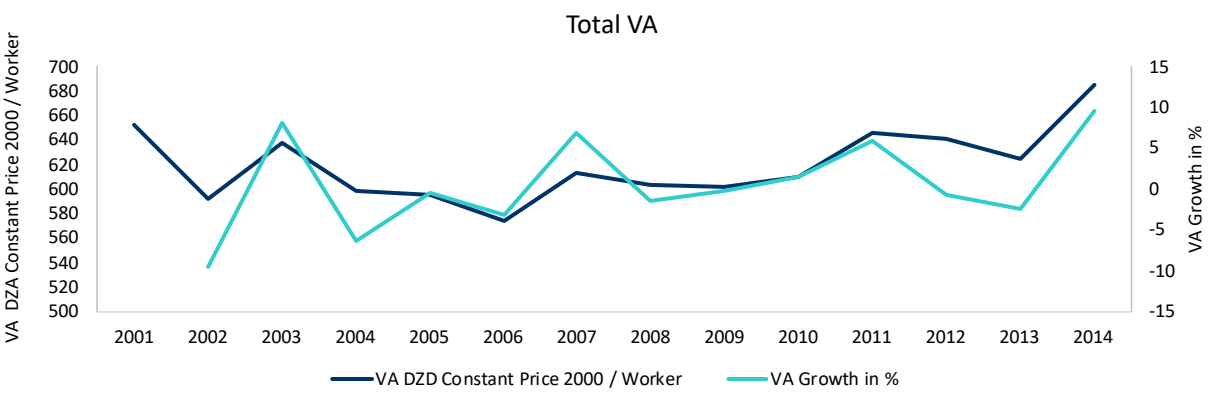
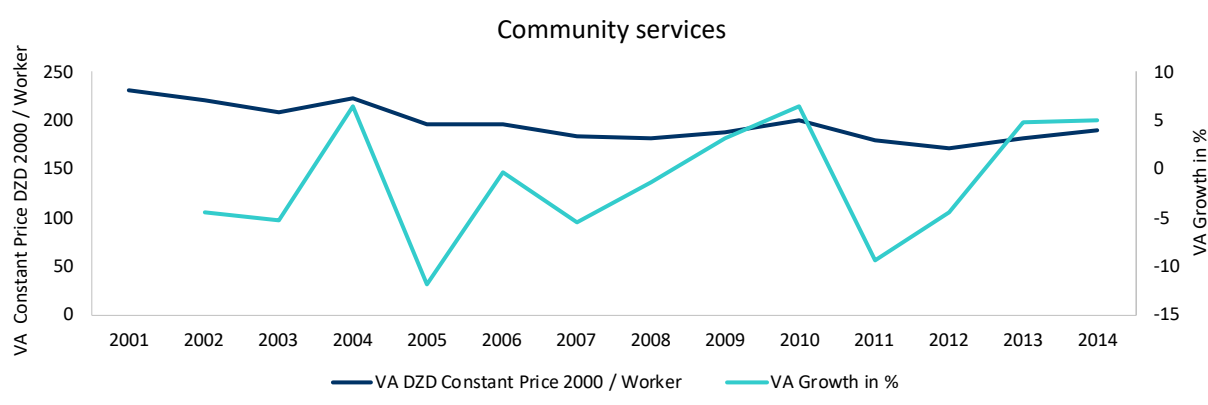
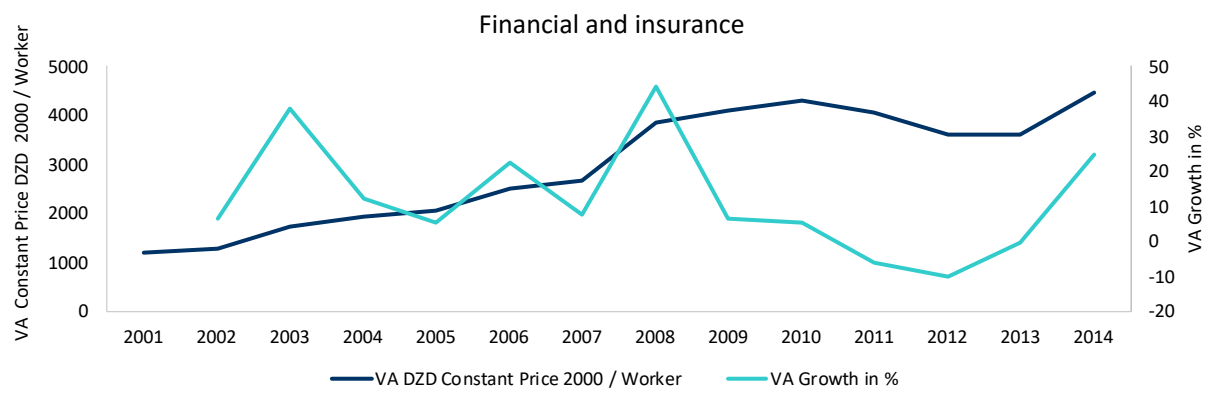
The agriculture, forestry and fishing sector today concentrates nearly 9 per cent of total employment and accounts for nearly 12 per cent of value added (figures 4 and 5). Imports of food products represent about 20 per cent of the country's total imports. Since independence, this sector has not registered significant improvement, despite the various reforms it has undergone. Since 2000, the agriculture, forestry and fishing sector has seen improvement in its productivity (figure 4), going from 263.95 Algerian dinars (DZD)/per worker in 2001 to DZD 458.93/worker in 2007 then up to DZD 968/worker in 2014. This was thanks to the National Agricultural Development Plan (PNDA) established in 2000 to improve the country's food security, to develop employment and increase income in rural areas. In 2002, the programme

was expanded and became the National Plan for Agricultural and Rural Development (PNDAR). In 2008, this programme was redefined under a new policy of Agricultural and Rural Renewal, with the promulgation of an agricultural orientation law setting ambitious objectives. The evolution of the sector shows that the State has been trying to disengage itself from the sphere of agricultural production and retain only a support and regulatory role. Compared to other sectors, the agricultural sector remains low in terms of productivity due to several unfavourable factors, both external (climatic hazards) and internal (under-mechanization, weak investment, deficient infrastructure, lack of training of human resources, etc.).

► **Figure 4.** Value added, by broad industry sector

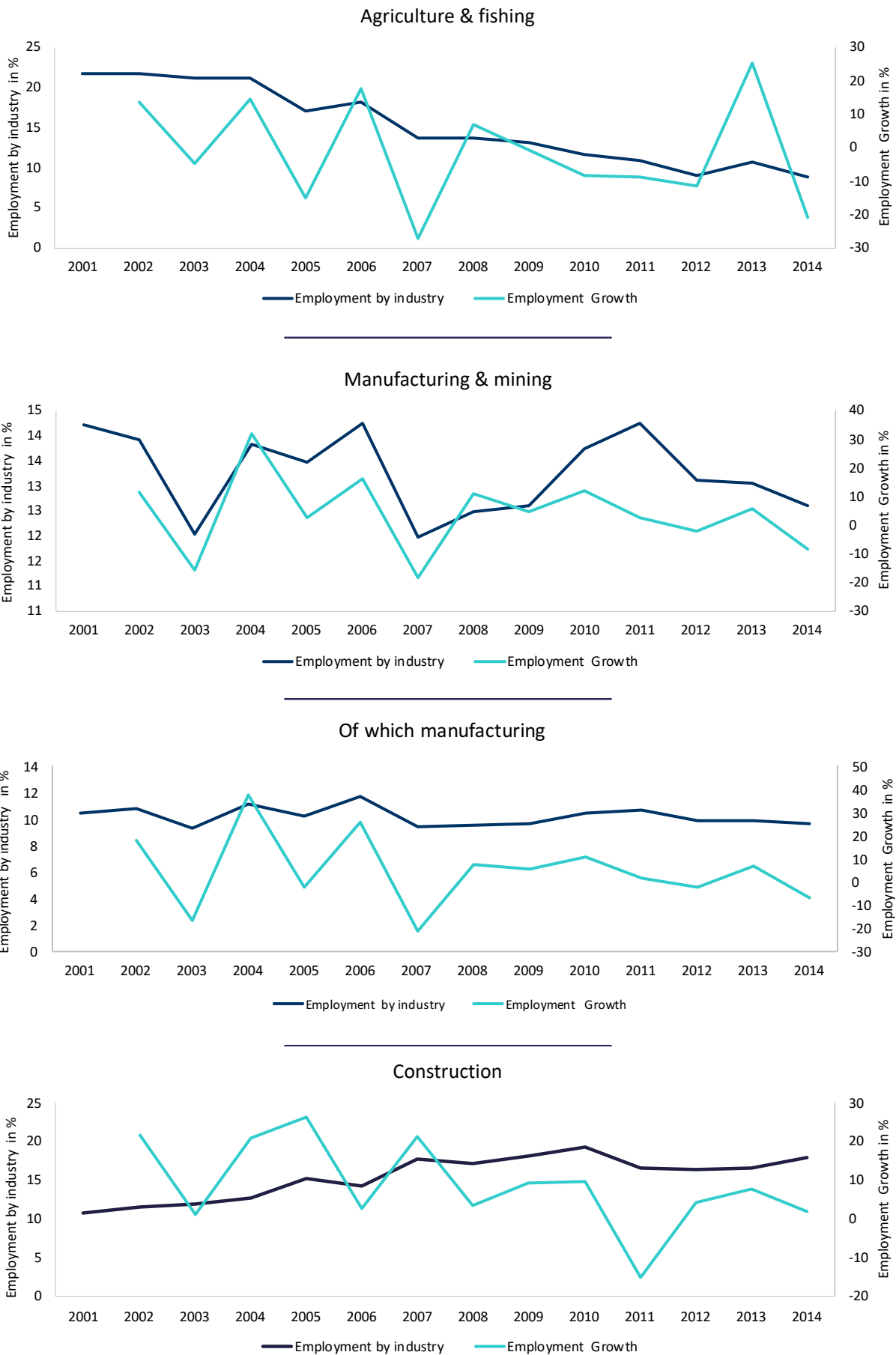


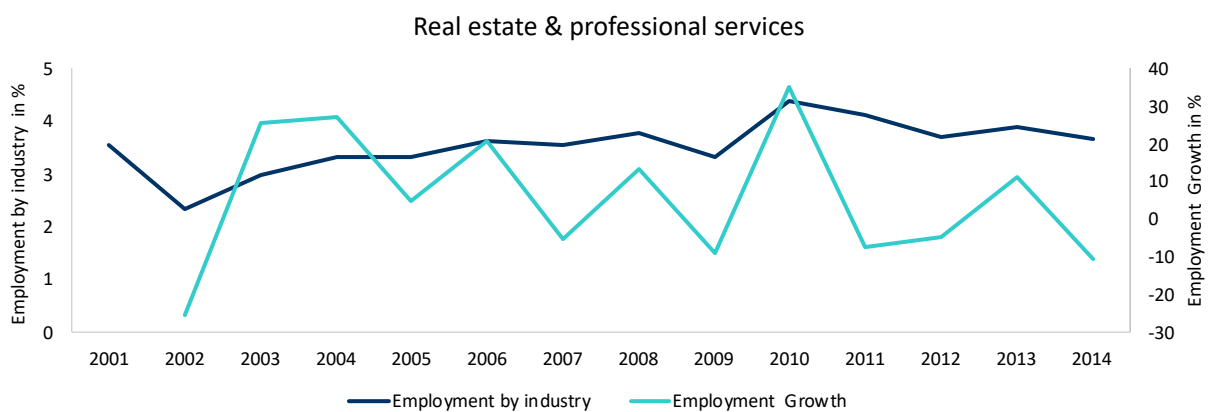
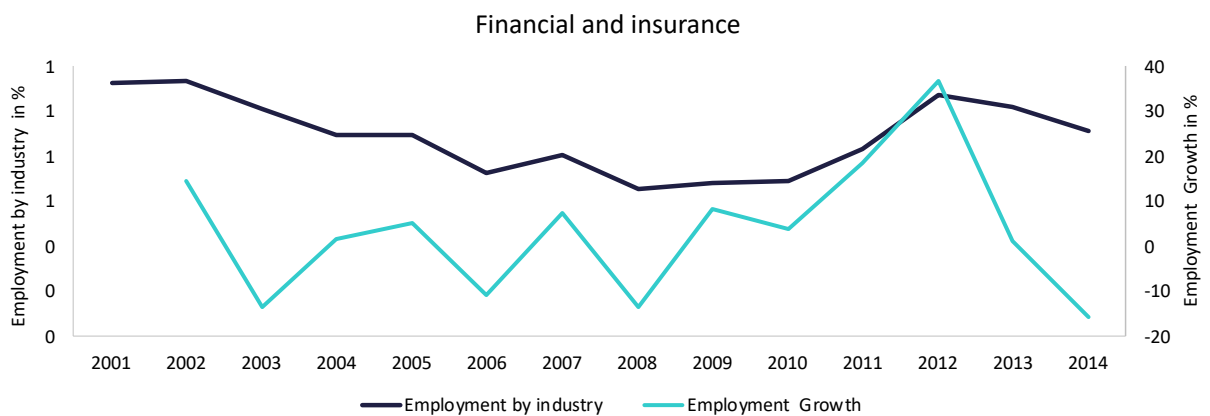
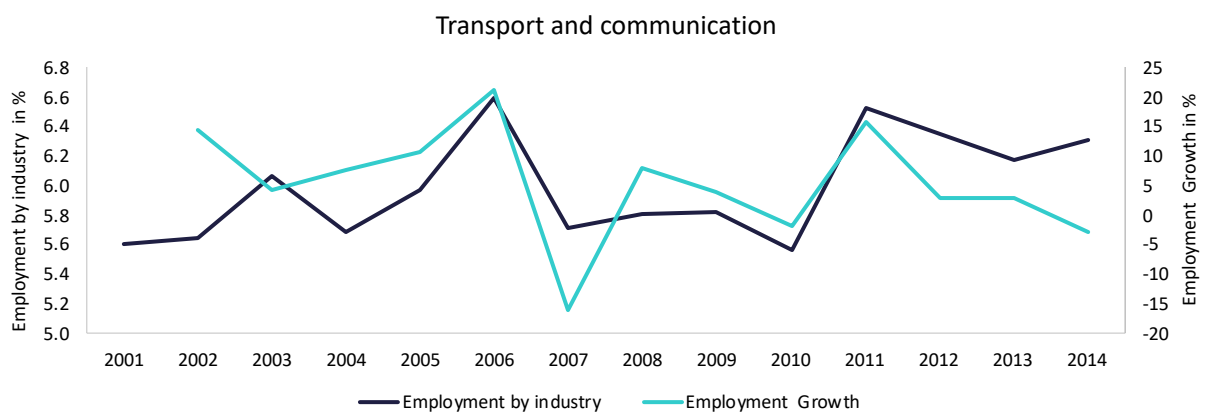


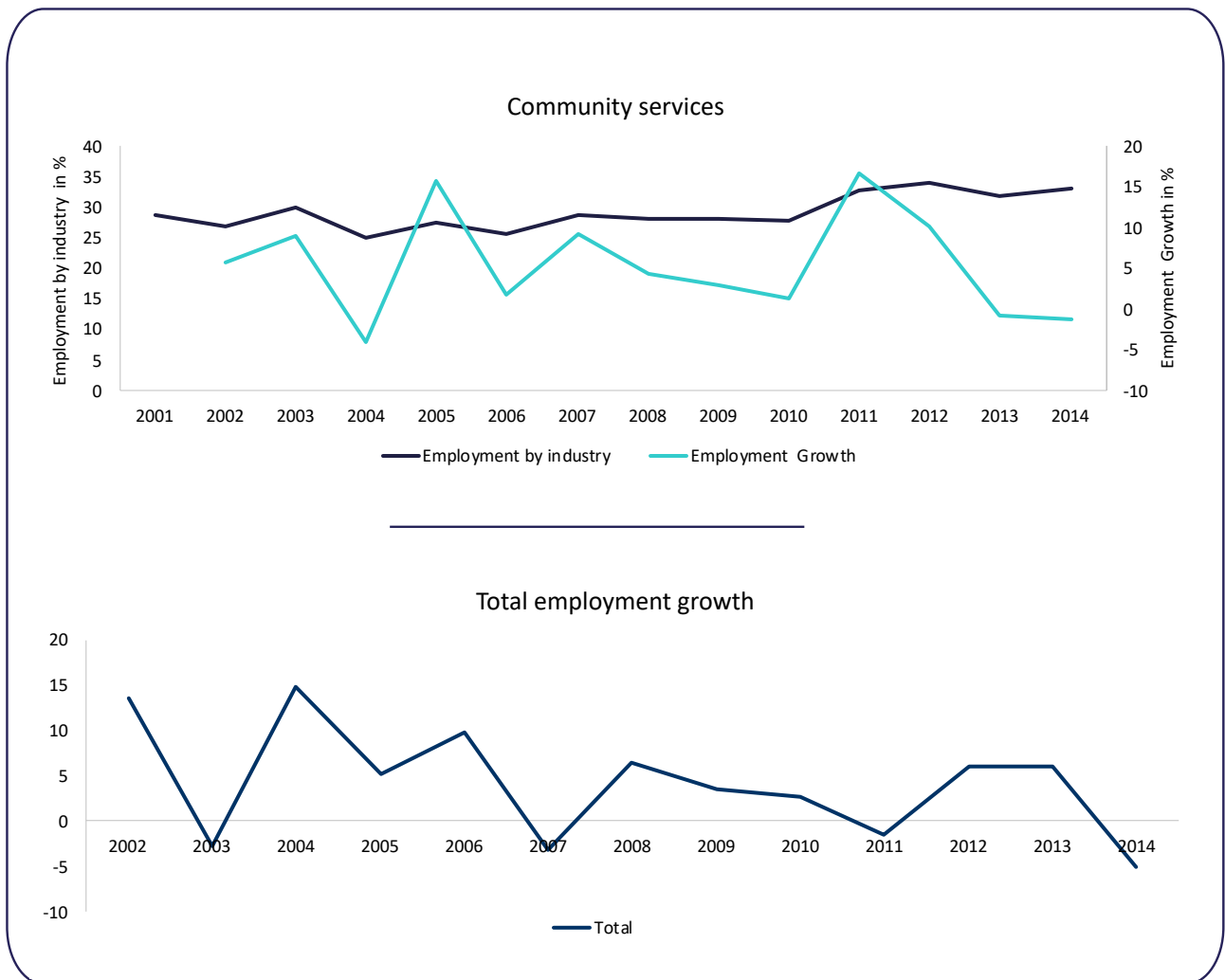


Source: Authors, based on *Retrospective des comptes économiques de 1963 à 2018*, collections statistiques N 215/2020, serie E: statistiques économiques N 102, Office National des Statistiques (ONS), les comptes nationaux trimestriels 4ème trimestre 2019, collections statistiques N 889/2020.

► **Figure 5.** Employment, by industry







Source: Authors, based on ONS. 2001–14. Labour Force Surveys.

From 2000, Algeria’s industrial sector was marked by the emergence of the private sector, even if its activities have been concentrated in areas benefiting from state aid and subsidies, as well as those intervening in the construction and public works sector. Difficulties in reviving the industrial sector persist due to a weak focus on sectors that create wealth and promote growth. The added value created by the industrial sector went into sharp decline, falling from almost 50 per cent of the total value added in 2000 to only 25 per cent in 2019. This decrease conceals stagnation but is still slow in terms of participation in job creation (going from 14.22 per cent of the total employed population in 2001 to 12.59 per cent in 2014). The sector is mainly driven by the Iron and Steel, Metal, Mechanical, Electrical and Electronic (ISMME) industries, where the public sector dominates with a share of 91.1 per cent. On the other hand, the manufacturing industry – which also covers an important part of the industrial sector – showed a very moderate and stable contribution throughout the period, both in terms of added value (about 5 per cent of the total value added) and in terms of job creation (nearly 10 per cent of the total employed population). Nevertheless, exports of manufactured products are marginal and represent only 1 per cent of overall exports. Algeria’s industrial strategy has always been based on

branches of activity considered to be strategic, such as the agro-food industry, construction materials, ISMMEE and chemicals. Analysis of the evolution of productivity between 2001–14 shows that despite this strategy, the national industrial sector recorded a strong decrease in productivity, going from more than DZD 2,264/worker in 2001 to nearly DZD 1,590/worker in 2014. Meanwhile, within the industrial sector, the productivity of the manufacturing industry remained stable during the same period, at around DZD 300/worker.

Favourable hydrocarbon prices on the international market enabled the resumption of public investment through the implementation of the Economic Recovery Support Programme (PSRE) in 2001–04, followed by the Complementary Programme of Growth Support (PCSC) for the period from 2005–09 and the launch of a major investment programme in 2010–14 called the five-year development programme. Due to the massive public expenditure during this period, the added value created by the construction sector nearly doubled, going from 7.4 per cent in 2000 to 13.2 per cent in 2019. Its contribution to total employment also grew by 7 percentage points between 2001 and 2014, going from 10.73 to 17.84 per cent.

In terms of investments in infrastructure, US\$130 billion was allocated between 2001 and 2014 to the development of railway and road networks. Urban transport has been marked by an unprecedented boom in the last 15 years, with the creation of a subway in Algiers (one of two subways in Africa, besides that of Cairo) and the completion of six tramway projects (the seventh is in progress). Thanks to massive investments, the entire population now has access to electricity, even in remote areas. In a context of strong demographic growth, social housing has also been an essential component of public spending in Algeria. Over this period, housing finance programmes accounted for about 5 per cent of total government spending, or about 2.2 per cent of GDP. In terms of health, the hospital sector has grown considerably, with 16 university hospitals (14,000 beds), 81 specialized hospitals (13,124 beds) and 206 public hospitals (40,506 beds). Access to university education also became widespread. Between 1998 and 2018, student enrolment increased by 270 per cent (1.7 million

students approximately), with each wilaya [governorate] having its own university.

In transportation, communication and commerce, large SOEs coexist with small and mostly informal firms. Even where the private sector most commonly has free rein, public firms remain active. Meanwhile, the contribution of transportation and communication to total employment has also increased, albeit only by 2 percentage points, from 14.39 per cent in 2001 to 16.64 per cent in 2014. Government services contributed markedly to value added (around 10 per cent of the total) and to total employment (33.26 per cent in 2014). In terms of productivity, the 'finance and insurance' sector recorded a strong increase, going from less than DZD 1,200/worker in 2001 to more than DZD 4,400/worker in 2014, although its contribution to the total employed population remains weak (less than 1 per cent). Strong productivity increases were also seen in the 'real estate activities and services to firms and to households' sector.

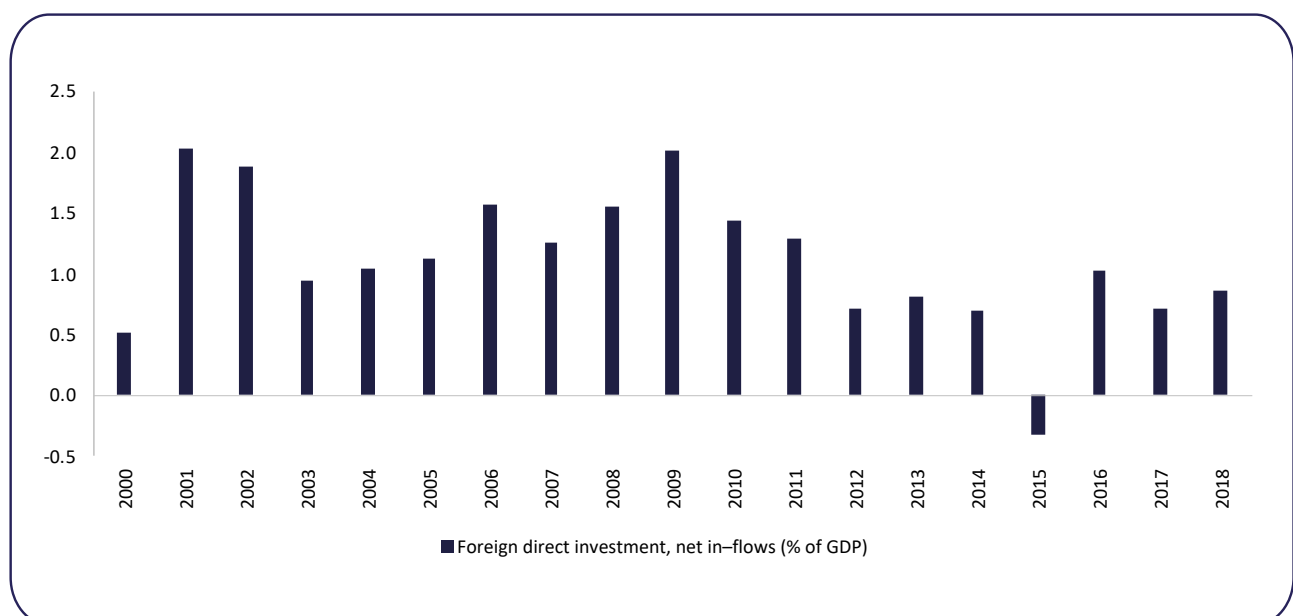
2.1.5 Foreign direct investment and domestic credit

Despite the privatization process that began in the 1990s, the Algerian public sector is very large, and the State is playing a substantial role in economic activity through its fiscal and social policies. The weight of the private sector in the economy is still modest (less than 60 per cent of GDP in 2019 and 62 per cent of total employment in 2019). Excluding the financial sector, the public sector (represented by SOEs) accounts for 26 per cent of Algeria's GDP – representing 33 per cent of Algeria's real sector and 11.2 per cent of its non-oil real sector. Some private fortunes were built based on capital gains realized through import and resale activities. An inflection in economic growth occurred after 2016, as a result of restrictions on imports to promote foreign productive

investment in Algeria. Two categories of actors have emerged: (1) companies closely linked to government procurement, which operate mainly in the infrastructure sector, and (2) family industrial groups that have focused their development on consumer products and/or real estate.

The 2009 introduction of the 51/49 rule – which stipulates that a foreign entity cannot control more than 49 per cent of an Algerian firm – had a very negative effect on the level of FDI. The share of FDI net in-flows as a percentage of GDP in 2018 was 0.87 per cent. A major part of this FDI is oriented to the hydrocarbons sector (figure 6).

Figure 6. Foreign direct investment, net in-flows (% of GDP)



Source: Authors based on World Bank. n.d. World Development Indicators.

Private sector development remains constrained by an underdeveloped financial sector. Private sector credit accounted for only 25 per cent of GDP in 2018 (figure 7), compared with an average of 63 per cent in the Middle East and North Africa (MENA) region.

Algeria's labour force participation rate remains very low (42 per cent), with only a marginal increase (1.2 points) between 2001 and 2019, which has benefited women more than men.

Public banks dominate more than 90 per cent of the banking sector and are dependent on the oil-prices cycle through multiple channels. For example, public banks rely heavily on hydrocarbon-related public deposits and are vulnerable to sharp reversals in liquidity and credit conditions. Public banks also channel most of their lending to the public sector, leading to weak governance and risk-management practices. The insufficient diversification of the economy, coupled with other structural vulnerabilities, serves to amplify the cyclical behaviour in bank liquidity and credit and poses financial stability risks.





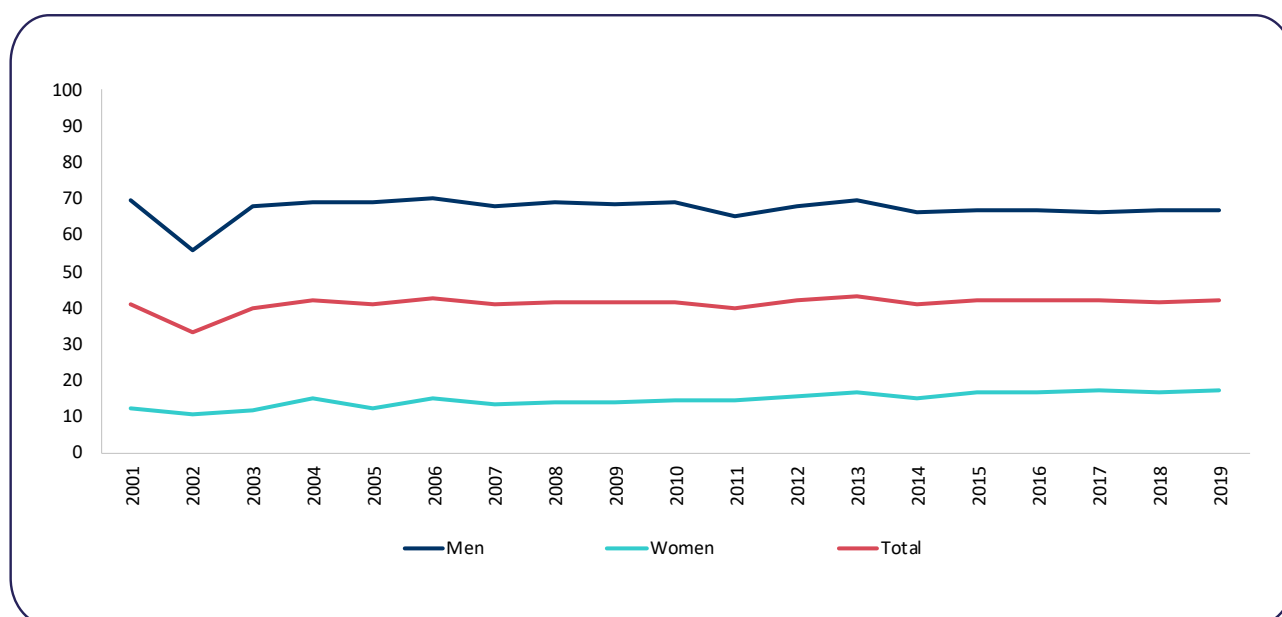
2.2 Trends in labour market outcomes

>>> 2.2.1. Labour force participation rates

The labour force activity rate in Algeria remained very low throughout the period, hovering at around 40 per cent (as compared to about 60 per cent in middle-income countries). It increased by a mere 1.2 percentage points between 2001 and 2019, going from 41 per cent in 2001

to 42.2 per cent in 2019. This was not enough to keep up with population growth. Given high demographic growth, the active population increased by 48 per cent over the period, going from 8.5 million people in 2001 to 12.7 million people in 2019.

► **Figure 7.** Labour force participation rate: total, male and female, (ages 15-64)

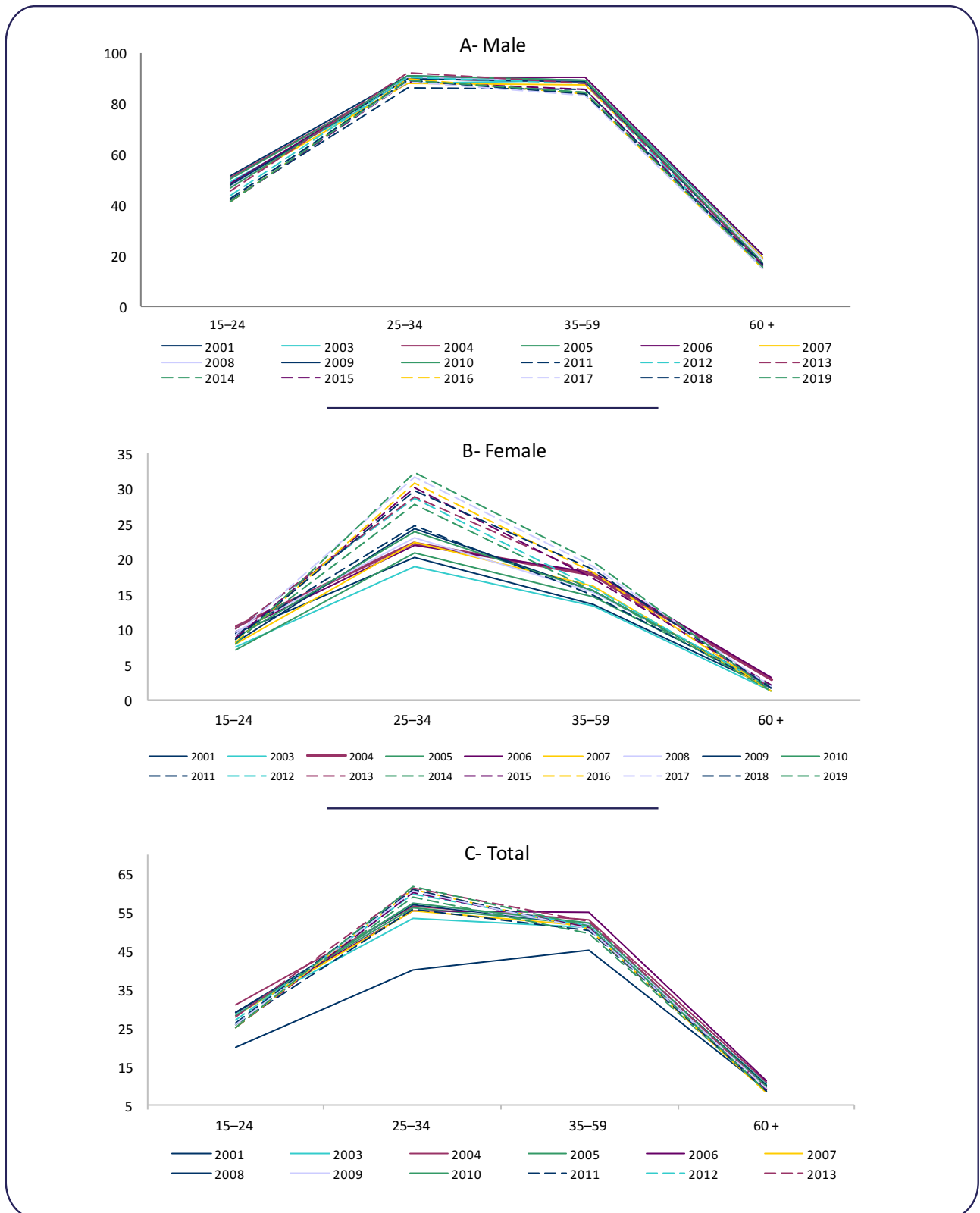


Source: Authors based on ONS. Labour Force Surveys 2001-19.

When broken down by sex, it is notable that for men, the labour force participation rate fell by 2.5 points during this period (from 69.3 per cent in 2001 to 66.8 per cent in 2019). On the other hand, for women, the activity rate increased by 4.9 points (rising from 12.4 per cent in 2001 to 17.3 per cent in 2019). Despite this increase, the activity rate of women in Algeria remains very low.

Figure 8 shows a classic relationship (inverted U) between the activity rate and age. In addition, the superposition of activity rates according to five-year age cohorts allows an appreciation of the change in the labour force participation observed for women. Indeed, the participation rate for women has increased for all age groups except for those in the youngest and oldest cohorts.

► **Figure 8.** Labour force participation rates, by age

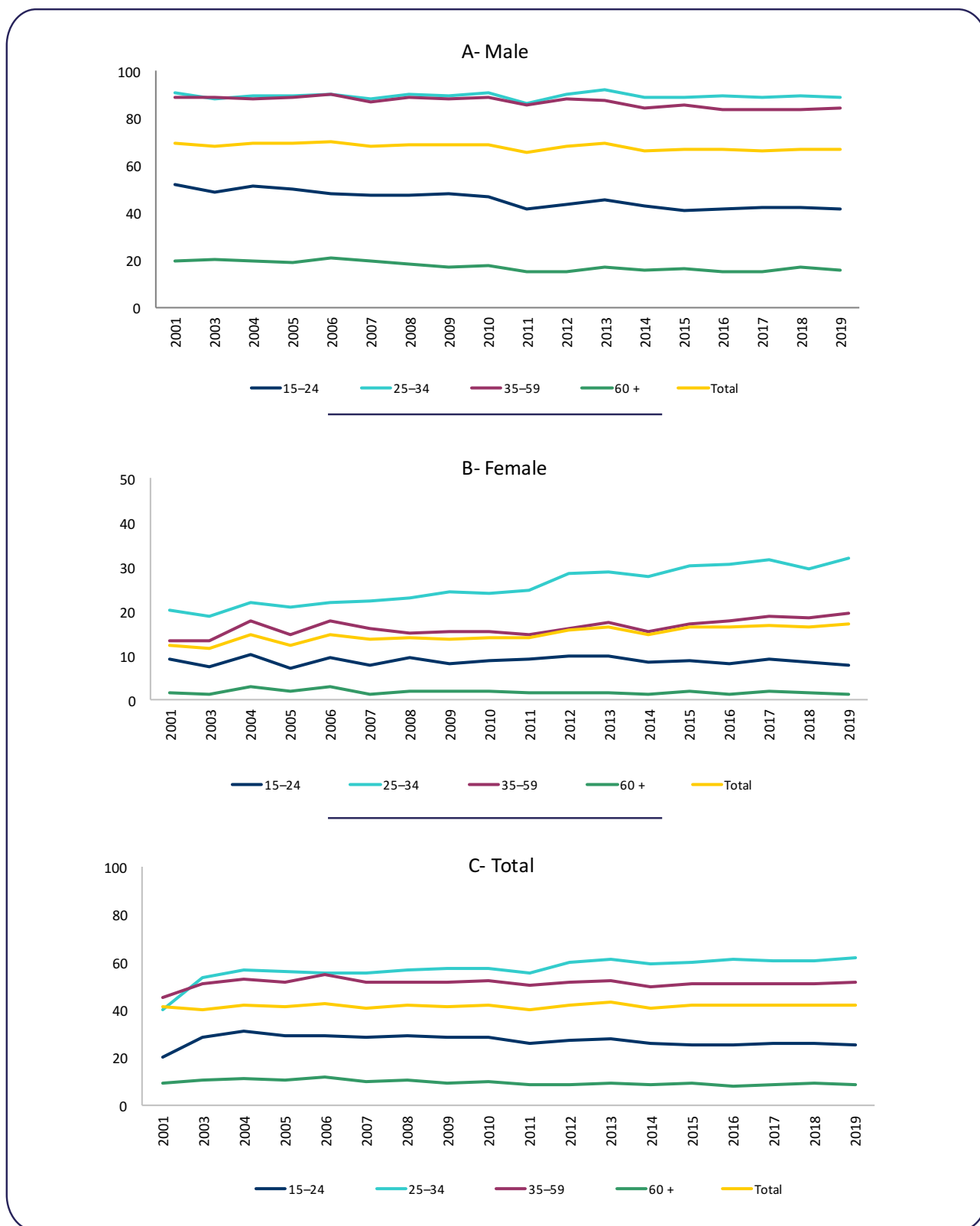


Source: Authors based on ONS. Labour Force Surveys 2001-19.

For men, the activity rate has remained almost stable for those aged between 25 and 54. Variations in these rates due to the position in the life cycle remain, for their part, very differentiated between both sexes. While men's activity is practically at its peak until the age of

54, women's activity is marked by a low point at the ages when many of them interrupt their working life to raise young children. Over the period, these rates thus changed in the direction of greater participation of women and a decline in that of men.

► **Figure 9.** Labour force participation rate, by age and sex

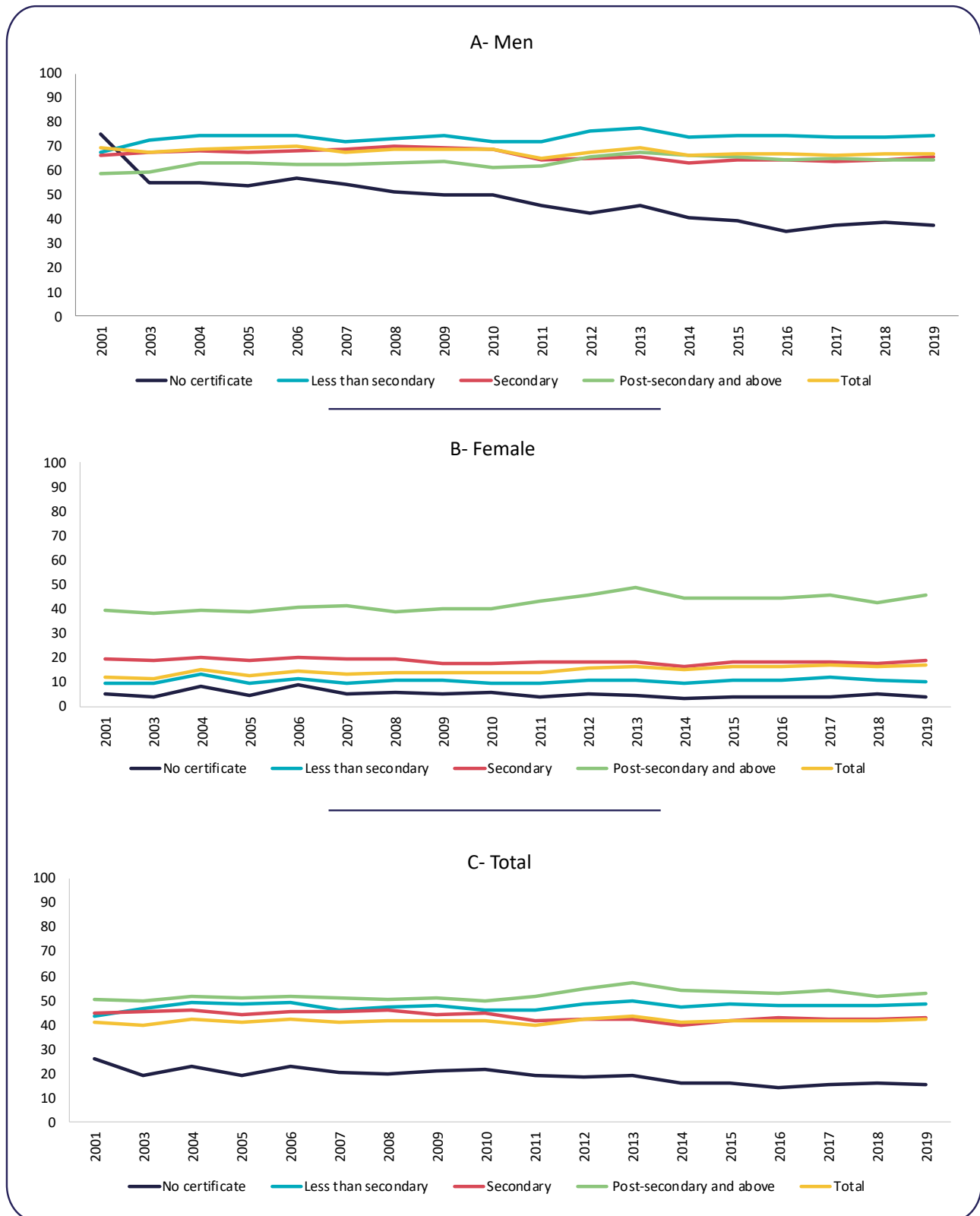


Source: Authors, based on ONS. Labour Force Surveys 2001-19.

Overall, labour force participation rates increase with the level of educational attainment. This relationship is more visible for women than for men. Women with higher education have higher labour force participation rates compared to women with secondary education and below. Conversely, for men it is those with secondary and middle education who participate most in the workforce.

➤➤➤ A series of State programmes have sought to develop entrepreneurship, promote salaried employment and encourage companies to spur job creation, which increased substantially (the employment rate grew 1.7 times between 2003 and 2019), although there have been job losses more recently.

► **Figure 10.** Labour force participation rate, by education



Source: Authors, based on ONS. Labour Force Surveys 2001–19.

Empirical research on the determinants of labour force participation find a positive relationship between women’s education and labour force participation (Chamlou, Muzi and Ahmed 2011). It was thus expected that an increase in educational attainment would translate into an increase

in female participation. However, this was not only the case for Algeria, as the same result appears to occur for all the countries of the MENA region, as the participation rate of women remains low and stagnates. This is a phenomenon that is now referred to as the “MENA

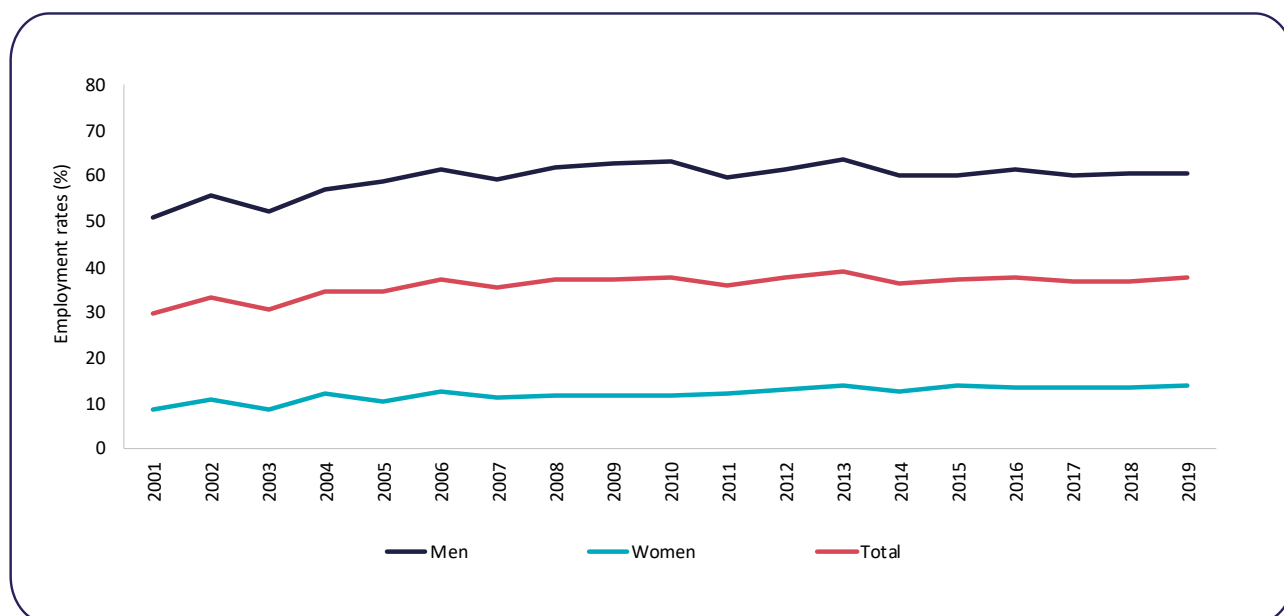
paradox" (see Assaad et al. 2020 and Lassassi and Tansel 2020). Three possible explanations can be ventured: firstly, the reduction in employment opportunities in the public sector, which has direct consequences on the participation of women (particularly those who are educated) in the labour market. Women in Arab countries prefer to work in the public sector for cultural and social considerations (Assaad et al. 2020). A second explanation is that the formal private sector has certainly created jobs

in recent years, but it did not compensate for the jobs lost in the public sector. A third explanation could relate to the increase in the weight of the informal sector, which offers jobs that are not favourable to the employment of women, particularly married women. Also, in recent years, employment growth has been seen primarily in sectors that are not favourable to women's employment (the construction sector, for example, is traditionally a sector which predominantly employs men).

>>> 2.2.2 Employment rates

The employed population reached 11.2 million people in 2019. Women constituted 18.3 per cent of the total workforce (2 million women).

► **Figure 11.** Employment rate, by sex.



Source: Authors, based on ONS. Labour Force Surveys 2001–2019.

The employed population grew 1.7 times between 2003 and 2019, rising from 6.6 million people in 2003 to 11.2 million in 2019, with an average annual growth rate of 3.3 per cent (3.0 per cent for men and 5.1 per cent for women). The employment rate, defined as the ratio of the employed population to the population aged 15 and over, is 37.4 per cent (60.7 per cent for men and only 13.8 per cent for women).

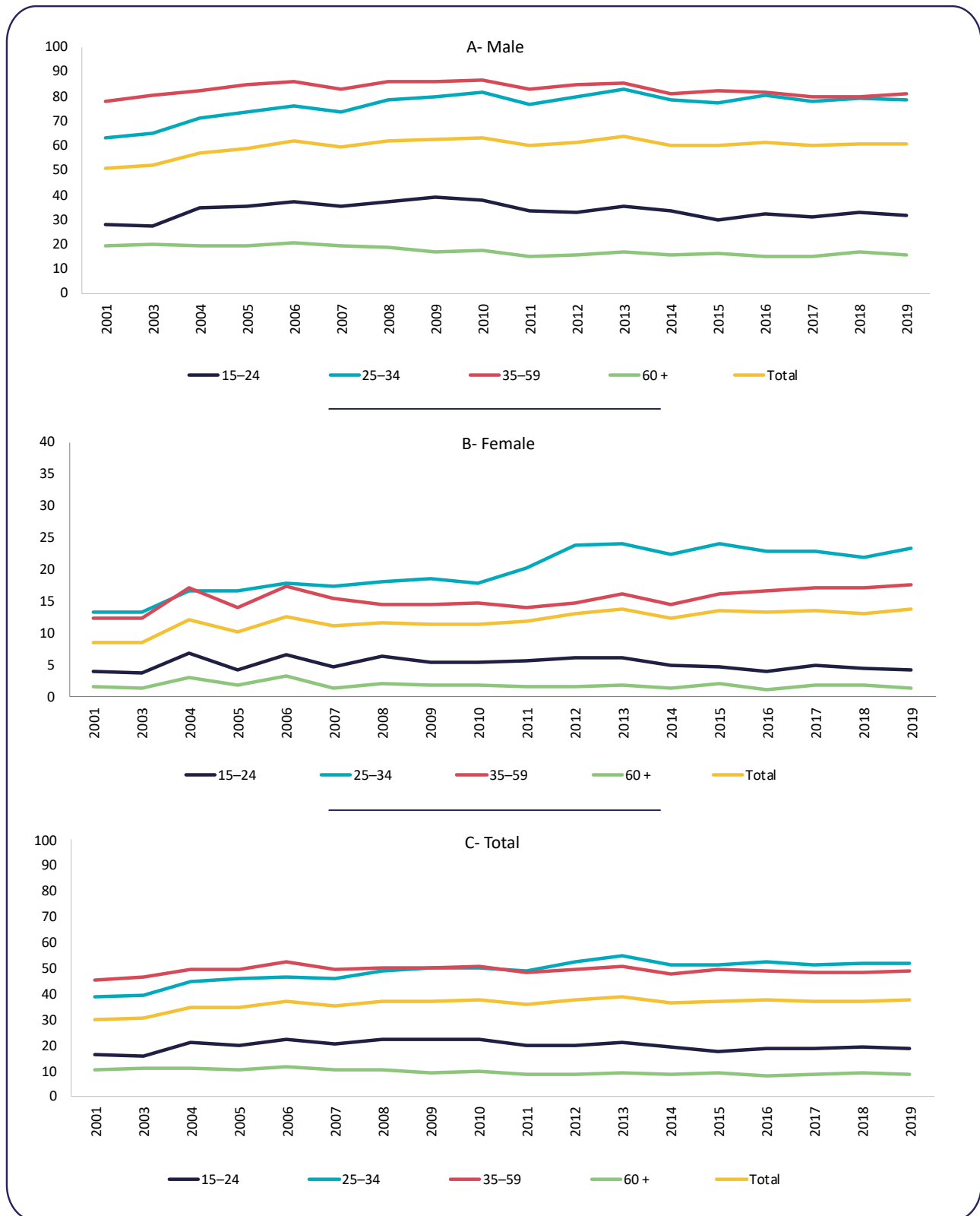
>>>

Algeria's economy is highly dependent on oil, and although a boom in oil prices heralded significant economic growth driven by public infrastructure projects, the decline of hydrocarbon prices after 2014 led to job losses and has hampered long-term planning.

◀



► **Figure 12.** Employment rate, by age and sex.

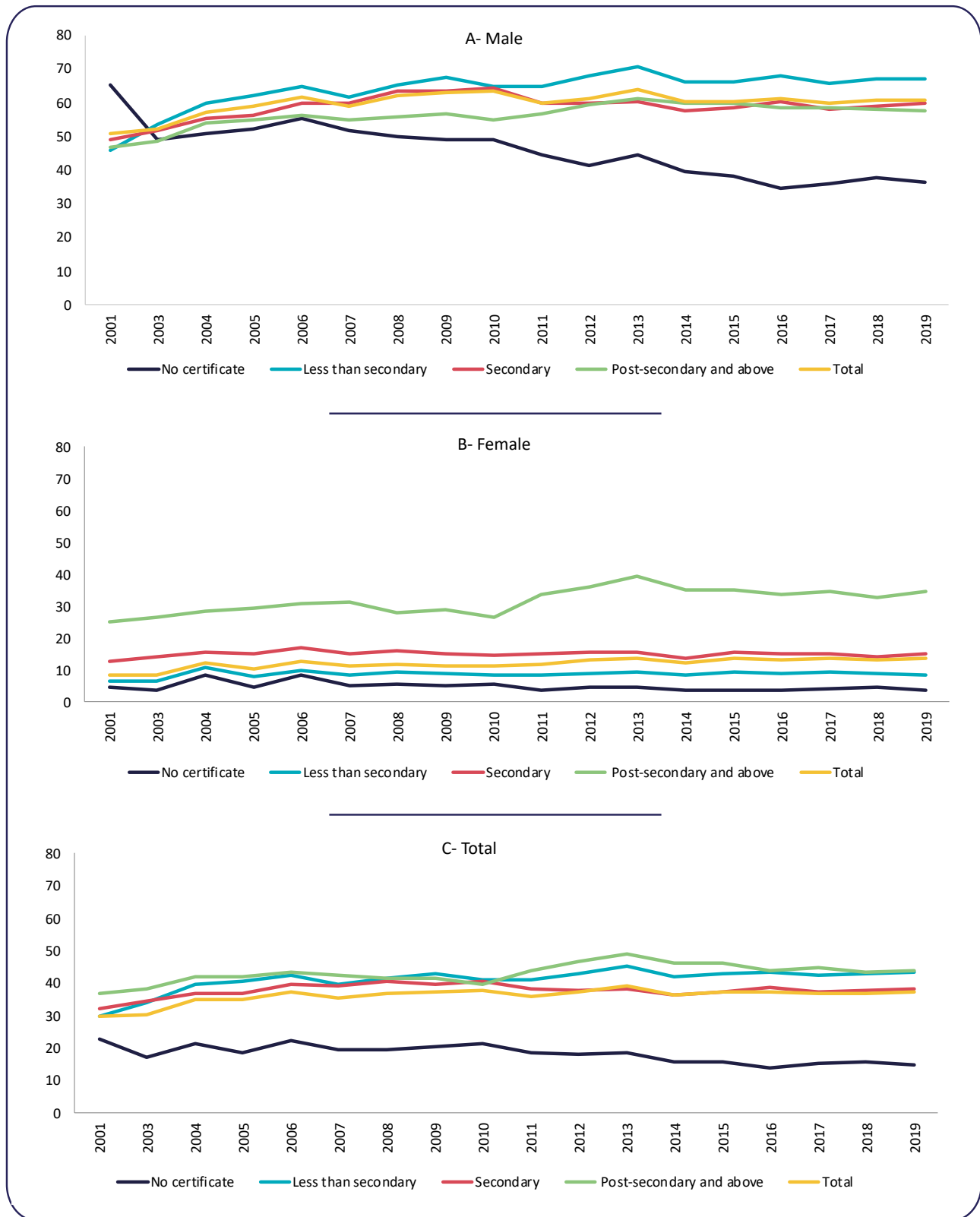


Source: Authors, based on ONS. Labour Force Surveys 2001–2019.

In 2019, the youth employment rate was half that of adults, although it is worth noting a slight increase in the ratio between 2001 and 2019. By gender, it appears that

the employment rate for women is lower compared to men, for both youth and the adult population.

► **Figure 13.** Employment rate, by educational attainment and sex



Source: Authors, based on ONS. Labour Force Surveys 2001–2019.

Globally, employment rates tend to increase with the level of education. This relationship is more visible in the case of women. The employment rate of educated women increased by 8.3 points between 2001 and 2019 in Algeria, going from 26.3 per cent (2001) to 34.6 per cent (2019)

>>> 2.2.3 Job creation

In 1994, Algeria's National Employment Policy was announced and the Ministry of Labour was the main regulator. However, the development delays of the 1990s were significant and it was necessary to wait until the beginning of the 2000s and the resumption of hydrocarbon prices on the international market before being able to finance various employment schemes and set up the PSRE programme – both of which were determining factors in allowing the economy to return to a state of growth.

Over the period from 2001–04, under the PSRE, 1.5 million new jobs were created, at an average annual growth rate of 10.5 per cent (figure 13). This made it possible to reduce the unemployment rate to 17.7 per cent (1.6 million unemployed).

A Complementary Growth Support Programme (PCSC) was adopted from 2005–09, focused on transport, public works and housing projects that were supposed to stimulate growth and create jobs. During this period, total net job creation was estimated at 1.4 million jobs, at an average annual growth rate of 4.2 per cent – except for the year 2007, which saw a decrease of 3.1 per cent. In 2008, the Algerian Government decided to implement an action plan for the promotion of employment and the fight against unemployment. The main axes were developing entrepreneurship, promoting salaried employment and encouraging companies to contribute to job creation. By 2009, the unemployment rate had fallen, to 10.2 per cent (or 1.1 million unemployed). Nevertheless, the goal of the PCSC, to reduce it to less than 10 per cent and to create 2 million jobs between 2005 and 2009, was not achieved.

with near stagnation from 2014 (34 per cent). For men, the employment rate was slightly higher for those with secondary education. Indeed, for the latter, the rate is 60 per cent (57.5 per cent for those with a higher level of education).

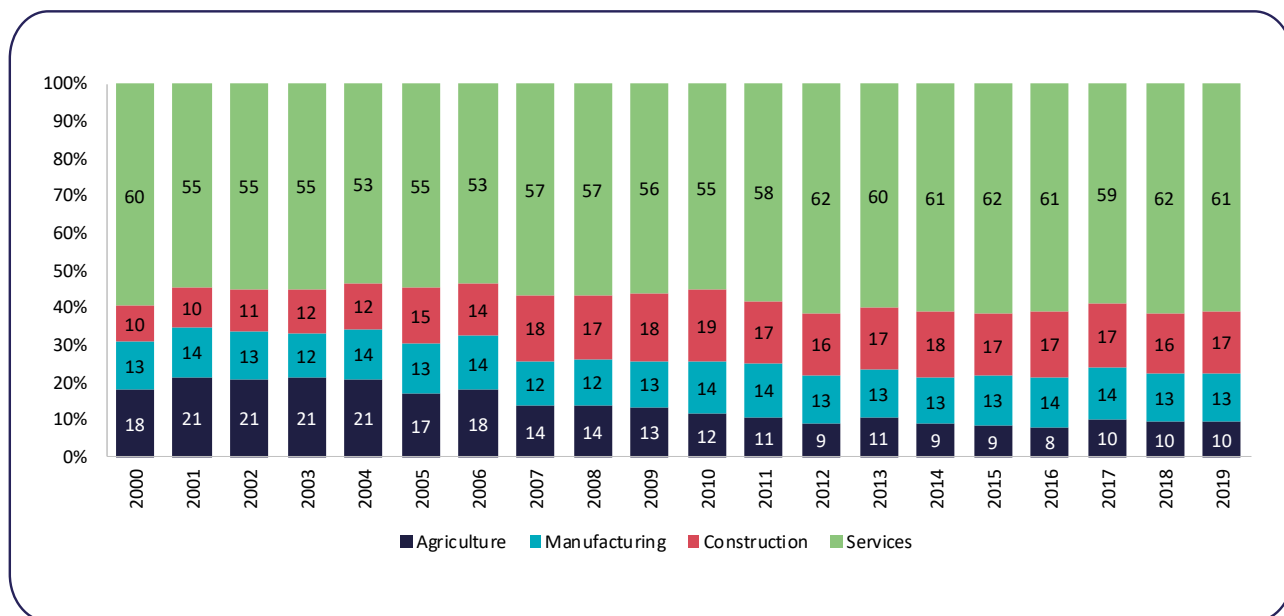
The subsequent period, from 2010–14, was characterized by the net creation of 504,000 jobs, generated mostly by construction, trade, accommodation and food services, and public administration sectors.

However, with the fiscal revenue crisis that has hit the country since the second half of 2014, as a result of the decline in hydrocarbon prices at the international level, there was a slowdown in public investment and job creation began to decline to such an extent that a loss of 76,000 jobs was recorded in 2017 – a testament to the dependence of the Algerian economy on oil revenues. Analysis of the evolution of employment according to major economic sectors reveals that the most important increase has been employment in services. It is interesting to note the decrease in agricultural employment, which fell from 1.6 million jobs in 2004 to less than 900,000 in 2019.

In terms of structure, employment in the tertiary sector represented more than 60 per cent of all employment in 2019. The share of employment in industry, which was already low in 2001 (only 14 per cent) represented even less in 2019 (13 per cent). As for the construction sector, a dynamic boom was seen in the early 2000s due to the launch of major infrastructure projects under the PSRE and the PCSC. Its share increased from 10 per cent in 2001 to 19 per cent in 2010. However, the slowdown in major public projects caused the construction sector to lose two percentage points of its share of employment, falling to 17 per cent by 2019 (figure 14).



► **Figure 14.** The evolution of the sectorial distribution of employment



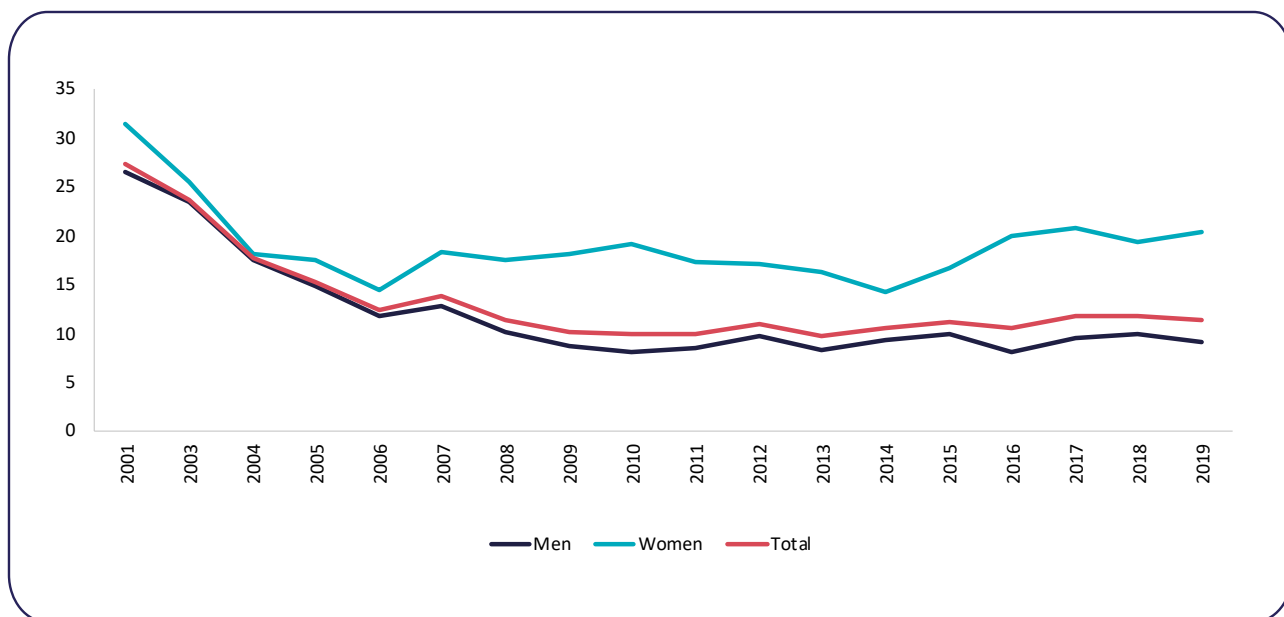
Source: Authors, based on ONS. Labour Force Surveys 2001–2019.

2.2.4 Unemployment rates

The unemployment rate in Algeria has fallen considerably in recent years (figure 15). In fact, it fell by around 16 points between 2001 and 2019, going from 27.3 per cent in 2001 to 11.4 per cent in 2019. In absolute terms, 629,000 people ceased to be unemployed between 2003 and 2019. For men, the unemployment rate went from 26.6 to 9.1 per cent and for women, it fell from 31.4 to 20.4 per cent over the same period (2001–19).

Algeria's unemployment rate has also fallen considerably, although women and youth are still far more likely than their counterparts to be unemployed.

► **Figure 15.** Unemployment rate, by sex

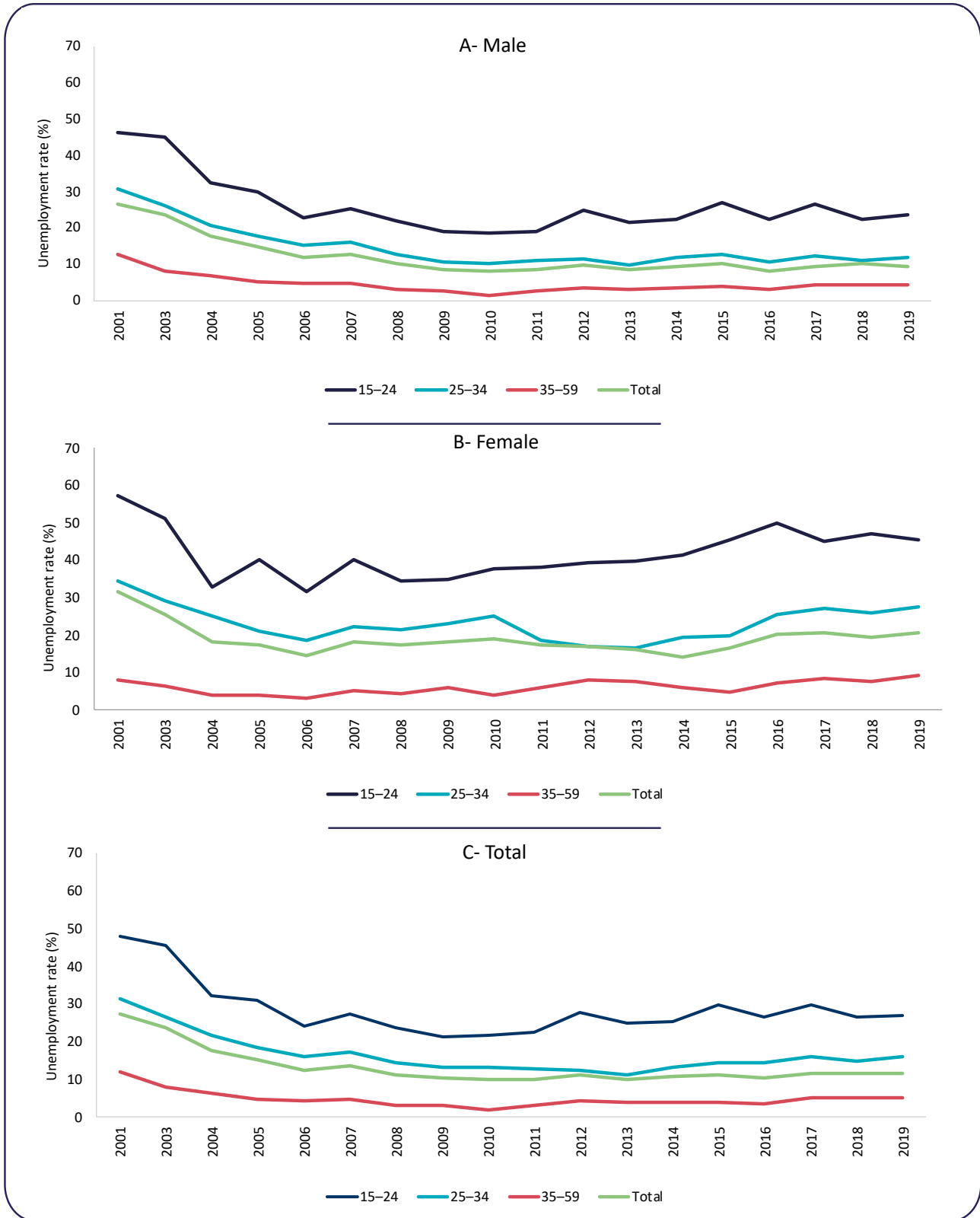


Source: Authors, based on ONS. Labour Force Surveys 2001–19.

The unemployment rate has fallen for both young people and adults over the past 15 years. Nevertheless, young people aged 15-24 are three times more likely to be unemployed than adults aged 25 and over. The gap in the unemployment rate between youth and adults stabilized

at around three points between 2001 and 2019 (figure 16). A comparison of the evolution of the unemployment rate between young people and adults by sex also reveals that unemployment affects women more, whether youth or adults.

► **Figure 16.** Unemployment rate, by age and sex

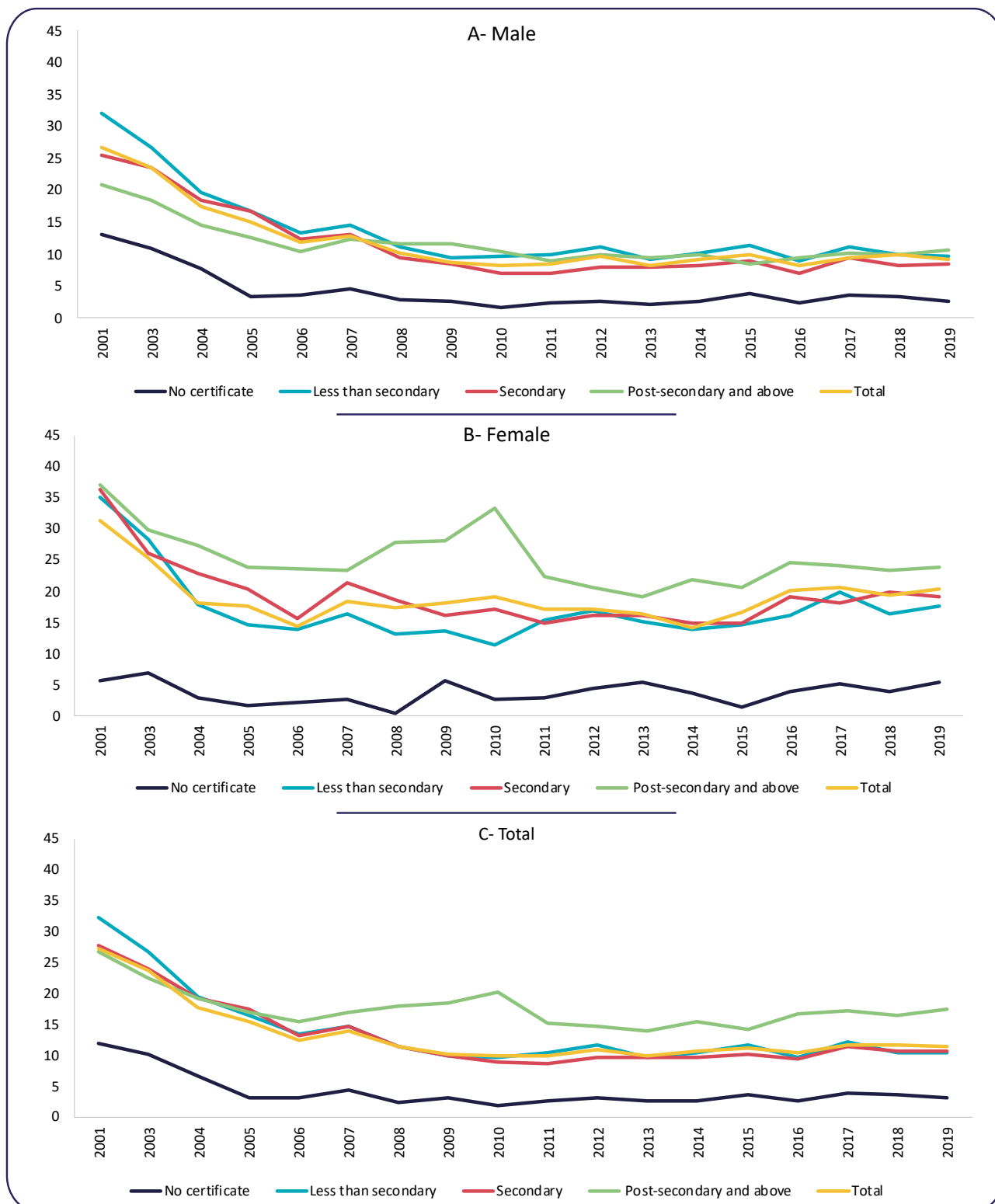


Source: Authors, based on ONS. Labour Force Surveys 2001-19.

Figure 17 shows that unemployment affects graduates more. The unemployment rate for higher education graduates is 18 per cent, with a gap between women (24 per cent) and men (11 per cent). For women, this means that one in four graduates is unemployed after leaving university, while for men, one in ten graduates is unemployed after leaving university. The unemployment rate of people with higher levels of education fell by 8

percentage points between 2001 and 2019. On the other hand, for women, the unemployment rate fell by 7.8 points between 2001 and 2014 before experiencing an increase of 8 points between 2015 and 2019. For graduates of vocational training centres, the unemployment rate was 13.5 per cent (20.7 per cent for women vs. 11.5 per cent for men).

► **Figure 17.** Unemployment rate, by education and sex.



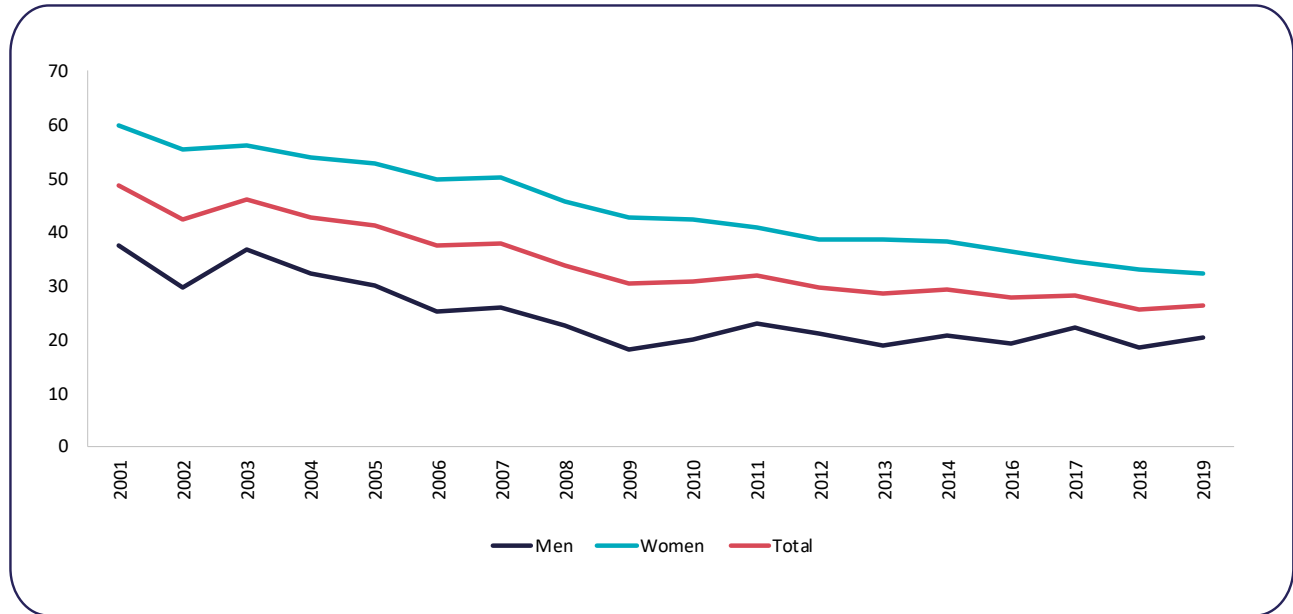
Source: Authors, based on ONS. Labour Force Surveys 2001–19.

2.2.5 Labour underutilization

In 2019, more than 26 per cent of young people aged 15–24 were not in education, employment or training (NEET). Overall, one in four youth is thus in NEET, but

girls are more likely to be in this situation (32.1 per cent) compared to boys (20.4 per cent).

► **Figure 18.** Evolution of the number of youth in NEET, by sex



Source: Authors, based on ONS. Labour Force Surveys 2001–19.

However, this gender gap has been closing over time. It is worth noting that the proportion of young people in

NEET decreased by 22.5 points between 2001 and 2019 (17.1 points for boys and 28 points for girls).

2.2.6 Underemployment

The concept of time-related underemployment makes it possible to estimate the number of employed people who perform an insufficient number of hours of work in relation to the number of hours desired. People considered to be underemployed in relation to working time are people with a job who meet the following three criteria during the reference period:

1. Are willing to work additional hours.
2. Are available to work additional hours.
3. Have worked less than the threshold relating to working time (this threshold could be the limit between part-time work and non-part-time work, the median or average value or even the working hours standards governed by the legislation in force).

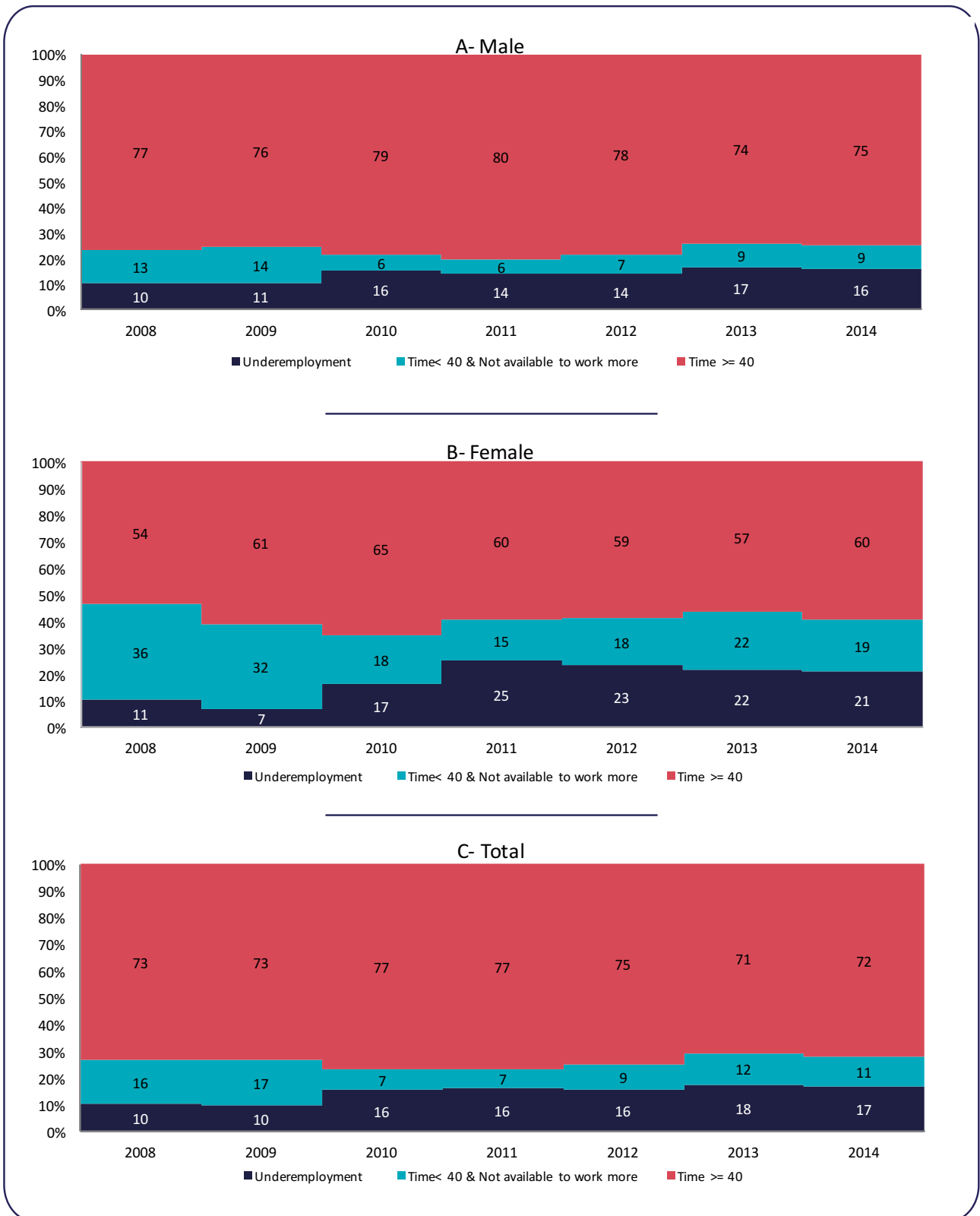
In this report, 40 hours a week is used as the threshold. Three categories are also defined:

1. people in a situation of underemployment;
2. people who work less than 40 hours/week but are not available to work more; and
3. people who work more than 40 hours per week.

In 2014, the percentage of employed persons who were in a situation of underemployment was 17 per cent. Women were more likely to be in this situation (21 per cent) compared to men (16 per cent). More than 72 per cent of those employed worked more than 40 hours per week (75 per cent for men and 60 per cent for women). Figure 18 shows that 11 per cent of the employed work less than 40 hours per week but are not willing to work more hours (9 per cent for men and 19 per cent for women). It is also worth noting that the proportion of those in a situation of underemployment increased by 6.7 points (5.8 points for men and 10.4 points for women) between 2008 and 2014.

Underemployment is also a problem, affecting 17 per cent of those employed in 2014, a rate which has also increased over time for workers of all ages, regardless of their level of education.

► Figure 19. Underemployment, by sex

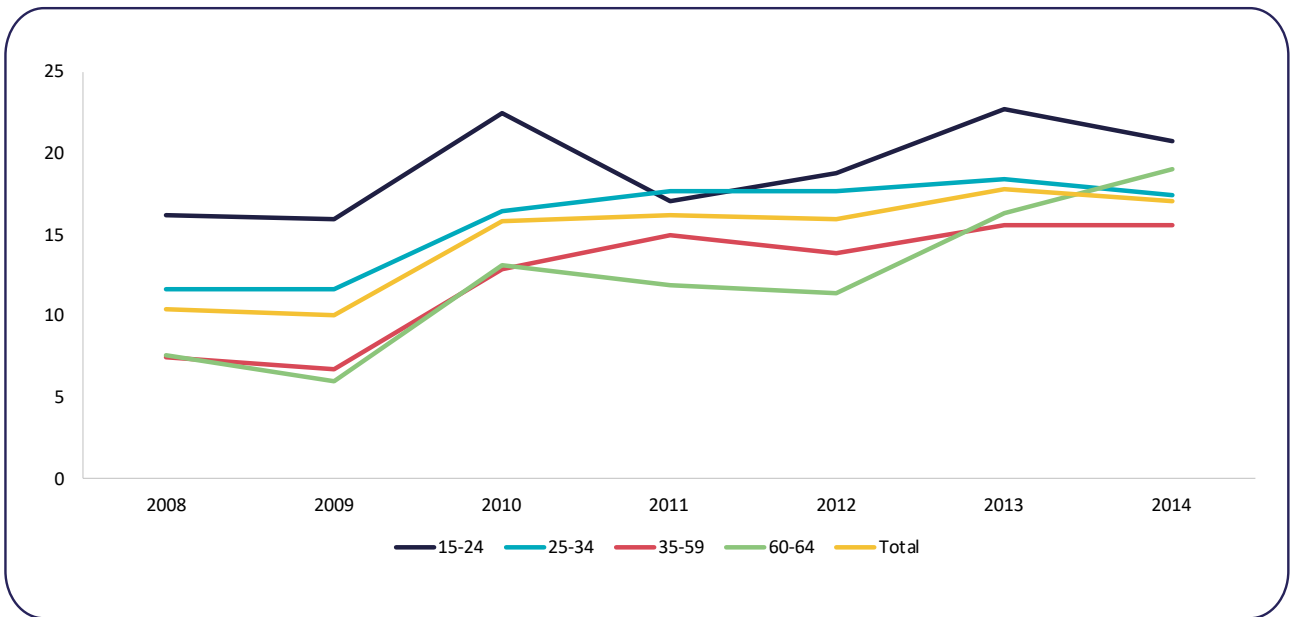


Source: Authors, based on ONS Labour Force Surveys 2008–14.

The underemployment rate has increased for all age categories, especially for the oldest cohorts. Indeed, the rate of underemployment increased from 7.6 per cent in 2008 to 19 per cent in 2014 for people between the ages of 60 and 64 (i.e. 11.4 percentage points). For those between the ages of 35 and 59, the rate increased by 8.2 points

(from 7.4 per cent in 2008 to 15.6 per cent in 2014). For those aged 25 to 34, the rate grew from 11.6 to 17.4 per cent (up 5.8 points). Finally, for those aged 15 to 24, the rate increased by 4.5 points, from 16.2 per cent in 2008 to 20.7 per cent in 2014.

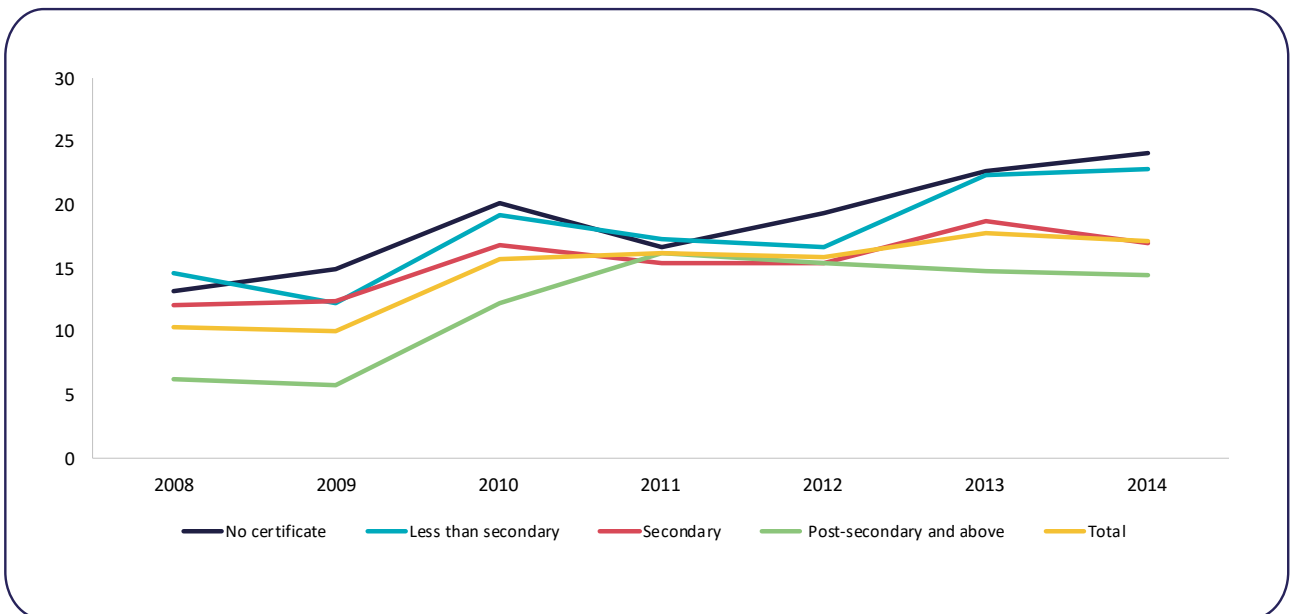
► **Figure 20.** Underemployment, by age



Source: Authors based on ONS. Labour Force Surveys 2008–14.

Finally, the underemployment rate has increased regardless of the level of education. Nonetheless, the rate increased most for those either with no education and for those with a higher level of education. In 2014, the underemployment rate for people with a higher level of education was estimated at 17 per cent.

► **Figure 21.** Underemployment, by educational attainment

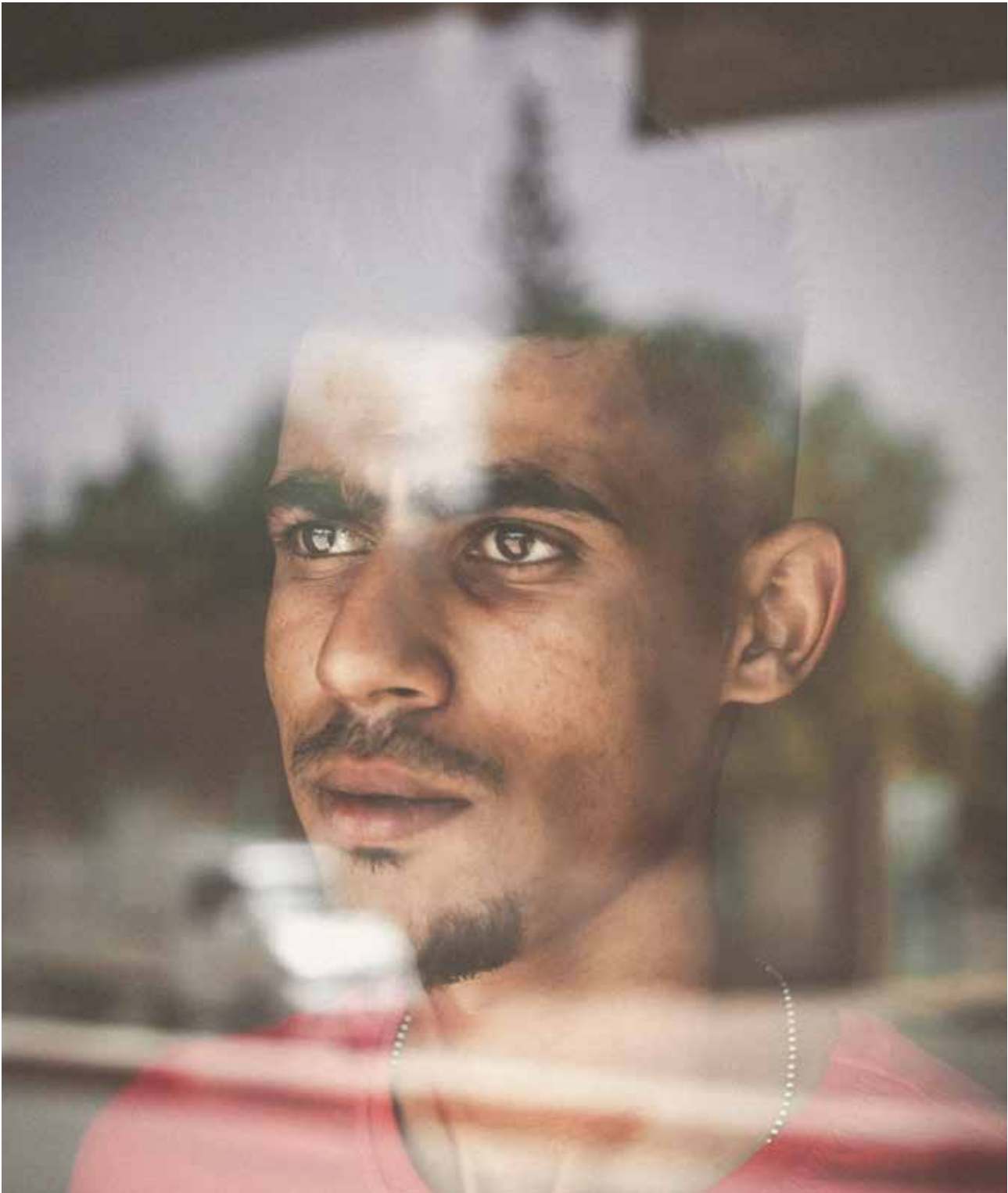


Source: Authors, based on ONS. Labour Force Surveys 2008–14.

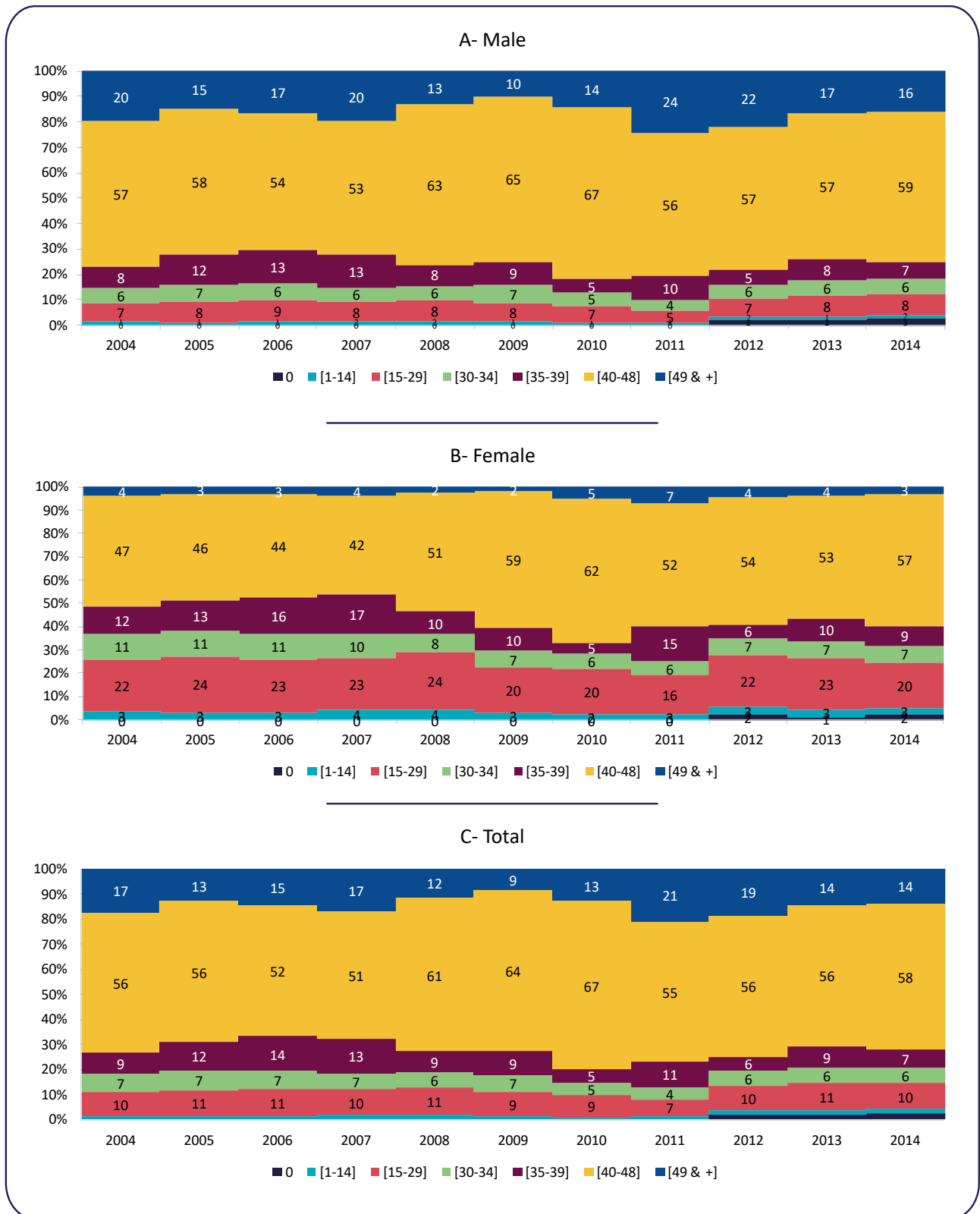
>>> 2.2.7 Hours of work

The population of underemployed workers in relation to working time is estimated at 2 million people employed in September 2014 (1.5 million men and 466,000 women). This translates into an underemployment rate of 19.6 per cent. According to age, underemployment is more prevalent among young people. This phenomenon also seems more likely to affect women (27 per cent) than men (18 per cent), as well as the least educated populations, and those who do not have diplomas. Depending on a

worker's status in the profession, the underemployment rate reaches 29 per cent for the self-employed, 25 per cent for non-permanent employees and 23 per cent for family helpers. The private-mixed sector is more affected by underemployment, with a rate of 24 per cent, compared to the public sector (13 per cent). The sectors of activity most affected are particularly construction (27.8 per cent), agriculture (26.5 per cent) and manufacturing (19.9 per cent).



► Figure 22. Hours of work, by sex



Source: Authors, based on ONS. Labour Force Surveys 2004-14.

2.2.8 Education/occupation mismatch by sex, age and education

A qualification mismatch indicator was calculated by level of education for men and women separately and by age group. For each occupation, the 'mode' of education level was calculated - meaning the level of education required for the job. If the job-seeker's educational level is higher than the level required for that job, then the person can be considered "overeducated". On the other hand, if the job-seeker's educational level is lower than the level required by the job, then the person can be considered "undereducated".

By age, figure 23 reveals that it is mostly those under the age of 34 who are overeducated (22.4 per cent for those aged 15-24, and 29.1 per cent for those aged 25-34). When it comes to being undereducated, it is people aged over 35 who are most likely to be in this situation (37.5 per cent for those aged 35-59 and 78 per cent for those aged 60-64). Meanwhile, young people are more likely to be matched (education-employment adequacy), with 60.6 per cent for those aged 15-24 and 53.1 per cent for those aged between 25-34 years.



► **Figure 23.** Education/occupation mismatch, by age

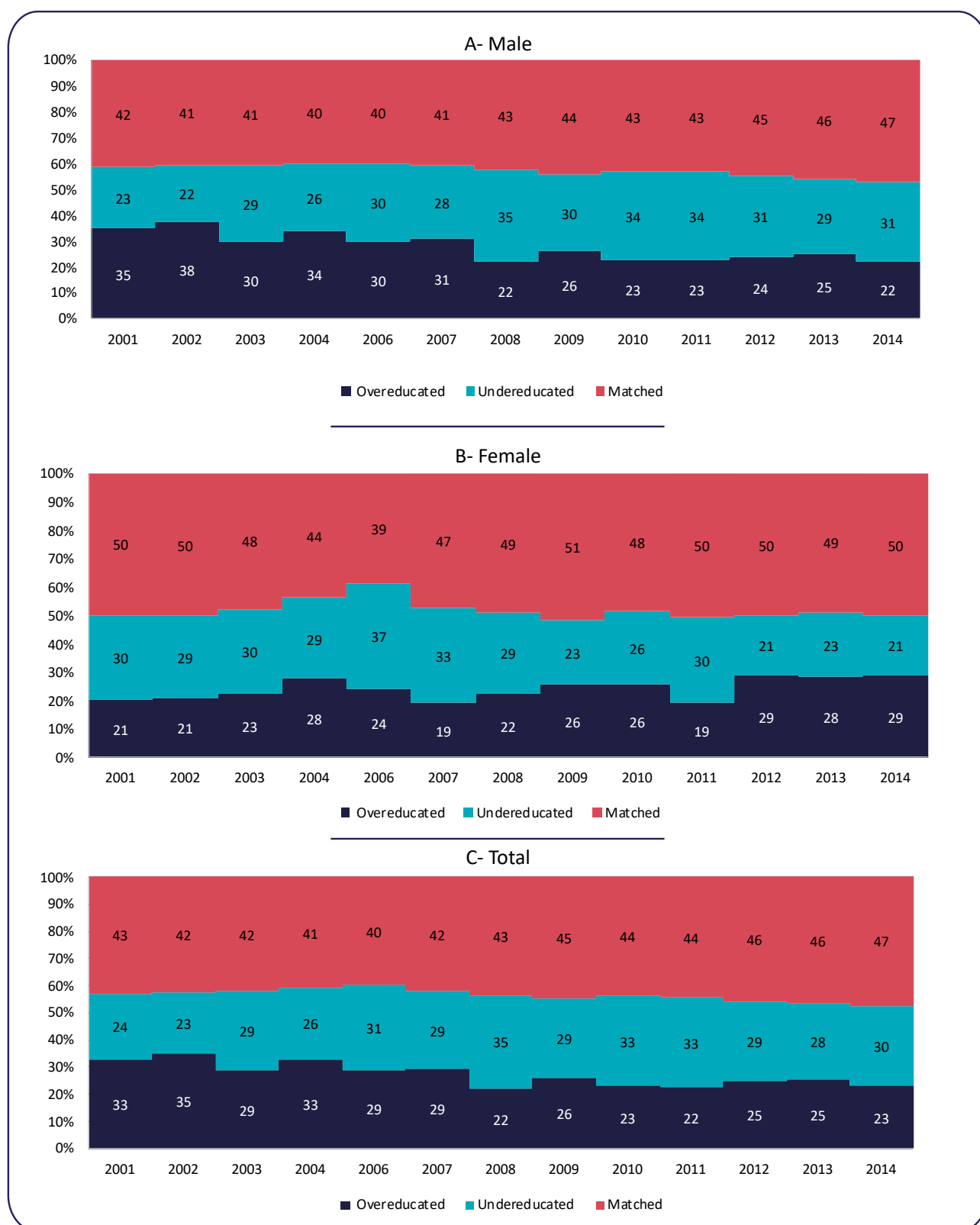


Source: Authors, based on ONS. Labour Force Surveys 2001–14.

Overall, in 2014, 23.1 per cent of all employees were overeducated (figure 23). This proportion decreased by nearly 10 points between 2001 and 2014. More than 29 per cent of all employees were undereducated and this proportion increased by 4.7 points over the same period

(2001–14). In contrast, 47.4 per cent of employees are adequately employed (or “matched”) according to their level of education. This proportion increased by nearly 5 points between 2001 and 2014.

► **Figure 24.** Education/occupation mismatch, by sex



Source: Authors, based on ONS. Labour Force Surveys 2001–14.

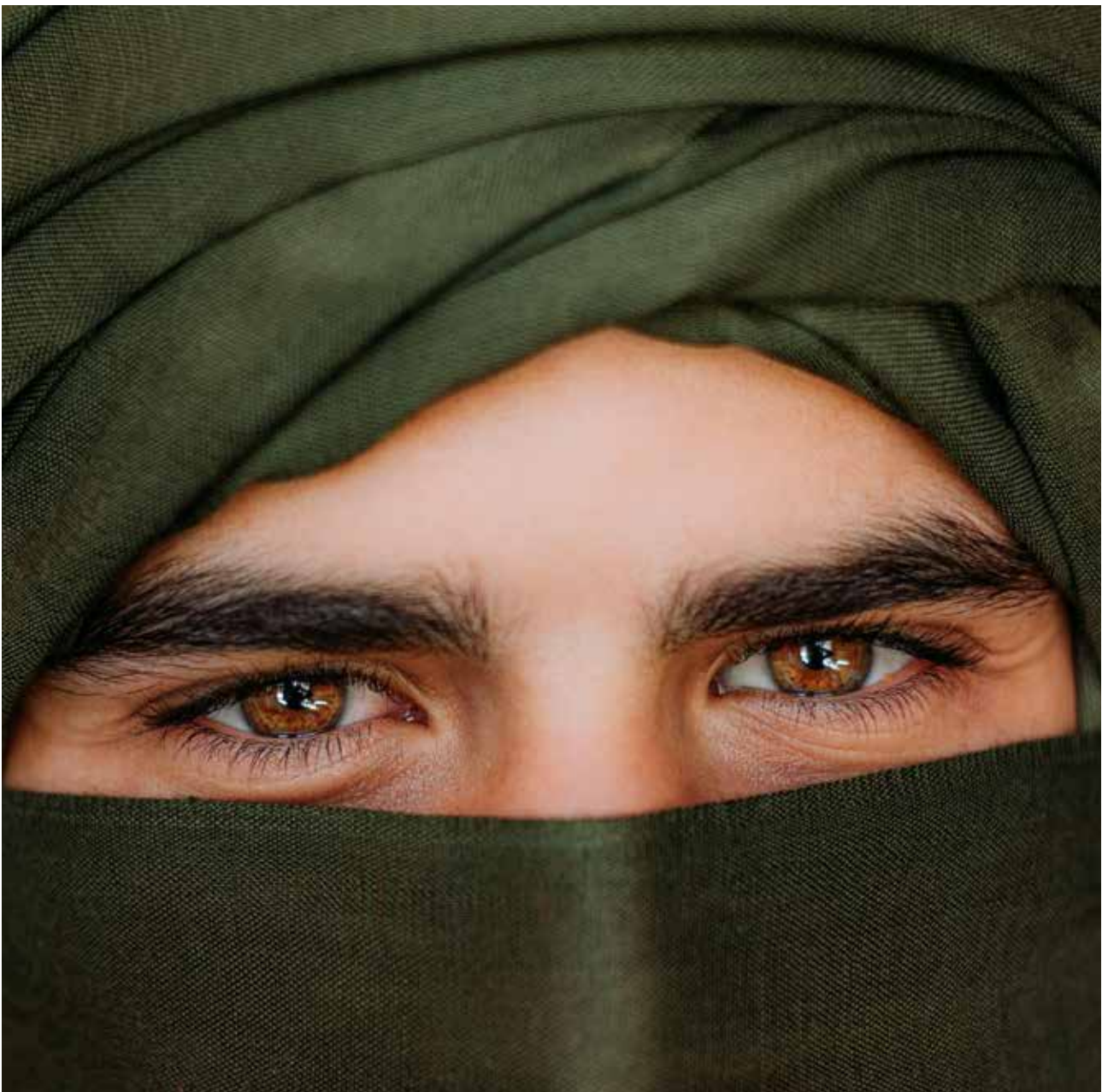
Analysis by sex shows that women hold more jobs that are matched with their education (50.2 per cent) than men (46.9 per cent). Women are also more likely to be overeducated (29.2 per cent) compared to men (22.1 per cent). In contrast, men are more likely to be undereducated (30.9 per cent) compared to women (20.7 per cent).

>>> 2.2.9 Type of employment

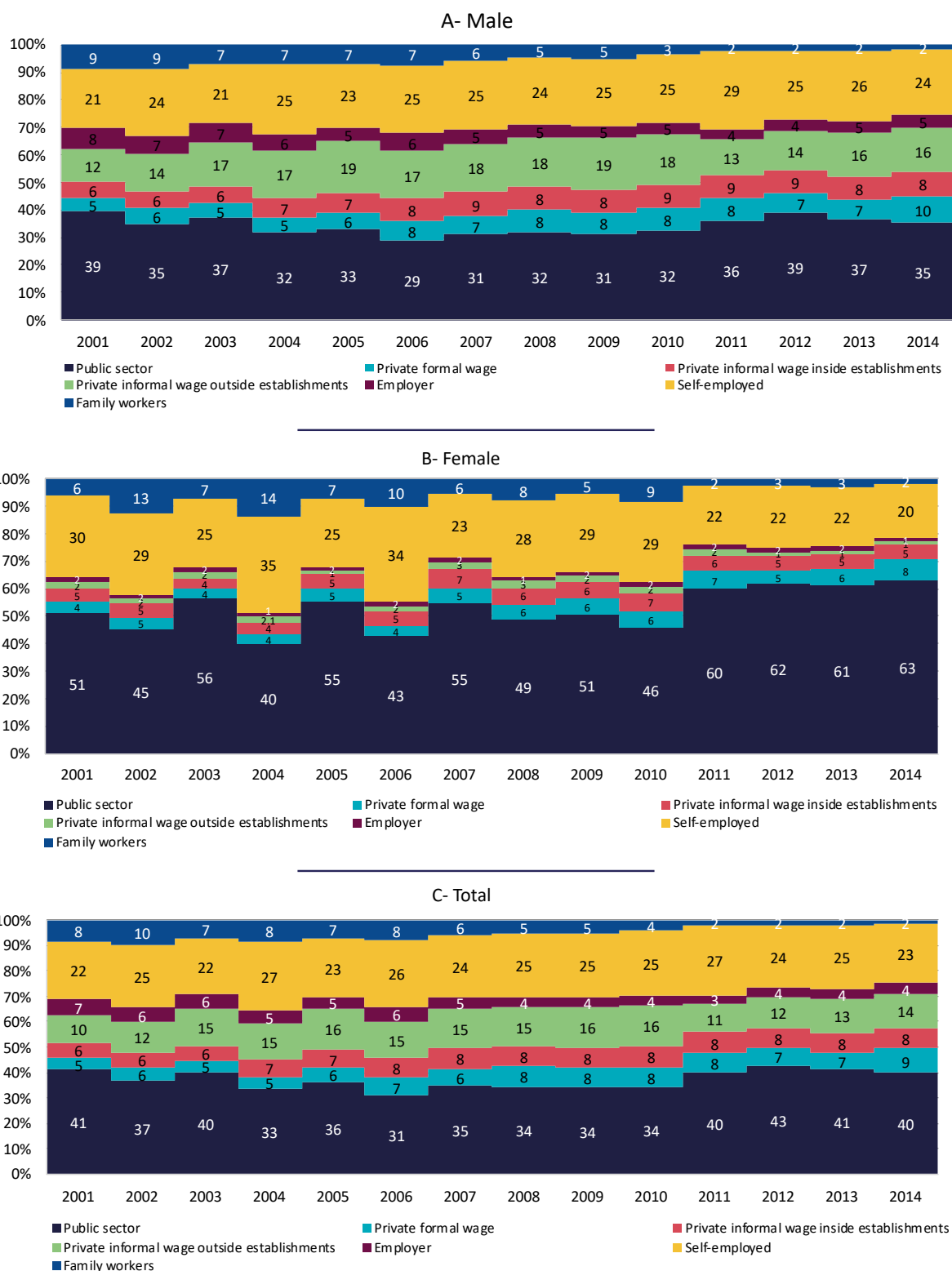
Analysis by employment status shows that the dominant form of employment is salaried employment. Indeed, more than 70 per cent of those employed are in the salaried workforce. Employers and the self-employed represent 27.4 per cent and ‘family help’ are 1.6 per cent (ONS 2019). By gender, women are more often in salaried positions (77.4 per cent) compared to men (69.6 per cent). On the other hand, men are more likely to be in self-employment (28.8 per cent, vs. 21 per cent of women). Public employment decreased significantly until 2011 (going from 41 per cent in 2001 to 34 per cent in 2010), then briefly rose again sharply before falling again in 2014 (to reach 40 per cent). The ‘private sector formal wages’ increased from 5 per cent (2001) to 9 per cent (2014). The same occurred for the ‘private informal wage inside establishments’ (which rose from 6 per cent in 2001 to 8 per cent in 2014), and for the ‘private informal wage

outside establishments’ (10 per cent in 2001 to 14 per cent in 2014). In contrast, the proportion of employers declined from 7 to 4 per cent between 2001 and 2014. In addition, the percentage of family workers fell from 8 to 2 per cent.

As illustrated in figure 25, women’s employment is mostly in the public sector (63 per cent) and in self-employment (20 per cent), while only 6 per cent of women work in the informal sector (5 per cent in an establishment and 1 per cent outside an establishment). Meanwhile, the proportion of men in the public sector is 35.4 per cent; 24 per cent are self-employed and 13 per cent work in the informal sector. Over the period analysed (2001–14), the proportion of women in the public sector increased by 11.5 points, while for men the proportion decreased by 4 points.



► Figure 25. Type of employment, by sex



Source: Authors, based on ONS. Labour Force Surveys 2001–14.

According to Assaad et al. (2020), in Algeria and other MENA countries, the dramatic slowdown in the hiring of educated women (and men) by the public sector has not been counterbalanced by a commensurate increase in employment opportunities in the formal private

sector. This is in line with the findings of Yassin and Langot (2018). Neither informal private employment nor non-wage employment has offered viable options for educated women in MENA, leaving unemployment and nonparticipation as the remaining options. This does not

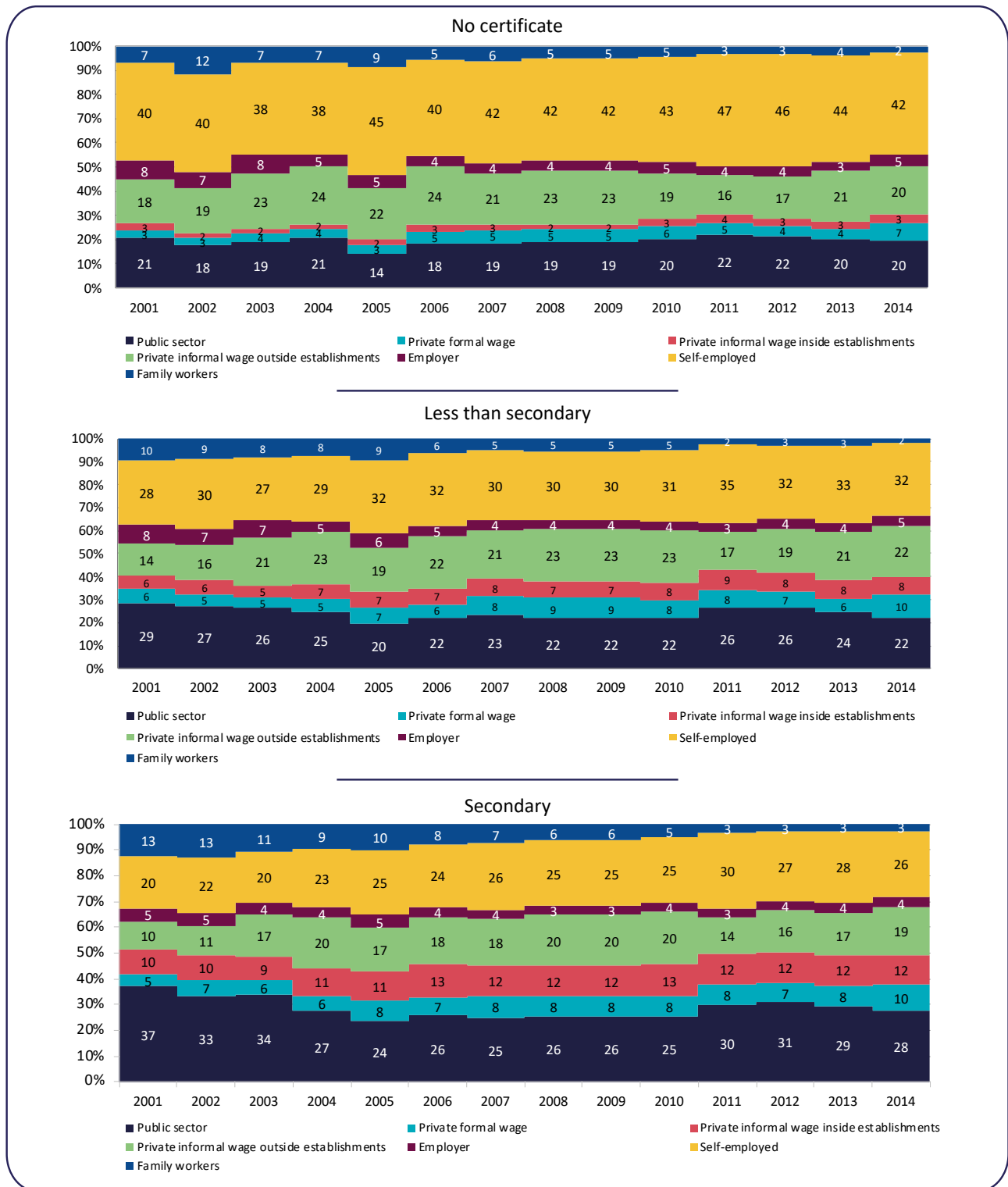
seem to apply to Algeria, where public sector employment has not contracted all that much. Rather, it seems to have increased in recent years, especially for women.

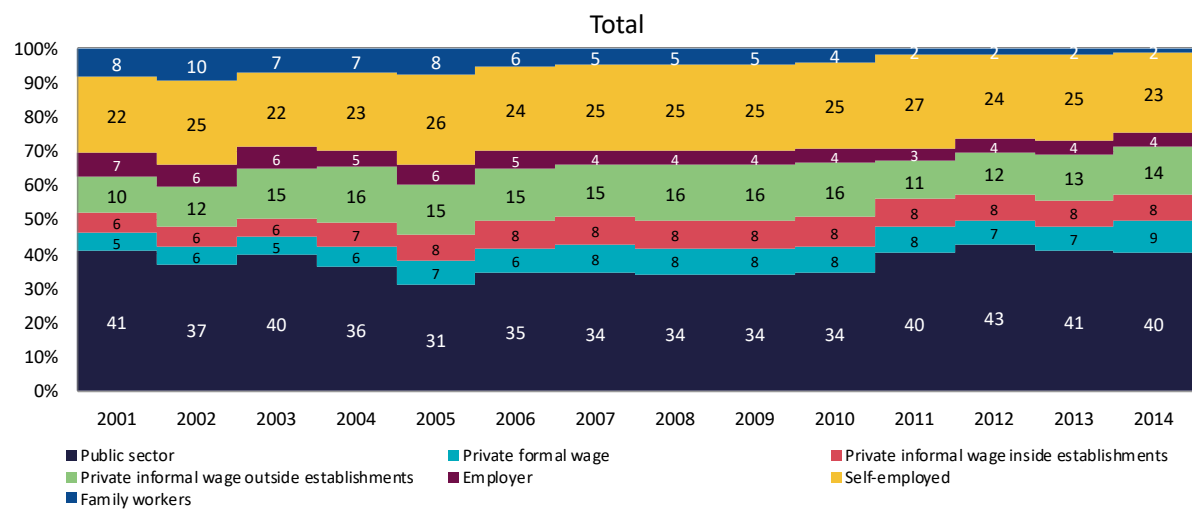
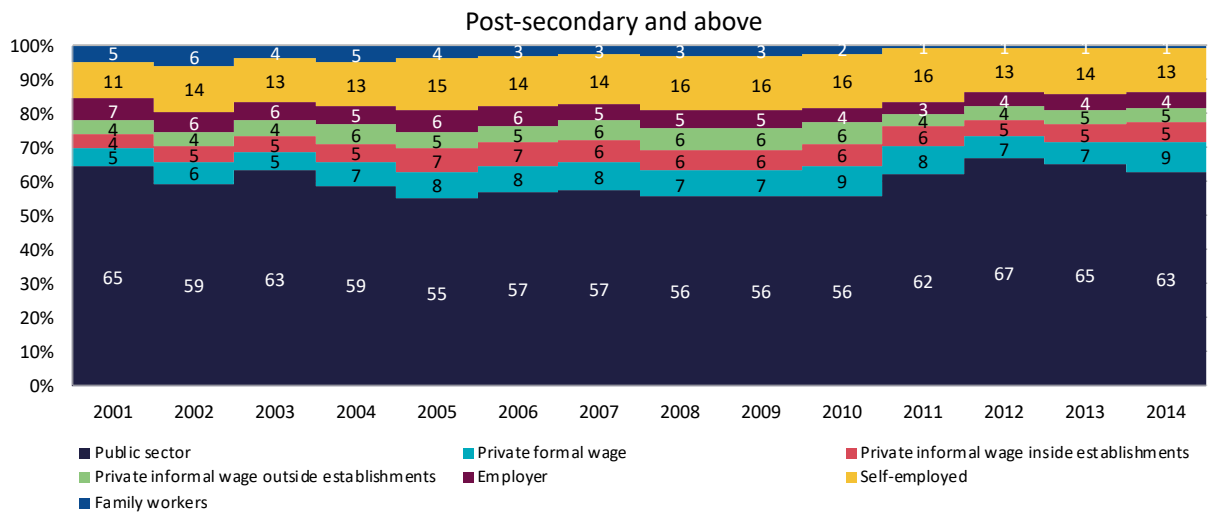
Educated people are more likely to work in the public sector – 75.1 per cent (ONS 2014). In contrast, people with no education and/or low education are more likely to work in the informal private sector outside an establishment or be self-employed. The public sector has been the main source of employment for educated workers, especially educated women, in MENA for a long time (Assaad 2014;

Yassin and Langot 2018). Previous research has shown that different types of work are differentially accessible depending on education level (Nazier & Ramadan 2016; Assaad and El-Hamidi 2009; Assaad, Hendy and Yassine 2014).

As illustrated in figure 26, in 2014, 20 per cent of people with no education were in the informal private sector outside an establishment, 42 per cent were self-employed and 20 per cent worked in the public sector.

► **Figure 26.** Type of employment, by education





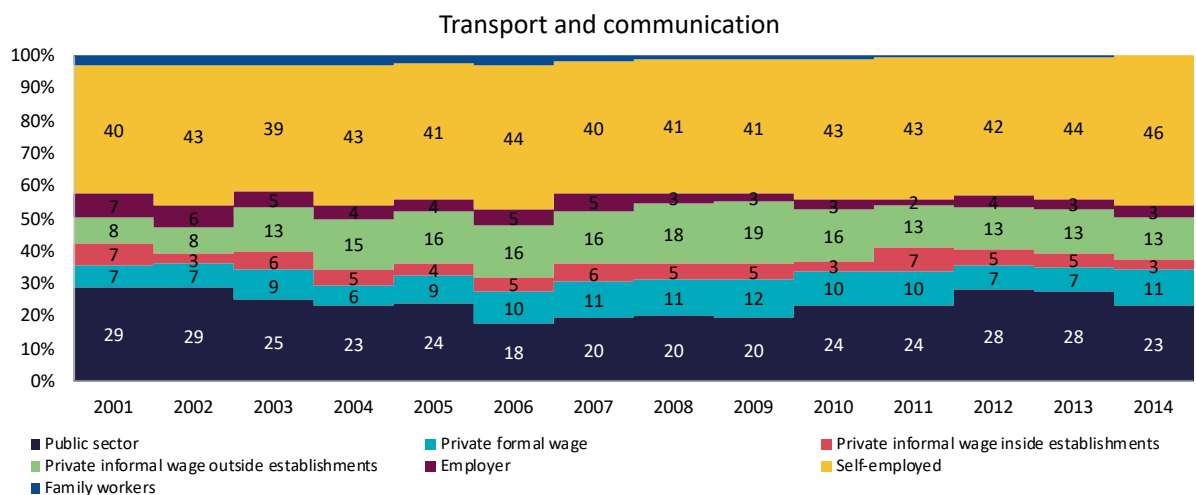
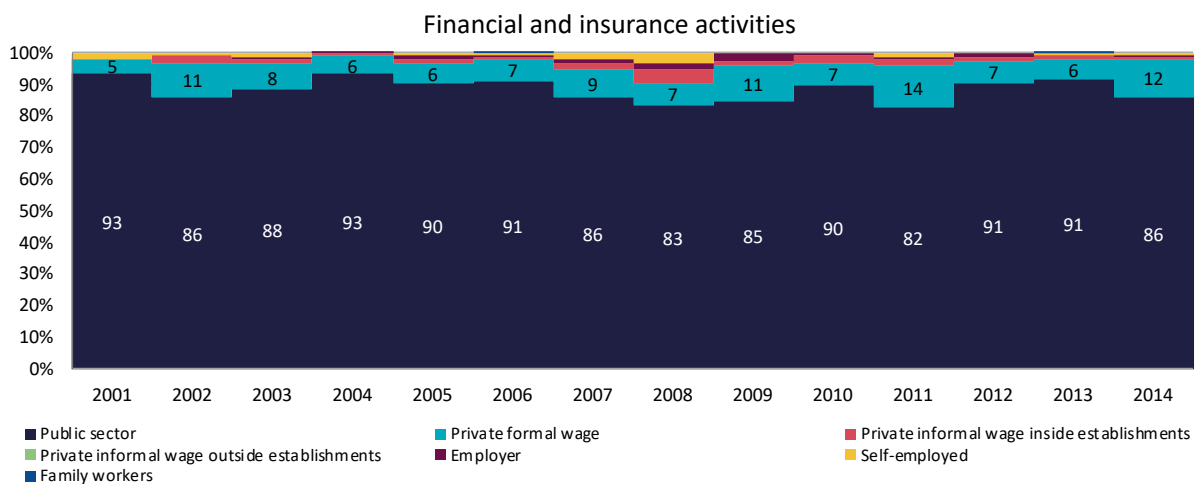
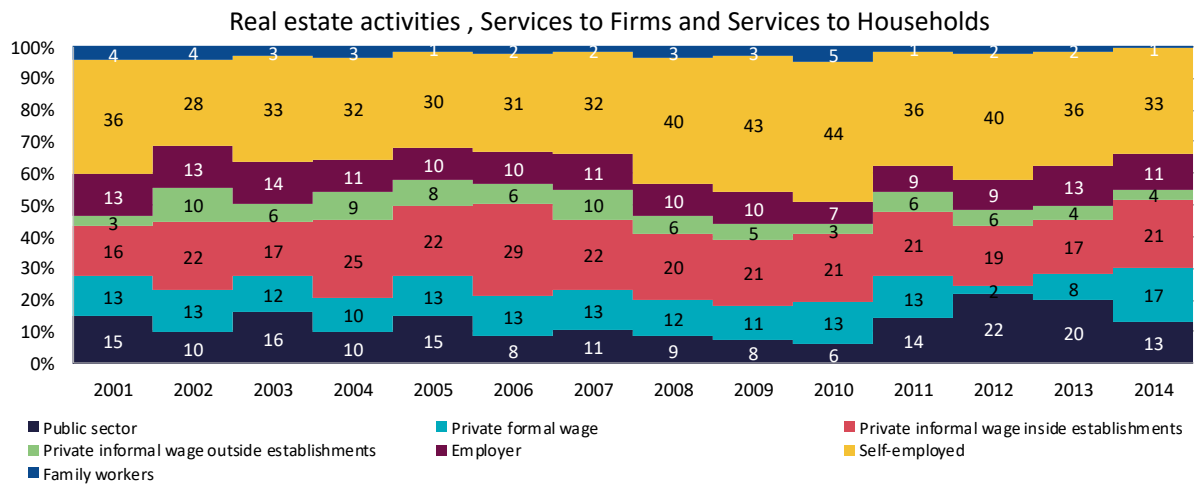
Source: Authors, based on ONS. Labour Force Surveys 2001–14.

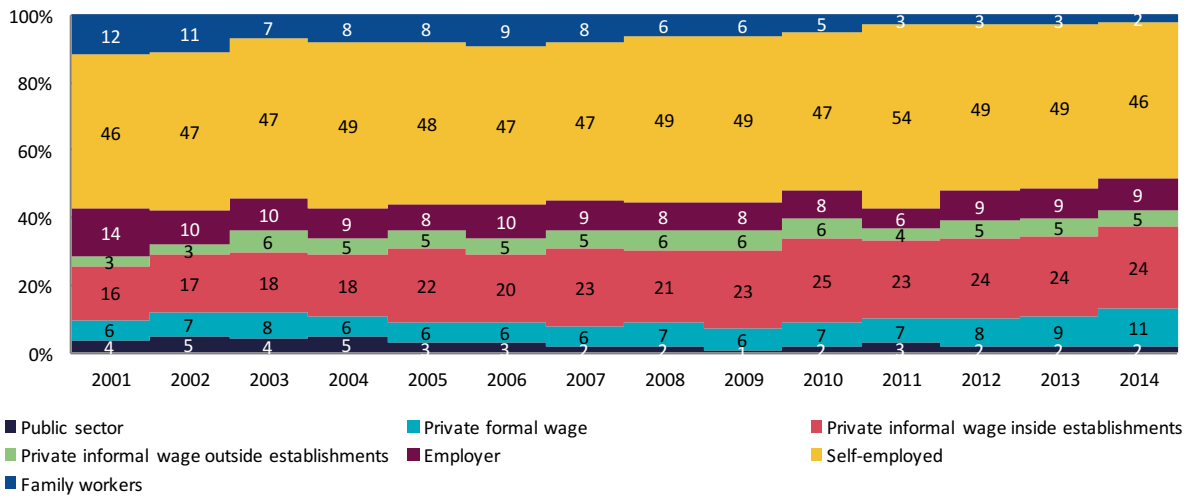
An examination by economic sector reveals that public sector employment dominates in the following sectors: community services (95.3 per cent), financial and insurance activities (85.7 per cent), and manufacturing

(30.8 per cent). Conversely, the weight of the formal private sector remains relatively low, regardless of the activity.



► **Figure 27.** Distribution of type of employment, by sector of economic activity

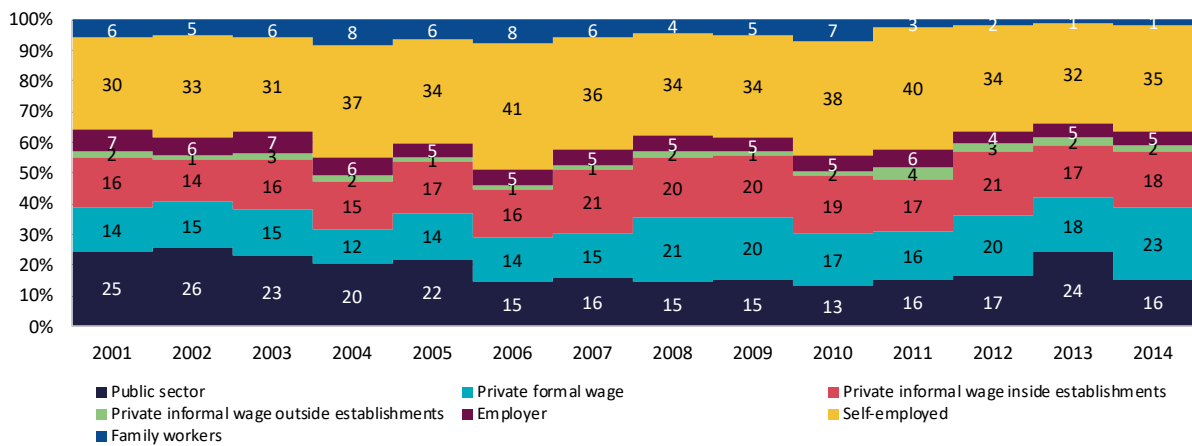




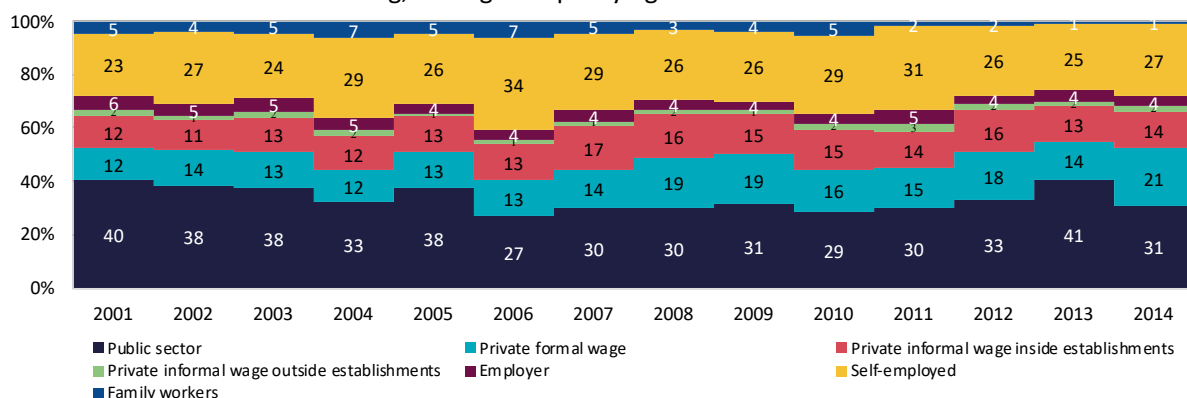
Construction



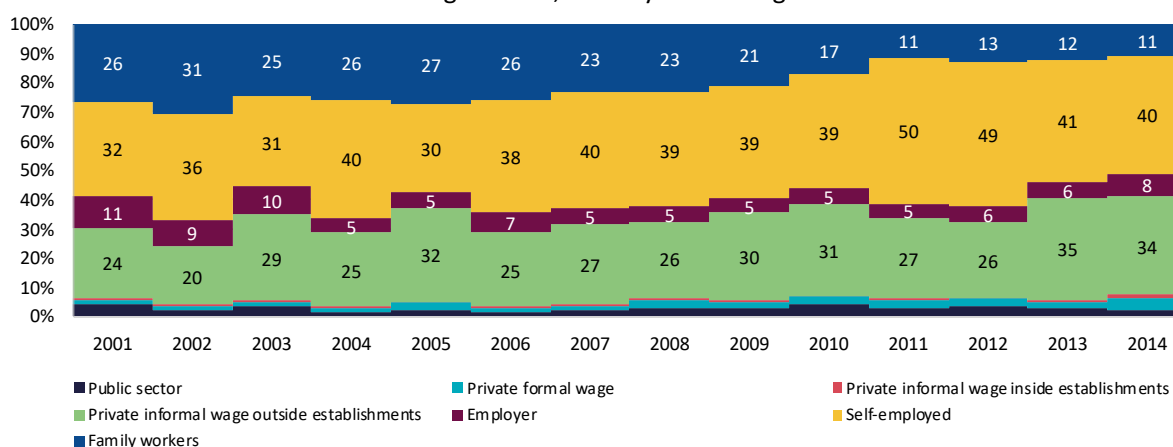
Of which manufacturing



Manufacturing, mining and quarrying and other industrial activities



Agriculture, forestry and fishing



Source: Authors, based on ONS. Labour Force Surveys 2001–14.

It is in the manufacturing sector where the weight of the formal private sector is most important (21 per cent). Those working for a ‘private informal wage outside establishments’ are more represented in the construction

sector (48 per cent) and in the agriculture, forestry and fishing sector (34 per cent) – family workers are also more represented in the latter (11 per cent in 2014, although the proportion was as high as 26 per cent in 2001).





2.3 The link between patterns of growth and trends in labour market outcomes

Unemployment and poverty cannot be reduced quickly by increasing the number of subsidized temporary employment programmes – such as the training insertion contract (CFI), the graduate integration contract (CID), professional integration contract (CIP) and subsidized work contract (CTA) – and entrepreneurship programmes implemented by three agencies – the Unemployment Insurance Fund (CNAC), National Micro Credit Agency (ANGEM) and National Youth Employment Support Agency (ANSEJ). The seriousness of the problem requires urgent decisions about the type of investments that must be mobilized and what productivity performance must be achieved in order to spur the required growth in structured employment.

High oil prices and the dynamics of oil and gas production have marked the short-term dynamics of the Algerian economy. These factors have stimulated economic growth mainly through spending, mostly on public investments in infrastructure. However, the volatility of oil prices and production has hampered efficient planning, generating inefficiencies in the management of public investments.

Over the past 40 years, low productivity has constantly acted as a brake on growth, although some improvements were observed from 2000–09. The contribution of human capital to growth in Algeria is very low, mainly due to the absence of specific skills that are relevant to the Algerian market.

Unemployment is higher for graduates than for the average youth, which may mean that the knowledge and skills provided by higher education do not easily translate into relevant skills for the Algerian labour market. The economic activity rate is also low, influenced in large part by the very low participation of women.

The difficulties of the transition from the education system to the world of work constitute one of the most

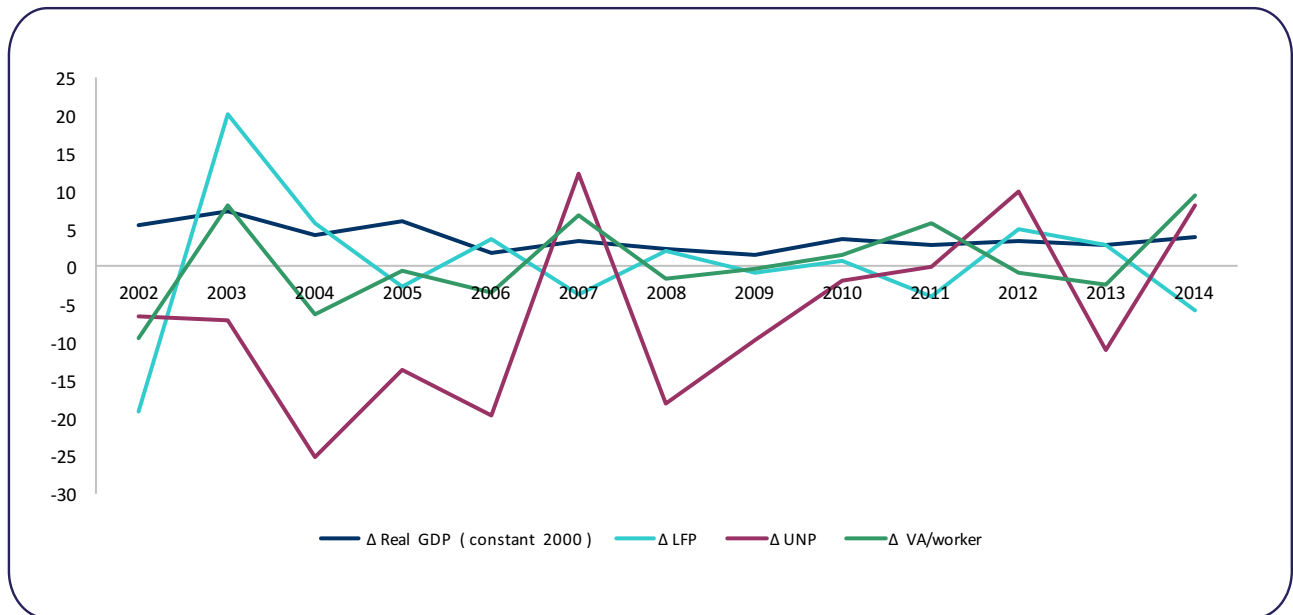
pressing current challenges for young graduates all over the world, especially in the MENA region. Yet the economic integration of graduates has not always been a problem in Algeria. It has become so in recent years as a result of a combination of several factors, including expanded access to higher education for all students and few job opportunities, especially for university graduates.

The relationship between economic growth and unemployment in Algeria is controversial. Two strands of literature have addressed the relationship. The first strand includes two studies claiming that Okun's law⁴ does not apply (Yousefat 2011 and Driouche 2013). The second strand gathers other studies claiming that Okun's law is valid (Furceri 2012, Adouka and Bouguell 2013, El Aynaoui and Ibourk 2016, Adair and Souag 2019, etc.) and concludes that growth performance in the last ten years has been accompanied by a significant reduction in the overall unemployment rate.

However, any increase in GDP does not necessarily imply a reduction in unemployment due to the variation in labour productivity and the labour force, which is the sum of the growth rate needed to alleviate the unemployment rate. This growth rate can stand as a first approximation of the growth rate of potential GDP. According to figure 27, during the period 2001–14, the annual average change in labour productivity fluctuates in line with real GDP, while the change in the labour force fluctuates in line with the unemployment rate. The annual average change in real GDP is 3.73 per cent and the change in unemployment is -6.34 per cent. The sum of the change in labour productivity and the change in the labour force (i.e. the growth rate requested to stabilize the unemployment rate) averages 0.81 per cent.

⁴ Okun's law reflects the relationship between an economy's unemployment rate and its GDP. This equation posits that when unemployment falls by 1 per cent, GDP rises by 3 per cent.

► **Figure 28.** Okun's law, labour force and labour productivity



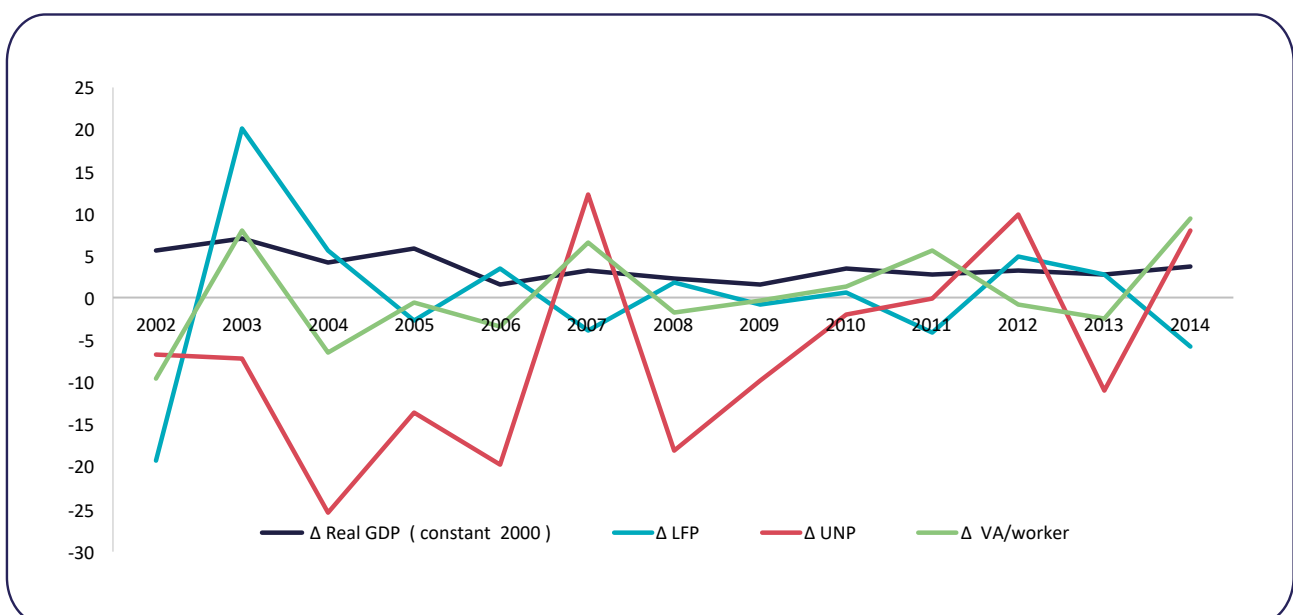
Source: Authors, based on ONS. 2020. Rétrospective des comptes économiques de 1963 à 2018, and ONS. 2019. "Emploi et chômage".

By industry, the elasticity of the employment rate/GDP is negative for agriculture, forestry and fishing and positive for other sectors (figure 29). The elasticity is strong for 'manufacturing, mining and other industrial activities', 'real estate, services to firms and to households' and 'community services' and appears low for the other sectors.

Okun's law may prove a valid long-run relationship. However, it sheds little light on the short-run pattern of unemployment. Okun's coefficient should not be confused with the short-run employment multiplier (Kahn 1931) and it cannot explain the change in the unemployment rate.

A wide range of structural reforms are needed in Algeria in order to foster economic and exports diversification and encourage private sector development. Priorities should include opening the economy to foreign investment and trade; reforming the financial sector and improving access to finance; reducing bureaucracy and red tape; strengthening governance, transparency and competition; improving the functioning of labour markets; and fostering greater female labour force participation.

► **Figure 29.** Elasticity of employment to GDP, from 2001–14



Source: Authors, based on ONS. 2020. Rectrospective des comptes économiques de 1963 à 2018, and ONS Labour Force Surveys from 2001 to 2014.



Conclusion

Algeria's employment policy has essentially consisted of increasing the size of the public service by increasing the number of subsidized temporary employment programmes for young people. In addition, entrepreneurship programmes have been at the heart of Algeria's job creation policy. Despite the importance of job creation programmes and the substantial amount of resources they absorb, little is known about their effectiveness. In addition, job creation programmes can have positive effects on individuals, but also have no impact or negative effects on the economy, including in the form of economic losses (deadweight losses), substitution effects and displacement effects. Although the programmes mainly create temporary jobs, no information is available on their long-term impact, on the "graduation" of beneficiaries and on their eventual exit from such programmes.

A series of state programmes have sought to develop entrepreneurship, promote salaried employment and encourage companies to spur job creation, which increased substantially (the employment rate grew 1.7 times between 2003 and 2019), although there have been job losses more recently.

Also, the high level of unemployment among young graduates is the result of a significant mismatch between labour market demand and supply. The private sector has not been able to create sufficient demand for skilled workers and on the other hand, the distribution of Algerian students is highly unbalanced towards disciplines that generate an undersupply of the skills most needed by the private sector.

A wide range of deeper structural reforms are needed in Algeria in order to foster economic and exports diversification and encourage private sector development. Priorities should include: opening the economy to foreign investment and trade; reforming the financial sector and improving access to finance; reducing bureaucracy and red tape; strengthening governance, transparency and competition; improving the functioning of labour markets; and fostering greater female labour force participation. The new strategy could be started by:

1. First, it is important to: (i) continue the stabilization of the size of the public sector initiated in 2015; and (ii) link further wage increases to productivity gains. This would help contain the wage bill and maintain Algeria's competitiveness.
2. Second, the new strategy should place greater emphasis on labour market policies rather than focusing on expanding current job creation programmes. This reform could include: (i) revising the national employment policy and adopting a new labour code; (ii) improving the business environment to reduce rigidities and orient the economy towards a market economy; (iii) adopting measures to promote SME growth and private sector development; and (iv) improving education and lifelong learning to enhance the quality and relevance of education.
3. Third, existing employment creation programmes should be maintained with some short-term adjustments for full reform in the medium term. The vision could suggest appropriate monitoring and evaluation of existing mechanisms and their impact on the labour market. After rigorous evaluation, these labour could be streamlined and better targeted to specific groups. Their implementing agencies should return to their original missions: ANGEM to employment intermediation, CNAC to unemployment insurance and ADS (l'Agence de développement social / Social Development Agency) to poverty alleviation. It is also necessary to analyse the entrepreneurship programmes implemented by ANSEJ, ANGEM and CNAC with a view to their rationalization.
4. Fourth, the strategy could recommend the creation of a commission to reform all labor market issues in a comprehensive manner. This commission could be created at the level of the Prime Minister, since labour market reforms extend to all ministries and are not the sole responsibility of the Ministry of labour, Employment and Social Security.





Labour market vulnerability and patterns of economic growth: The case of Egypt

By

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Highlights

- The adoption of stabilization policies, including sharp reductions in energy subsidies and a freeze in public sector hires, markedly improved macroeconomic aggregates.
- Egypt achieved relatively high GDP growth, and a reduction in inflation rates and fiscal deficits, and unemployment rates.
- Despite a generally declining trend in the unemployment rate, the sectoral patterns of growth during the last two were not associated with improvements in other indicators of the Egyptian labour market.
- A declining employment rates along with declining unemployment suggests an increase in the extent of discouragement in the job market.
- The quality of jobs, with the emergence of wage employment outside establishments, and the evolution of real wages have posed additional challenges, along with access to health insurance and leave provisions – commensurate with the decline in social security coverage.
- Informal employment has increased more so for women and post-secondary and university graduates – who were less likely to engage in this type of employment, thus bridging the gap across gender and educational levels.
- While the Egyptian economy is highly dependent on services, the industrial sector is chiefly dominated by construction, oil and capital-intensive manufacturing, such as chemicals and food-processing, which helps to explain why Egypt’s growth has been ‘jobless’, with a declining share of labour in total value-added.
- Government borrowing increased, and credit to the private sector has been declining, leading to a decrease in private investment and an increase in public investment (mainly in public utilities and infrastructure).
- Taken together, these trends explain why growth in Egypt has been jobless and driven by public investments.



Introduction

In the early 1990s, the American economist Nick Perna introduced the concept of jobless growth (Caballero and Hammour 1998). According to this concept, while an economy might grow thanks to stabilization policies, employment outcomes might not cope with such growth. This concept applies to the Egyptian economy, which has reached relatively high rates of economic growth with limited improvements in labour market outcomes. Indeed, macroeconomic management has focused for decades on price stability, controlling fiscal deficits, reducing the role of the State and achieving high economic growth. Yet, there is now widespread recognition of the need to integrate macroeconomic management and employment objectives.

The case of Egypt is worth examining, in particular given the current COVID-19 crisis. In November 2016, the Government of Egypt (GoE) concluded an agreement with the International Monetary Fund (IMF) and implemented a reform programme. Significant reforms, including sharp reductions in energy subsidies and a freeze in public sector hires markedly improved macroeconomic aggregates but did not result in improved incomes and employment prospects for the majority of the population (Heintz 2018). Indeed, in 2019, GDP growth reached 5.6 per cent, the inflation rate decreased to 9.4 per cent, the unemployment rate declined to 7.9 per cent, the overall fiscal deficit dropped to 8.0 per cent – after having peaked at 16.5 per cent in 2014 (World Bank 2017) – and international reserves increased to reach US\$44 billion after plummeting to \$14.9 billion in 2013. Yet, poverty increased from 27.8 per cent in 2015 to reach 32.5 per cent in 2018, only to drop back to 29.7 per cent in 2019. Inequality has deepened and the living standard of the middle class has deteriorated as wages and pensions have not kept up with inflation.

With the COVID-19 shock in early 2020, the GoE adopted good public health practices by imposing social distancing rules and mobility restrictions. It also introduced emergency social protection measures such as 14% increases in regular retirement pensions, enrolling an additional 160 million households to Takaful and Karama, and disbursement of monthly grants of 500 EGP for 1.6 million irregular workers (Krafft, Assaad and Marouani 2021). More still needs to be done to ensure better targeting and effective social protection measures to offset the consequences of the economic slowdown and loss of livelihoods.

Against this background, the purpose of this chapter is to provide a broad perspective of labour market conditions over the past two decades using a wide spectrum of indicators across several countries in the Middle East and North Africa (MENA) region. Thus, several questions are worth investigating. First, what are the main characteristics of the Egyptian labour market and how have they evolved over time? Second, why has the recovery in economic growth not translated into improved labour market outcomes? Finally, what are the policies required in order to generate more and better jobs and to make the Egyptian economy more inclusive?

This chapter will outline how the sectoral changes due to GDP growth may not have resulted in improvement of other indicators of the Egyptian labour market over the last two decades. While unemployment rates have declined, other equally important variables did not improve. Employment rates have slipped, the proportion of discouraged job-seekers has risen, the quality of jobs the skills-mismatch have posed additional challenges. Precarious and informal types of employment have increased, in particular among the most educated graduates, partly reflecting the declining role of the public sector, the disproportionate growth of the construction and trade sectors, the predominance of micro and small enterprises. In 2018, working poverty has increased and a drop in real wages (hourly and monthly) has been observed.

At the macroeconomic level, the Egyptian economy has further increased its dependency on services. The industrial sector is dominated by construction and oil industries, while the share of manufacturing in employment and in GDP has contracted. Manufacturing is concentrated in chemicals, food processing and textiles, which are rather capital-intensive and whose modernization is lagging. This explains why growth has been jobless, with a declining share of labour in total value-added. Moreover, this jobless growth can be also attributed to declining credit to the private sector; the mismatch between the labour market, education and skills; the deficient business regulatory environment; as well as to State-protected markets and State-controlled resources. Furthermore, with the surge in government borrowing, credit to the private sector has been declining, leading to a decrease in private investment and an increase in public investment (mainly in public utilities and

infrastructure). These trends taken together explain why growth in Egypt was volatile, jobless and driven by public investments.

This chapter relies on national official data sources. The labour market outcomes were primarily based on the Labour Force Surveys (LFS) from 2000 to 2017¹ and on the Egyptian Labour Market Panel Surveys of 1998, 2006, 2012 and 2018 for some indicators.

The structure of this report is as follows: section 2 provides a macroeconomic analysis of Egypt's growth and investment in order to understand why growth was jobless and resulted in deteriorating job quality; section 3 presents the main characteristics of the Egyptian labour market; and section 4 concludes and provides some policy implications.



¹ LFS 2005 data (and LFS 2016 and 2017 for some indicators) are excluded from the analysis because the results appeared inconsistent.



2. The pace and pattern of growth

This section examines the aggregate trend in Egypt's economic growth since the year 2000 and its structural

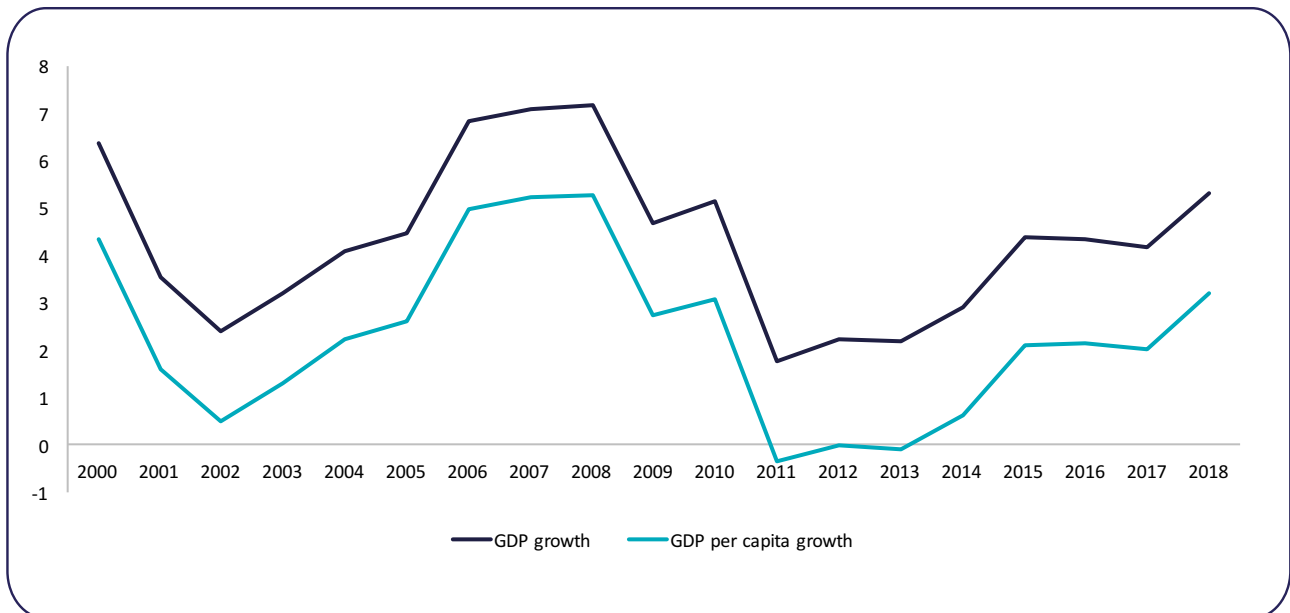
pattern. It also explores the link between growth and job creation, at both the sector and economic activity levels.

2.1. Real GDP growth and employment-to-population ratio

Since 2000, growth in Egypt has been volatile and subject to several shocks (Zaki 2017). Figure 1 shows how the GDP growth rate declined in the early 2000s because of the Dot-com bubble that occurred in developed countries and affected the European Union (EU) and the United States. During most of these shocks, Egypt's growth has been affected by a severe decline in foreign direct investment (FDI) and exports to these destinations. Yet, the GoE embarked on a series of reforms in 2004 to improve the business climate and resolve macroeconomic imbalances.

These reforms led to a growth rate that increased from 4.1 to 7.2 per cent in 2008. With the financial crisis in 2007/2008, growth declined once again to reach 4.7 per cent in 2009 and 1.8 per cent in 2011 with the political uprising. In 2016, the GoE signed an agreement with the IMF to implement a reform programme (which included the removal of subsidies, new taxes and currency devaluation). This programme rectified several macroeconomic imbalances, leading to a relatively high growth rate, of 5.2 per cent, in 2018.

► **Figure 1.** Real GDP and per capita GDP growth

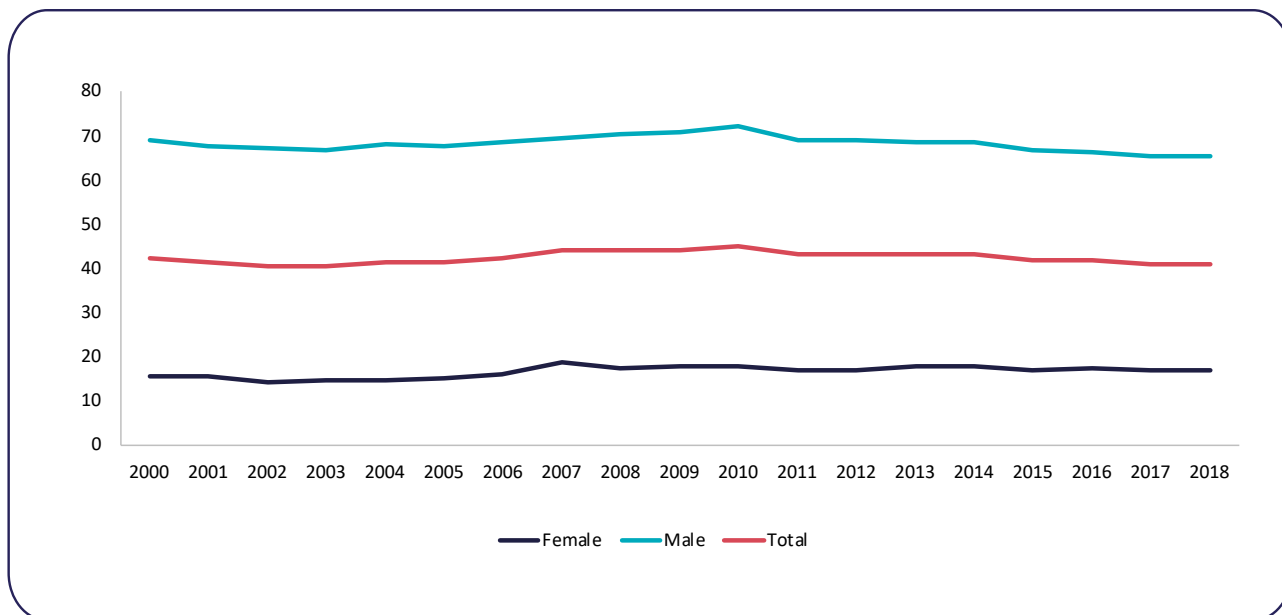


Source: Ministry of Planning and Economic Development online data set. 2000–18.

In terms of the labour market, figure 2 reveals that the employment-to-population ratio declined from 45 per cent in 2010 to 41 per cent in 2018. Indeed, despite the reforms that took place at the macroeconomic level, growth failed to generate jobs and increase employment.

This decline was more pronounced for men (whose share of employment-to-population decreased from 72 to 65 per cent) than women (whose share fell from 17.5 to 16.7 per cent) over the same period.

► **Figure 2.** Employment to population ratio, by gender



Source: Authors' own elaboration, using different Labour Force Surveys (LFS). 2000–18.

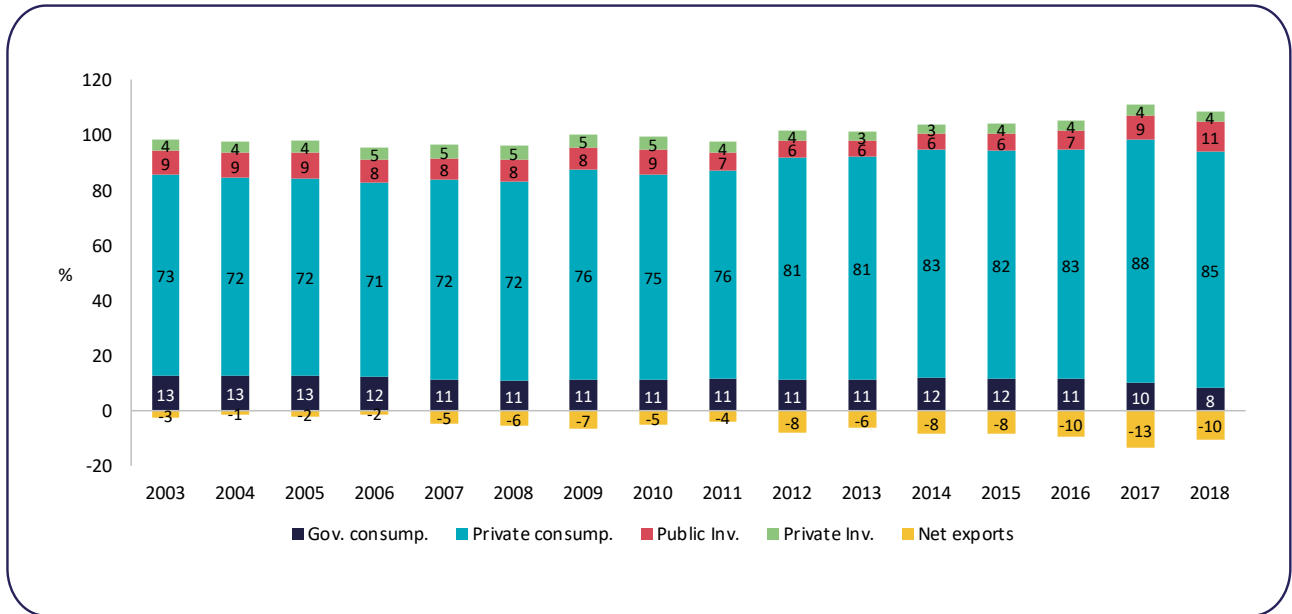
»» 2.2. Decomposition of GDP

In order to understand the reasons behind the jobless economic growth Egypt has experienced, it is important to analyse the decomposition of GDP by expenditure, income and sector. First, at the expenditure level, private consumption has the highest share (70 per cent), followed by investment (in particular public investment) and exports (figure 3). The contribution of public investment to growth has increased from 0.21 per cent in 2014 to 2.51 per cent in 2018 while that of private investment

went from 0.1 to 0.27 per cent over the same period. It is important to note that the contribution of private investment to growth was three times higher between 2004 and 2008 (Herrera et al. 2010). Indeed, starting in 2004, Egypt undertook several reforms to improve the investment climate. By 2008, Egypt was the top reformer worldwide on the World Bank's 'ease of doing business' index (Haq and Zaki 2015).



► **Figure 3.** GDP decomposition, by expenditure components



Source: Ministry of Planning and Economic Development online data set. 2003–18.

At the sectoral level, the Egyptian economy heavily depends on services, whose share in relation to GDP had been increasing to reach 55.7 per cent in 2016 but declined slightly to 53.7 per cent in 2018. By contrast, the share of agriculture, which is a large employer in Egypt, has been decreasing from 13.3 per cent in 2010 to 11.2 per cent in 2018. Finally, the industrial sector has been chiefly dominated by capital-intensive industries (such as oil and chemicals) that represent on average 36 per cent of GDP. This is confirmed by figure 4, which relies on different social accounting matrices in order to calculate the share of capital and labour in total value-added. The

share of labour in GDP declined from 42.8 per cent in 1977 to 22.8 per cent in 2013. This is in line with the findings of Kheir-El-Din and Moursi (2007) and Haq and Zaki (2015), who argue that capital accumulation was the main driving force behind economic growth between 1960 and 1998. This can be explained by the substantial supply of unqualified labour and prevailing employment laws that foster the adoption of capital-intensive production techniques. Moreover, Herrera et al. (2010) showed that, with subsidized oil, energy-intensive sectors (that are also capital intensive) have been dominating the economy (such as cement, iron and steel).

► **Figure 4.** GDP decomposition, by factors of production



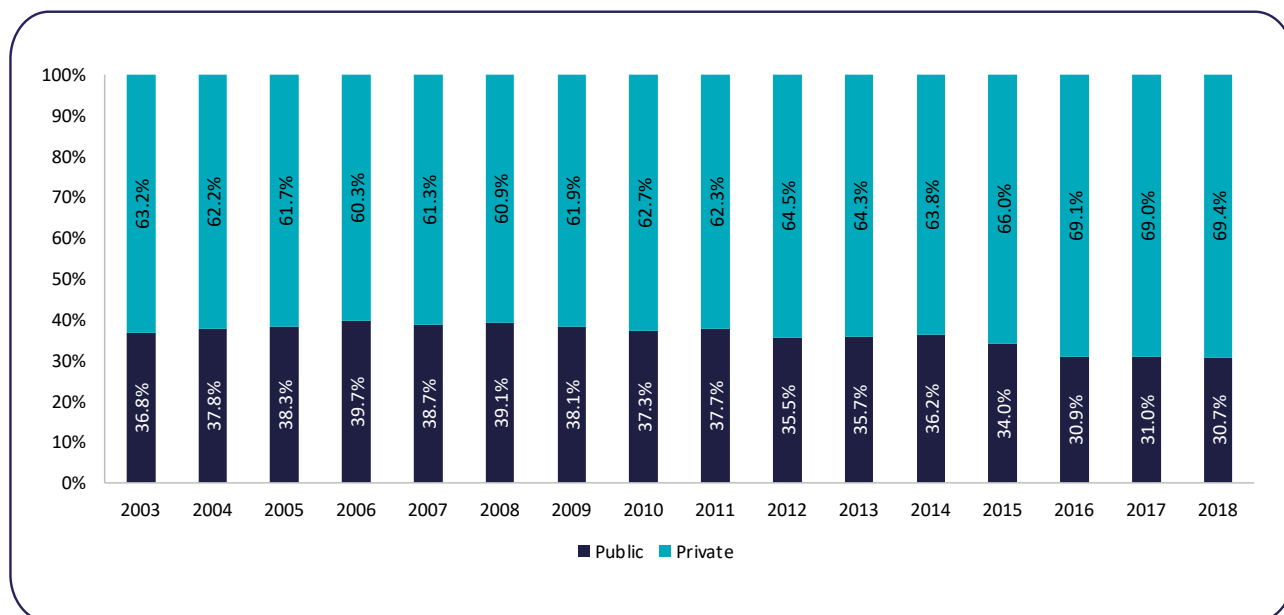
Note: Social Accounting Matrices are constructed by the Institute of National Planning and CAPMAS.

Source: Authors' own elaboration using the Social Accounting Matrices of the corresponding years.

Moreover, figure 5 shows that the private sector share in GDP increased from 62.7 to 69.4 per cent in 2018. This increase was chiefly driven by the rise of the private construction sector (whose share increased from 4 to 5.3

per cent between 2010 and 2018) and the 'wholesale and retail trade' sector (from 17.8 to 19.3 per cent over the same period).

► **Figure 5.** Public and private GDP decomposition



Source: Ministry of Planning and Economic Development online dataset. 2003–18.

In a nutshell, Egypt’s jobless growth was volatile because of several external and internal shocks. At the sectoral level, it was driven by a labour-intensive service sector and a capital-intensive industrial sector. In terms of GDP components, consumption and public investment

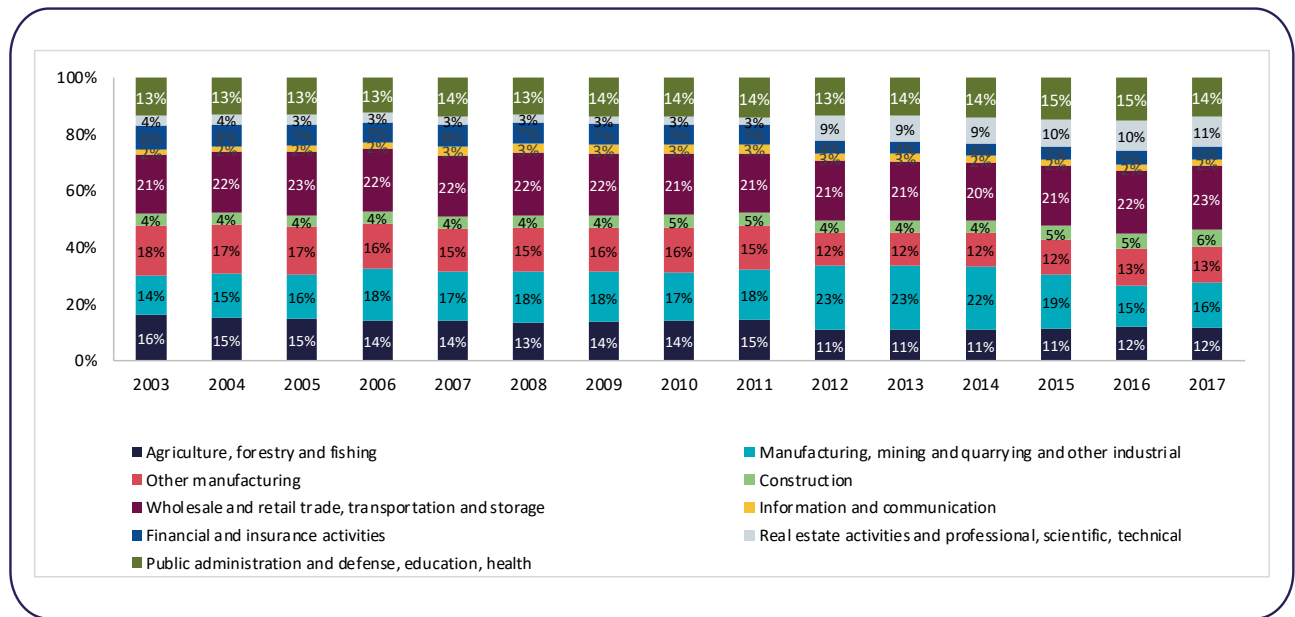
were the main drivers of growth. Moreover, the role of the private sector increased in some sectors but failed to generate jobs. All these trends explain why the employment-to-population ratio decreased despite several waves of reforms.

»»» 2.3. Distribution of value added and employment

A more detailed look at different economic activities (see figure 6) confirms that services contribute significantly to the value added in Egypt, primarily wholesale and retail trade (23 per cent), public administration and other social services (14 per cent), real estate activities (11 per cent) and financial and insurance activities (5 per cent). Despite its low share in GDP (of 2 per cent), the information and communication sector’s share increased by 7 per cent on average between 2003 and 2017. The most notable

growth was in real estate activities, which increased by an average of 22 per cent over the same period. Within the industrial sector, while in 2017, mining represented 16 per cent of GDP and other manufacturing industries represented 13 per cent, the former grew by an average of 7 per cent and the latter by 3 per cent between 2003 and 2017. The share of agriculture remained almost stable, at around 11 per cent, without significant change.

► **Figure 6.** Distribution of value-added by economic activity

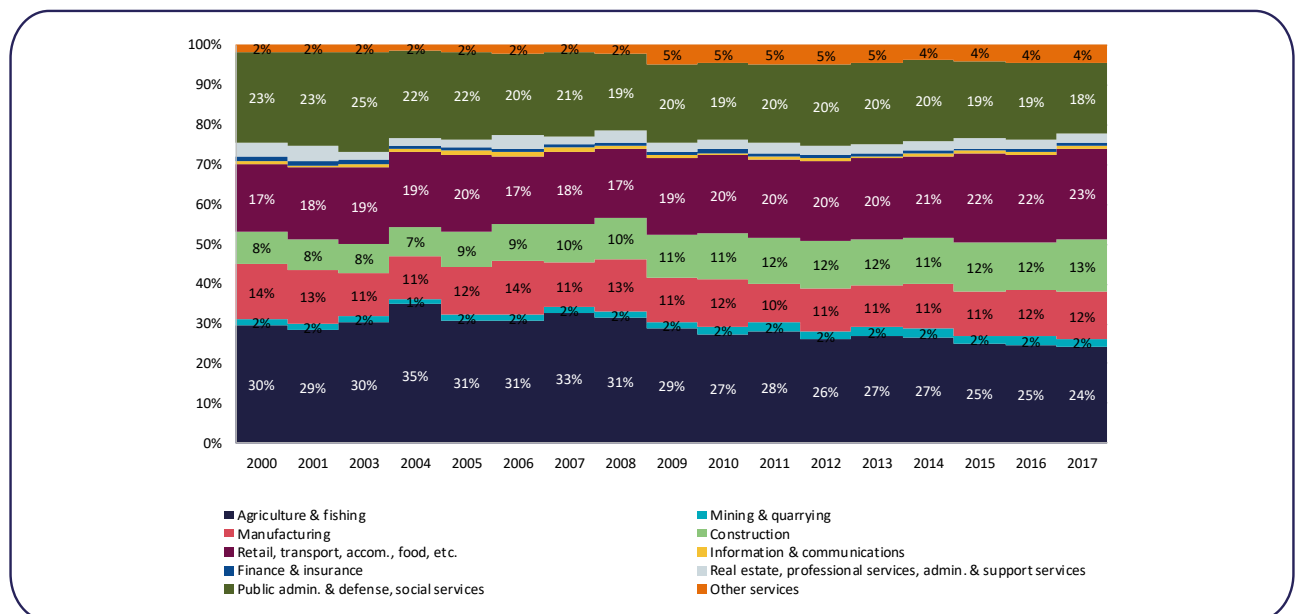


Source: Based on Ministry of Planning and Economic Development online data set. 2003–18.

When it comes to employment, however, the distribution is significantly different. Figure 7 shows that Egypt’s largest employer is the agriculture sector (on average 29 per cent of total employment). With a small share in total value added, it is clear that the productivity of this sector is among the lowest, even when compared to other Asian, Latin American and African countries. Public administration ranks second while wholesale and retail trade ranks third, with a respective share of 23 and 20 per cent of total employment. The mining sector, with a share of 16 per cent of GDP, employs only 2 per cent of workers. This confirms the previous finding regarding the prevalence of capital in several sectors. The ‘other

manufacturing’ sectors, which are likely to be more labour-intensive, have relatively higher productivity since the share of this sector to GDP is 13 per cent and it employs 11 per cent of the population. Figure 7 summarizes these findings by calculating the value added per worker as a measure of productivity. This is why, from a policy perspective, it is important to encourage the manufacturing sector to generate more jobs, especially in non-traditional sectors such as products that are intensive in high-technology, machinery, electronics and electrical equipment.

► **Figure 7.** Distribution of employment by economic activity

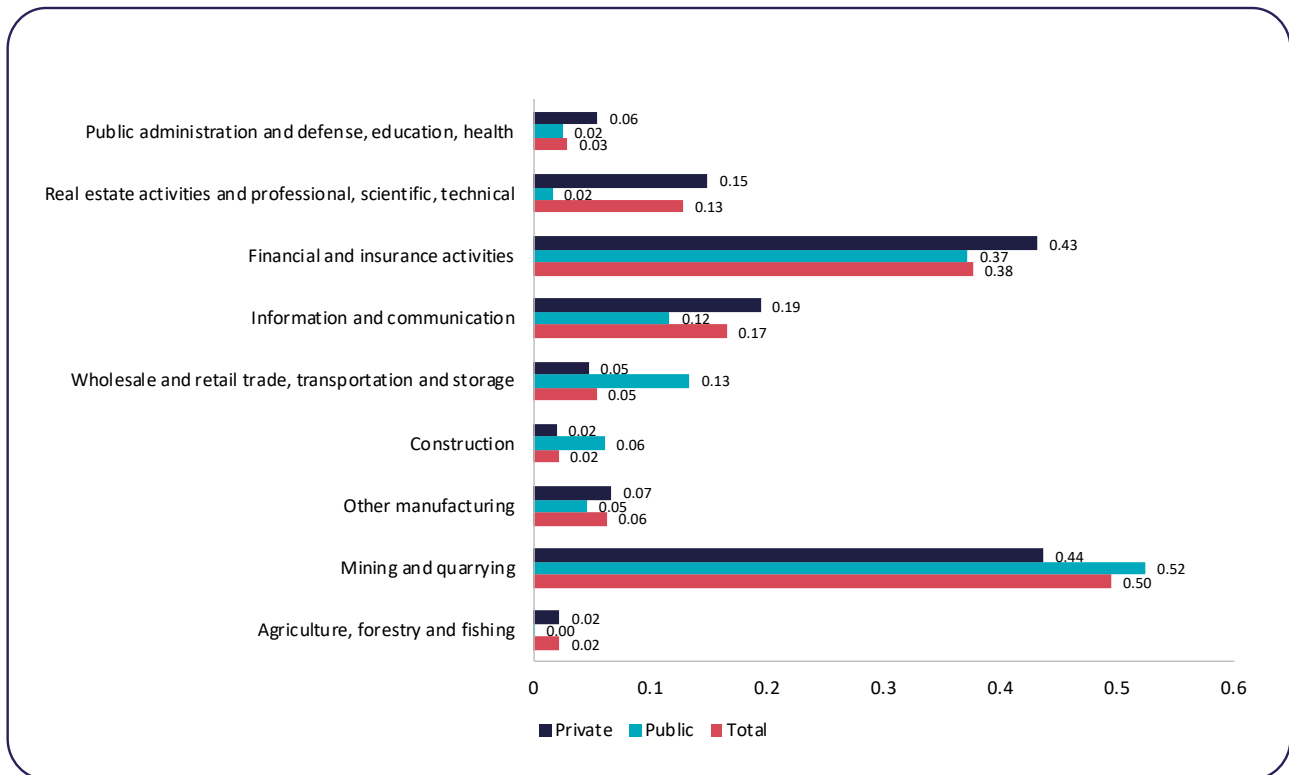


Note: Authors’ own elaboration, using CAPMAS Labour Force Surveys (LFS) from 2000–17.

It is worth noting that the public sector is more productive when it comes to industrial activities such as ‘mining and quarrying’, ‘wholesale and retail trade, transportation and storage, accommodation and food services’ and ‘construction’. These sectors are characterized by firms that are generally larger and more politically connected (Eibl and Malik 2016). By contrast, the productivity of the ‘real estate’, ‘financial and insurance activities’ and ‘information and communication’ industries is higher in the private sector. One of the reasons behind this finding

can be attributed to the flow of FDI in these sectors. The results of this analysis are in line with those of World Bank (2020), which show that the largest productivity gains stem from public sector mining that continued to deliver high value-added and a declining share of employment. In addition, for the private sector, employment shares increased, but productivity has declined, especially for manufacturing, social services, transport, utilities, finance, and accommodation and food services.

► **Figure 8.** Value added per worker (labour productivity)



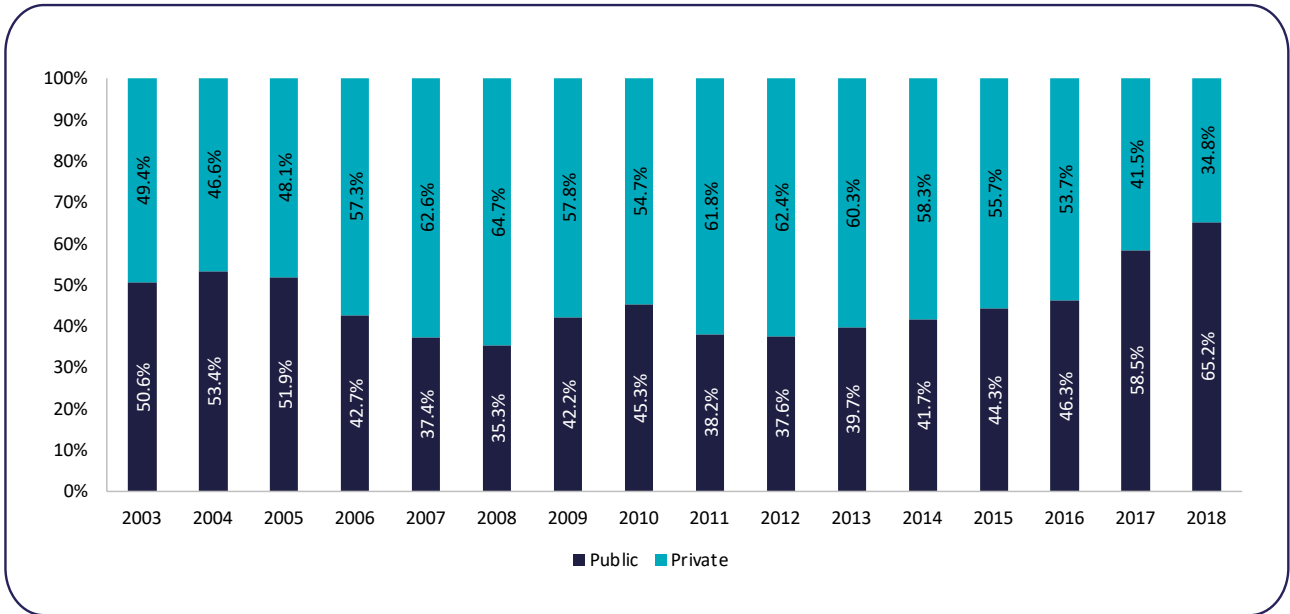
Sources: Authors’ own elaboration using CAPMAS. Labour Force Surveys.

»»» 2.4. Pattern of public and private investment

The trend in both public and private investment has changed over time. While the share of the latter was increasing until 2008 (with a share of 64.7 per cent of total

investment), the share of the former rose by 84 per cent from 35.3 per cent in 2008 to 65.2 per cent in 2018 (figure 9).

► **Figure 9.** Public and private investment



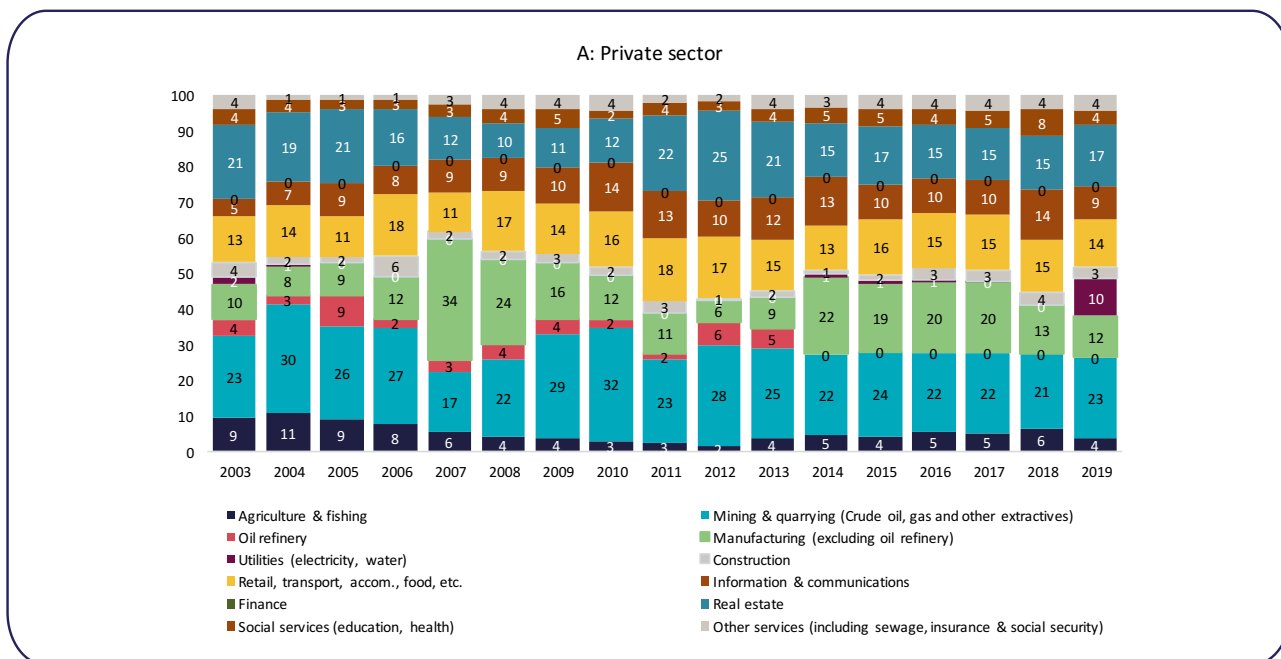
Source: Based on Ministry of Planning and Economic Development online data set. 2003–18.

These investments were mainly implemented in extractive industries, construction and other services. Yet, it is important to highlight the drop in private sector investments in the manufacturing sector, which reached 12 per cent in 2019 down from 22 per cent in 2014. Indeed, this might be one of the reasons why investments failed to generate more jobs (see figure 10a). In the meantime, investment in mining and quarrying remained constant over the same period. In the public sector, different trends

have been observed with a decrease in investment in mining and an increase in manufacturing in 2018 and 2019, to reach 12 per cent of total public investments. This can be mainly explained by the government efforts to invest in some sectors, such as steel and chemical products. Obviously, these sectors are rather capital intensive, which explains why they failed to significantly create enough jobs.

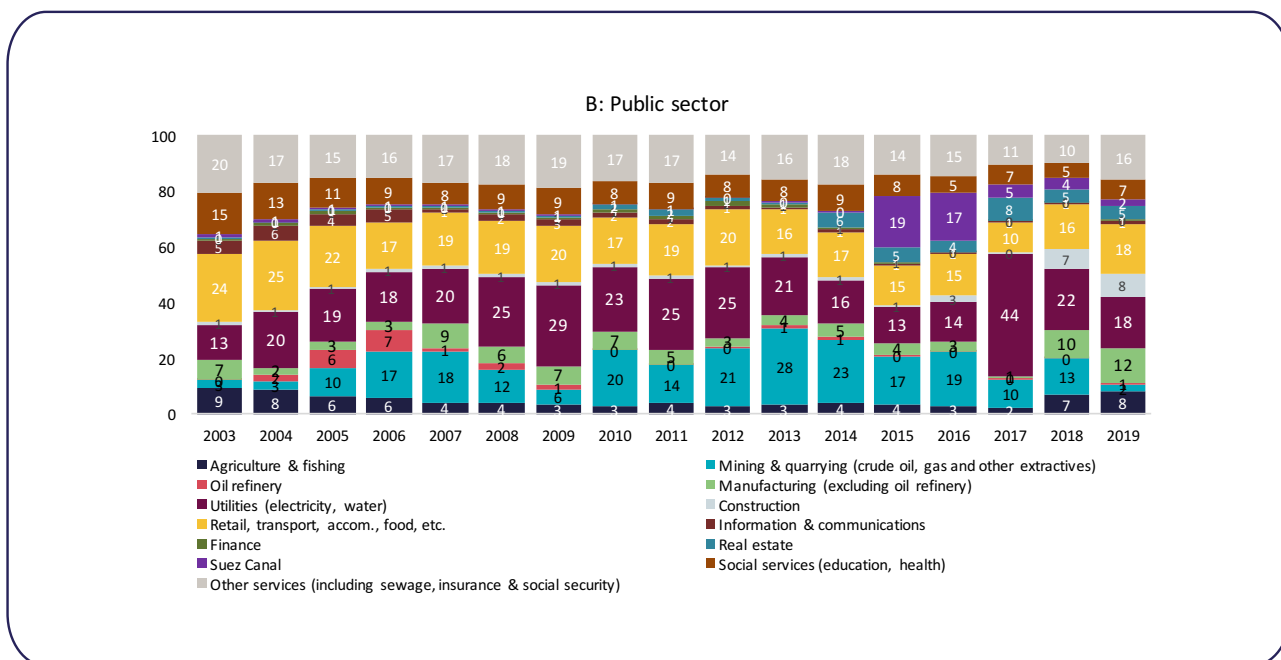


► **Figure 10a.** Sectoral investment, private sector



Source: Based on Ministry of Planning and Economic Development online data set. 2003–19.

► **Figure 10b.** Sectoral investment, public sector



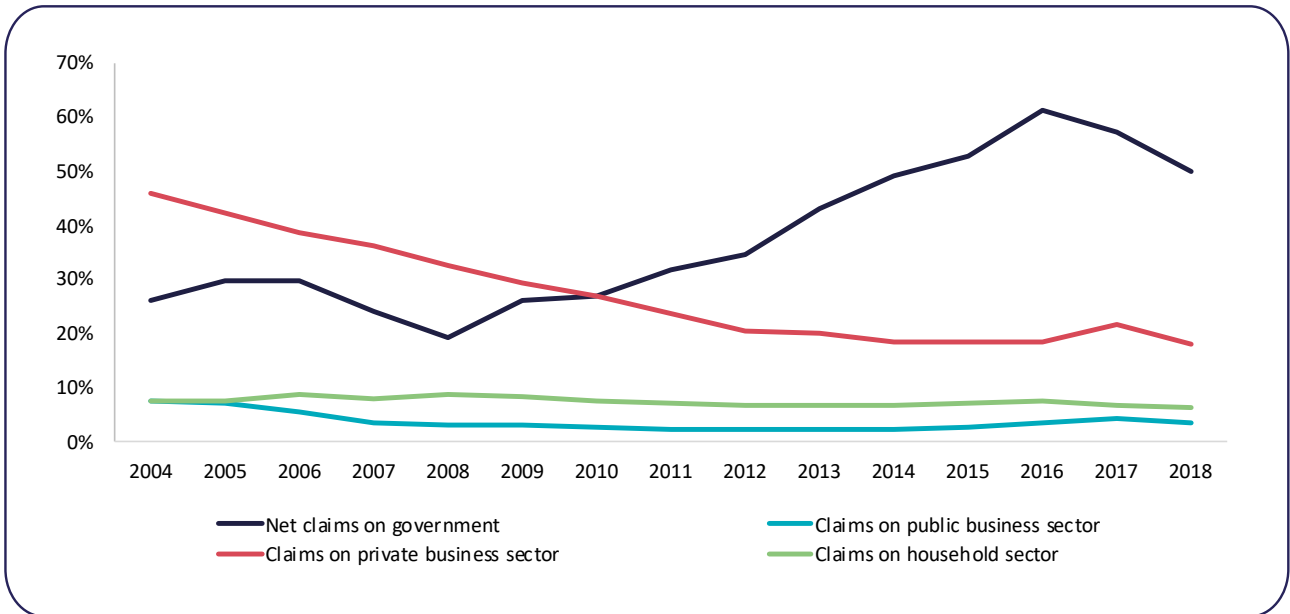
Source: Based on Ministry of Planning and Economic Development online data set. 2003–19.

2.5. Domestic credit and FDI to GDP

Figure 11 depicts the evolution of credit to both the private sector and the GoE, as a share of GDP. Indeed, while government borrowing was increasing between 2008 and 2016, reaching 61 per cent in 2016, they declined slightly to 50 per cent in 2018. Over the same time period, domestic credit to the private sector decreased from 27 to 19 per cent in 2016. These trends have two potential implications. On the one hand, the decrease in borrowing

by the Central Government between 2016 and 2018 reflects the decline in future interest payments and hence less pressure on the Government’s budget. By contrast, the decline in credit to the private sector shows that less credit leads to less investment, and thus lower levels of job creation and economic growth. It is important to note that borrowing by households remained relatively stable over time.

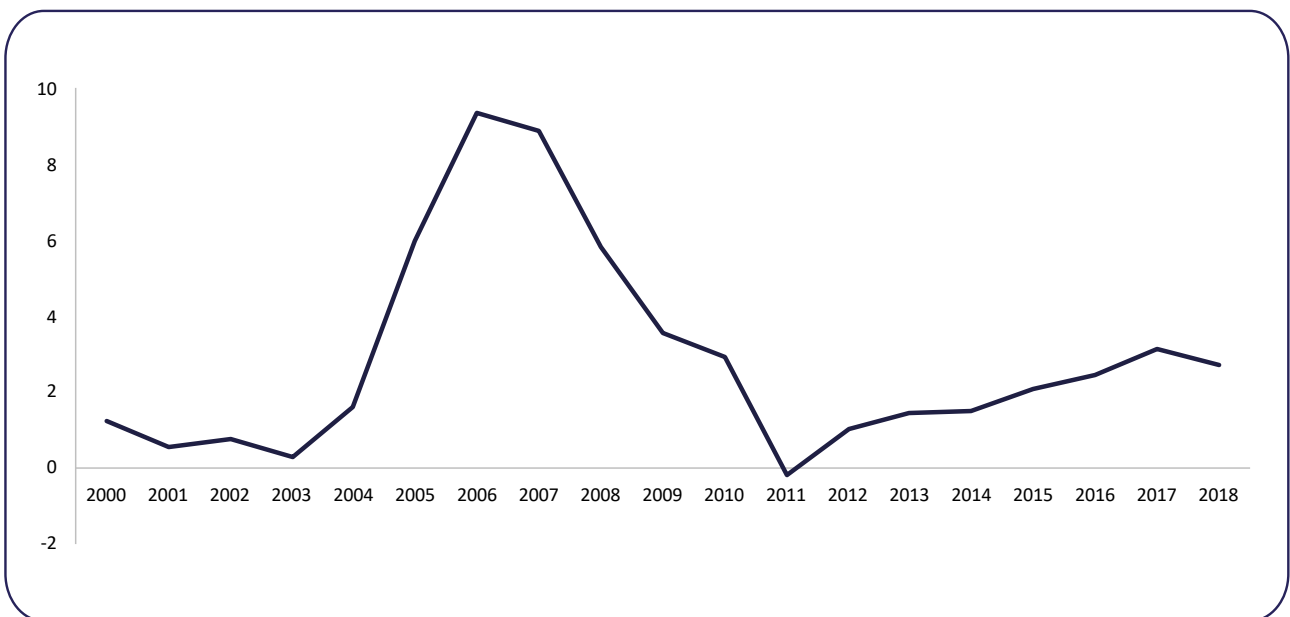
► **Figure 11.** Domestic credit (share of GDP)



Source: Based on Central Bank of Egypt Time Series online dataset on Domestic Debt. 2004–18.

At the external level, the net in-flows of FDI declined significantly as a share of GDP, from 9 per cent in 2007 to -0.2 per cent in 2011, with the political instability brought on by the 2011 political uprising (figure 11).

► **Figure 12.** Foreign direct investment, net in-flows (percentage of GDP)



Source: Based on Central Bank of Egypt Time Series online dataset on Net Foreign Direct Investment. 2000–18.

Since then, the recovery of FDI has been slow, mainly for two reasons. First, despite several reforms, the business climate has not improved. Table 1 shows that, based on the World Bank Enterprise Surveys (2013, 2016 and 2020), more firms report that obtaining business licenses, trade procedures, tax rates and tax administration are becoming more difficult and represent a significant constraint to their businesses.

► **Table 1.** Evolution of constraints on businesses 2013–20

Item		2013	2016	2020
Improvement	Access to finance	10.4	13.2	8.4
	Access to land	0.6	1.1	0.2
	Crime, theft and disorder	4.4	2.9	0.5
	Electricity	9.2	5.9	3.1
	Labour regulations	2.4	4.1	2.1
	Political instability	48.8	33.8	17.4
	Stability	Courts	0.2	0.2
Deterioration	Business licensing and permits	5.1	8.2	5.8
	Corruption	5.5	6.6	14.6
	Customs and trade regulations	0.7	4.6	4.7
	Inadequately educated workforce	1.8	4.4	2.2
	Practices of the informal sector	4.4	3.1	8.7
	Tax administration	1.2	1.9	6.3
	Tax rates	3.9	8.7	24.4
	Transportation	1.3	1.3	1.5

Note: The table includes the percentage of firms that identified each variable as the biggest constraint.

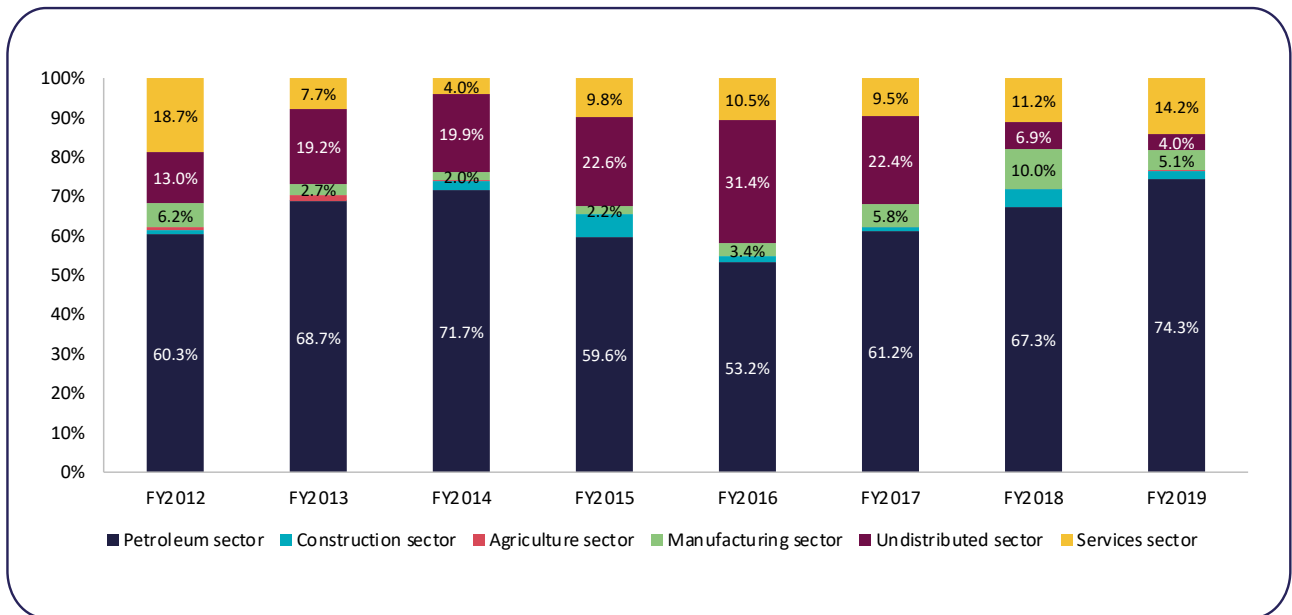
Source: Author's elaboration, using World Bank Enterprise Surveys for 2013, 2016 and 2020.

Second, as with FDI allocation, the petroleum sector ranks first, followed by the services sector (figure 13), which helps to explain why most of the FDI in-flows in Egypt did not generate enough jobs. Indeed, extractive industries are primarily capital-intensive and are characterized

as low-value-added (Alcidi et al. 2017). While the manufacturing sector is more labour-intensive and hence more conducive to employment-generation, its share of FDI was generally low (around 5 per cent), except in 2018 where it increased to 10 per cent.



► **Figure 13.** Sectoral distribution of FDI



Note: Based on The Central Bank of Egypt Time Series online dataset on Net Foreign Direct Investment. Fiscal years 2012-19.





3. Trends in labour market outcomes

The objective of this section is two-fold: first, it presents the main characteristics of the Egyptian labour market in terms of labour force participation, employment rates, and unemployment rates and labour underutilization. Second, it covers topics such as overeducation, working

poverty, hours of work, type of employment, real monthly and hourly wages, proportion of low-paid wage-earners, and job benefits such as health insurance and paid leaves/sick leaves.

3.1. Labour force participation, employment and unemployment

This section presents the evolution of the three main quantitative labour market indicators – labour force participation, the employment rate and the

unemployment rate – by sex, age groups and educational attainment over the last two decades, using the most recent labour force surveys.²

3.1.1. Labour force participation

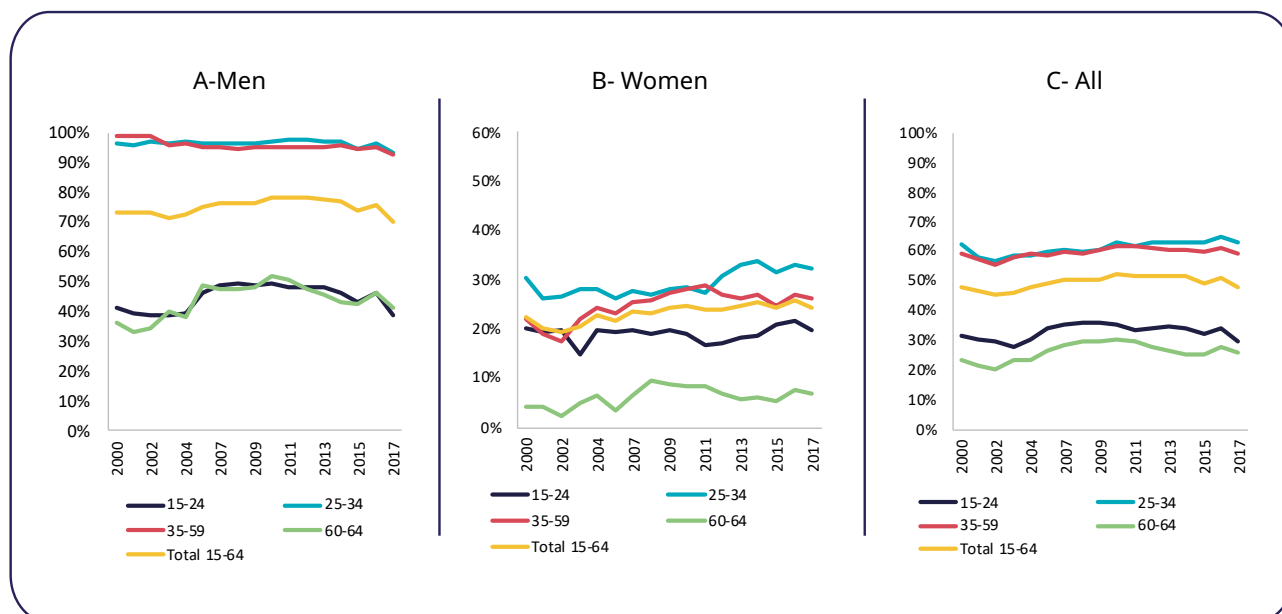
Figure 14 shows the trend in the labour force participation rate by sex and age group from 2000–2017, revealing that this rate is strongly differentiated by sex. In 2017, the male participation rate was 70.3 per cent, while the female rate was only 24.4 per cent. Although the overall participation rate among working-age individuals (15–64) remained around 48 per cent during the 2000–17 period, its evolution was not stable. After increasing by 8 per cent between 2000 and 2010, to reach 52 per cent, the

participation rate subsequently fell by the same relative amount between 2010 and 2017, returning to its 2000 level. This decline is confirmed for the 2018–2019 period (CAPMAS 2020).³ This decrease essentially reflects the drop in male participation over the last two decades – a decline, which has become more pronounced since 2013. Meanwhile, the female participation rate increased slightly between 2000 and 2017, from 22.4 to 24.4 per cent.

² For the purpose of this chapter, we use the most recent Labour Force Surveys (the 2000–17 waves) that are nationally representative and made accessible and harmonized by the Economic Research Forum (ERF). The results of this chapter are based on the individual questionnaires that provide information on demographic aspects, geographic characteristics, education (school attendance status, educational level), current labour market status, employment status (contract, social security, stability, regularity, workplace, occupation, economic activity, number of working hours/days) and unemployment status (availability for work, desire to work, job search methods). Some variables (such as school attendance, job search, desire for job change, availability for additional work, job stability, work contract) are only available for certain waves. LFS 2005 data (and LFS 2016 and 2017 for some indicators) are excluded from the analysis because the results appeared inconsistent.

³ Labour force participation rates for the population aged 15+ decreased from 43.1 per cent in 2018 to 42.2 per cent in 2019 (CAPMAS Annual Labour Force Bulletin 2018 and 2019).

► **Figure 14.** Labour force participation rates, by age group and sex, ages 15–64, 2000–17



Source: Authors' calculations, based on CAPMAS Labour Force Surveys 2000–04 & 2006–17.

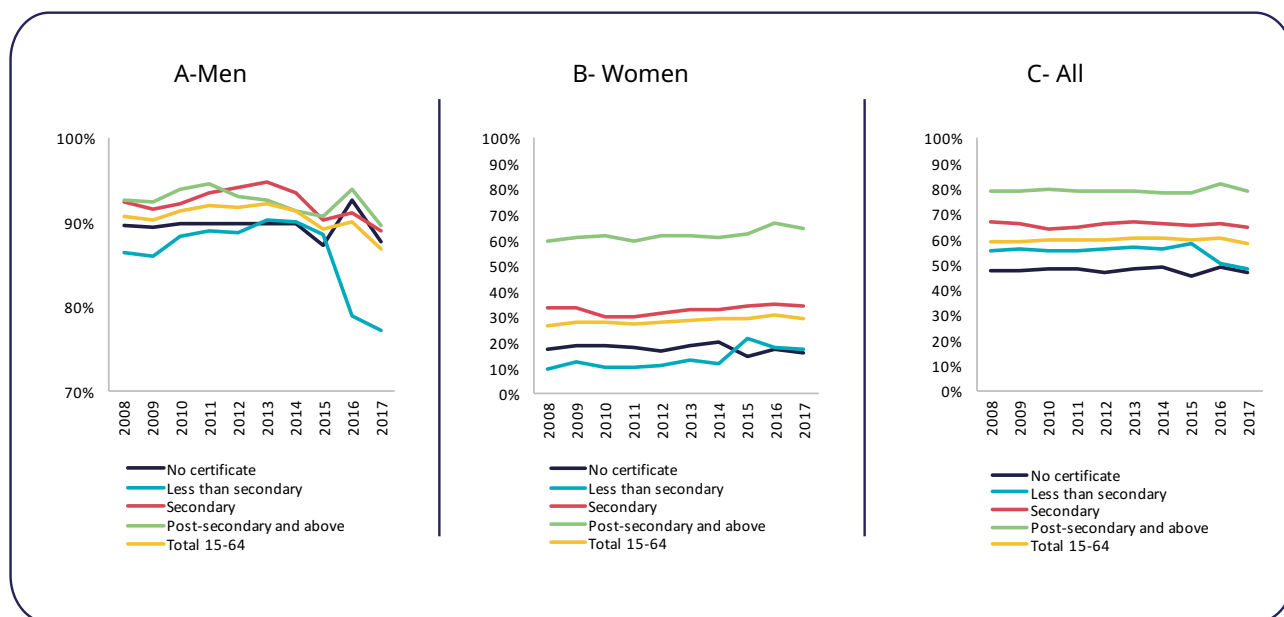
The male participation rate is almost universal (over 90 per cent) among those aged 25–59. Lower participation rates among young people (aged 15–24) and older people can be explained by enrolment in education and retirement age, respectively. The same can be observed with the female participation rate at the extreme ends of the age spectrum. However, the similarities end there, as in 2017 female participation among those with the highest share of employment (aged 25–34) declined to 32.1 per cent (even though it recently increased) and 24.4 per cent for those in the 35–59 age group, markedly lower than the above 90 per cent rate for men in both age groups. The general decline in male participation mainly occurred between 2010 and 2017 and was particularly marked at both ends of the age spectrum. Meanwhile, the overall increase in the female participation rate over the 2000–17 period was mainly driven by a notable rise among women aged 15–34, especially between 2010 and 2016.

As shown in figure 15, male participation is not highly correlated with education, varying only between men with less than secondary education (77 per cent) and among post-secondary and university graduates (90 per cent) in 2017.⁴ Conversely, female participation is strongly associated with education; as in 2017, it increased very sharply with the level of education, rising from 16 to 17 per cent among women with no certificate or with less than secondary education, to 34 per cent among secondary school graduates and then doubling among post-secondary and university graduates (65 per cent). Between 2008 and 2017, male labour force participation decreased at all educational levels while female labour force participation increased at all educational levels (with the exception of women with no certificate). This increase was especially marked among women with less than secondary education.



⁴ Labour force participation rate by educational attainment including those in school is presented in Figure 1 Appendix 2a.

► **Figure 15.** Labour force participation rates, by educational attainment and sex, ages 15–64, 2008–17 (excluding those enrolled in school)



Note: Estimates are limited to the 2008–17 LFS waves, as the available LFS 2000–07 harmonized waves do not distinguish between those not enrolled in school.

Source: Authors’ calculations based on CAPMAS. LFS 2008–17.

» 3.1.2. Employment rate

Employment rates (figures 16 and 17) reflect the same gender disparities observed in the labour force participation rates. In 2017, the male employment rate was much higher (63.7 per cent) than the female rate (17.7 per cent). As expected, employment rates were higher among those aged 25–59 (among both men and women) and lower among those aged 15–24, who are often struggling to transition from school to work, as well as among those aged 60–64, who are withdrawing from the labour market because of retirement.

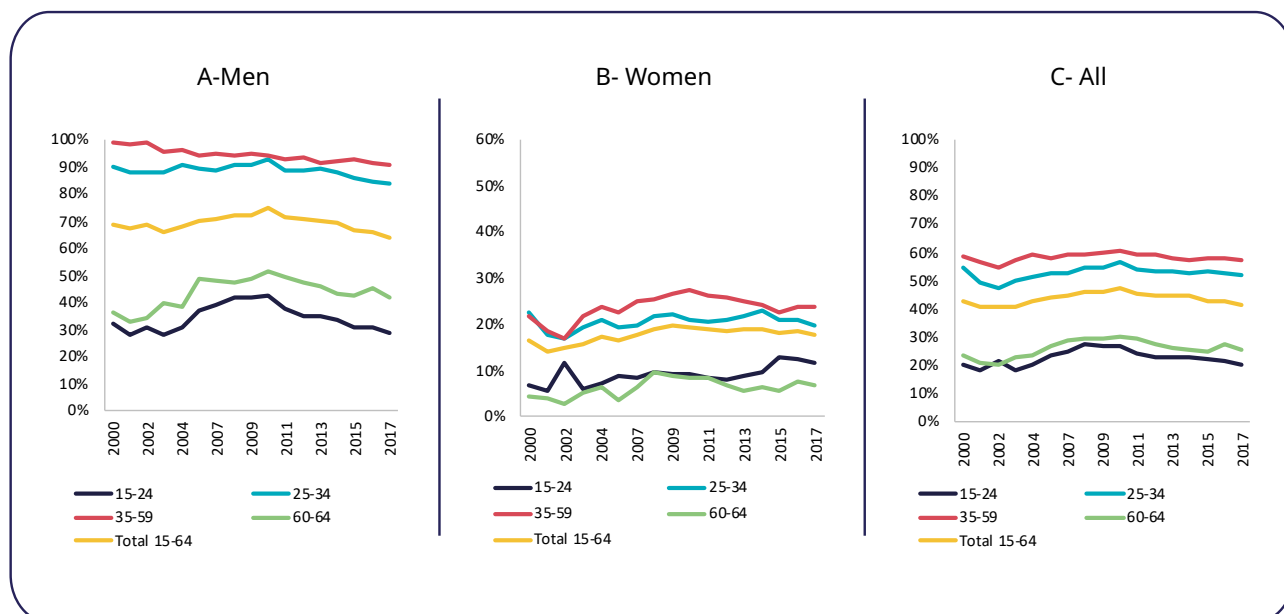
The overall employment rate reached 41.3 per cent in 2017, down from 42.9 per cent in 2000 (-4 per cent). After rising between 2000 and 2010, the employment

rate declined between 2010 and 2017 following the 2011 uprising and the consequent economic downturn. However, despite an acceleration in GDP growth since 2014, overall employment has continued to decline.

The male employment rate drop was more acute among youth (aged 15–24) and those aged 60–64, who seem to be more vulnerable to economic instability. The female employment rate increased over the 2000–17 period (+8%) despite a decline since 2010 among all age groups except among youth. Nevertheless, the rise in the employment rate of young women aged 15–24 has been accompanied by an increase in precarious employment (detailed in section 3.3).



► **Figure 16.** Employment rate, by age group and sex, 2000–17



Source: Authors' calculations, based on LFS 2000–04 and 2006–17.

Figure 17 presents employment rates by educational attainment and sex between 2008 and 2017, excluding those enrolled in school or university in order to have a more homogenous group.⁵ As with labour force participation rates, male employment rates were fairly insensitive to educational attainment, ranging between 71 per cent (less than secondary) and 86 per cent (no certificate) in 2017. Female employment rates were, on the contrary, very much correlated with educational attainment. The divide occurs at secondary educational attainment. In 2017, the employment rate for female 'post-secondary and above graduates' was twice as high

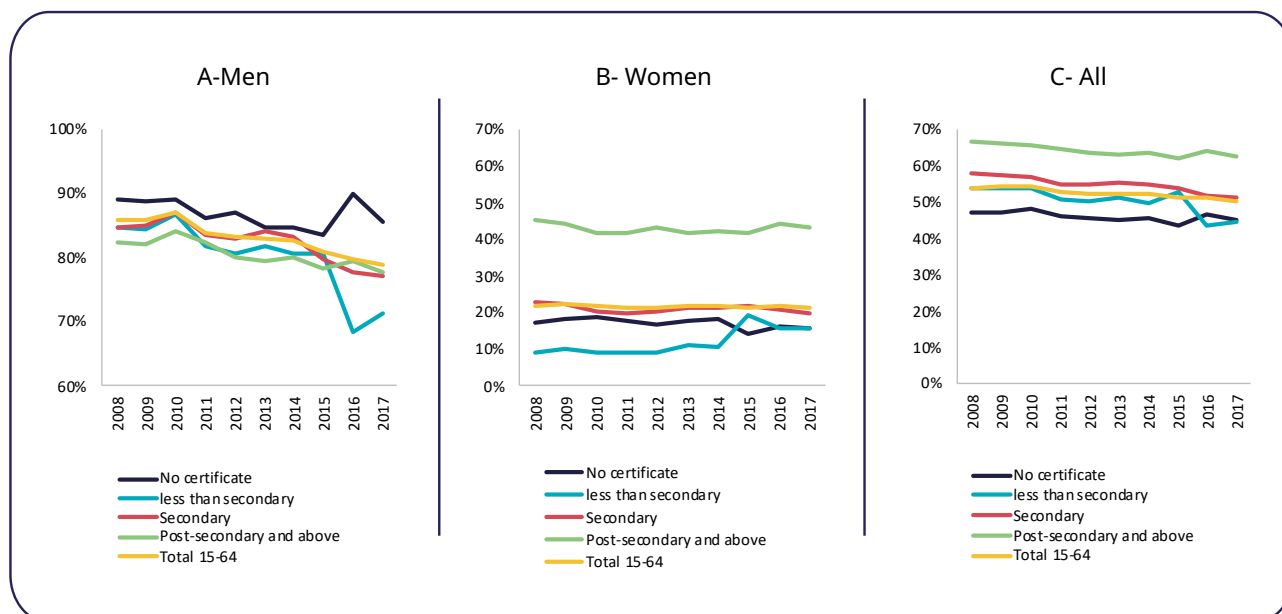
(43 per cent) as that of secondary graduates (20 per cent). Employment rates among women with less than secondary education or with no diploma were even lower, at 15 and 16 per cent, respectively, in 2017.

Between 2008 and 2017, employment rates declined at all educational levels except among women with less than secondary education, for whom it increased sharply. This trend is particularly concerning for educated women. Assaad et al. (2020) explain this decline by the fall in public employment, which used to be the major employer of educated women.



⁵ Employment rate by educational attainment including those in school is presented in Figure 2 Appendix 2a.

► **Figure 17.** Employment rate, by education and sex, 2008–17, excluding those enrolled in school



Note: Estimates are limited to the 2008–17 LFS, as the available LFS 2000–07 harmonized waves do not distinguish those not enrolled in school.

Source: Authors' calculations, based on CAPMAS LFS 2008–17.

» 3.1.3. Unemployment rate

Figures 18 and 19 present unemployment rates by age and education, respectively. They show that – as documented by Krafft et al. (2019) and by Amer and Atallah (2019) – unemployment is high among youth, women and the most educated (secondary and above graduates), reflecting the difficult transition from school to work. Indeed, in 2017, while the overall unemployment rate reached 11.9 per cent, the female unemployment rate was almost three times higher (23.2 per cent) than the male rate (8.4 per cent). Overall, in 2017, post-secondary graduates' unemployment rate was more than seven times higher than those with no certificate. The youth unemployment rate was also particularly high at 29.6 per cent.

Although the unemployment rate increased slightly between 2000 and 2017, from 11.1 to 11.9 per cent, its evolution seems to have mirrored fluctuations in economic conditions. Between 2000 and 2010, when the annual GDP growth rate varied between 2.5 and 7 per cent, the unemployment rate fell by 21 per cent, reaching 8.8 per cent in 2010. Conversely, when economic growth slowed sharply to around 1.8–2.0 per cent between 2011 and 2013, the unemployment rate increased substantially, by 49 per cent, reaching 13.1 per cent in 2013. Finally, in 2013–17, the unemployment rate fell again while GDP growth recovered to 4–5 per cent per year. The recent economic downturn due to the COVID-19 pandemic has been accompanied by a further rise in the unemployment rate.⁶ The steady decline in the

overall employment rate since 2011 despite an upturn in growth since 2013 seems to suggest that the relationships between growth and unemployment, on one hand, and between growth and employment, on the other, are not straightforward. Assaad (2020) argues that the change of the population age structure over time has played an important role. Indeed, the youth bulge that peaked in the early 2000s translated into a difficult transition from school to work, resulting in high youth unemployment rates. The declining growth rate of the working-age population since 2000 has resulted in reduced labour supply pressure and contributed to the decrease of both the unemployment and employment rates. However, the easing of demographic pressure is only temporary, as the arrival of a large new youth cohort (the echo generation) is expected for the years 2025–30.

Unemployment fluctuated more among men than among women in the 2000–17 period. For instance, between 2010 and 2013, the unemployment rate for men doubled (from 4.8 to 9.9 per cent) while the unemployment rate for women increased by 7 per cent. Overall, male and female unemployment rates have not evolved in the same direction. Between 2000 and 2017 the unemployment rate for men has surged by 33 per cent, while that of women fell by 14 per cent.

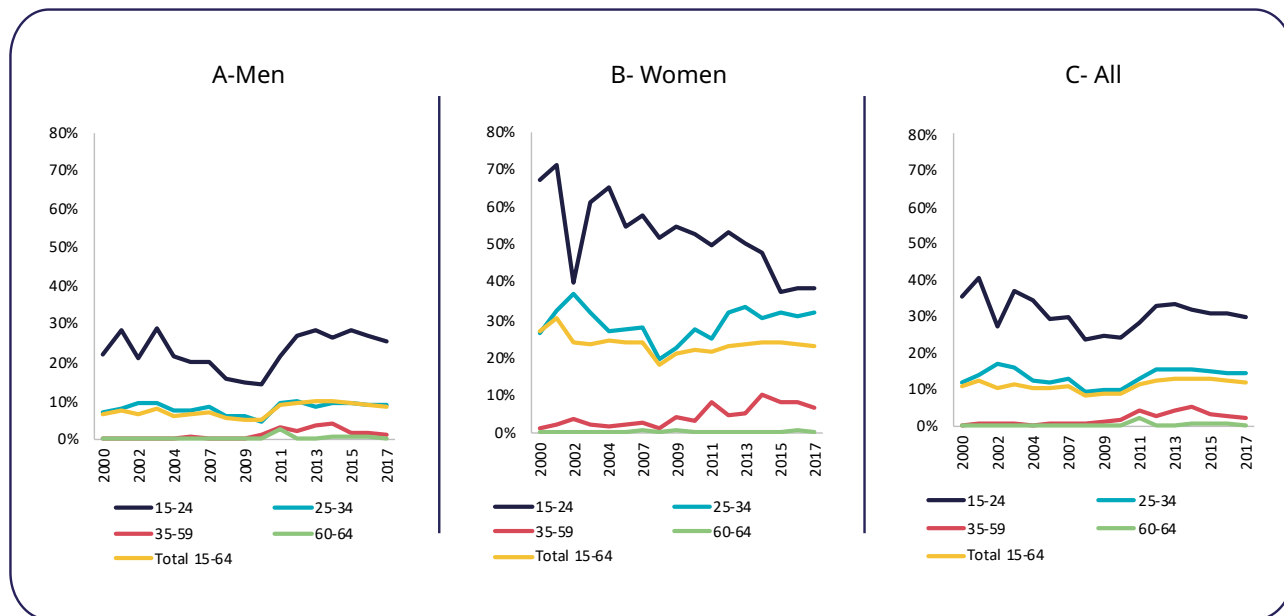
The trend in unemployment also differs by age group and sex. The main difference in response to economics and demographic conditions concerns the 15–24 age group,

⁶ According to CAPMAS, the unemployment rate (individuals aged 15 and over) reached 9.7 per cent in April 2020, up from 7.9 per cent in 2019.

across gender lines. The unemployment rate for young men increased sharply between 2010 and 2013, dropping slightly since then. On the contrary, the unemployment rate for young women has fallen continuously since 2000 (especially since 2003). In addition, the unemployment rate for women aged 25–34 increased sharply from

2000–13 (declining slightly since) such that these two groups' unemployment rates were converging. It is also worth noting that the unemployment rate of the 35–59 age cohort rose very sharply between 2000 and 2017, although starting from very low rates.

► **Figure 18.** Standard unemployment rate, by age group and sex, ages 15–64, 2000–17



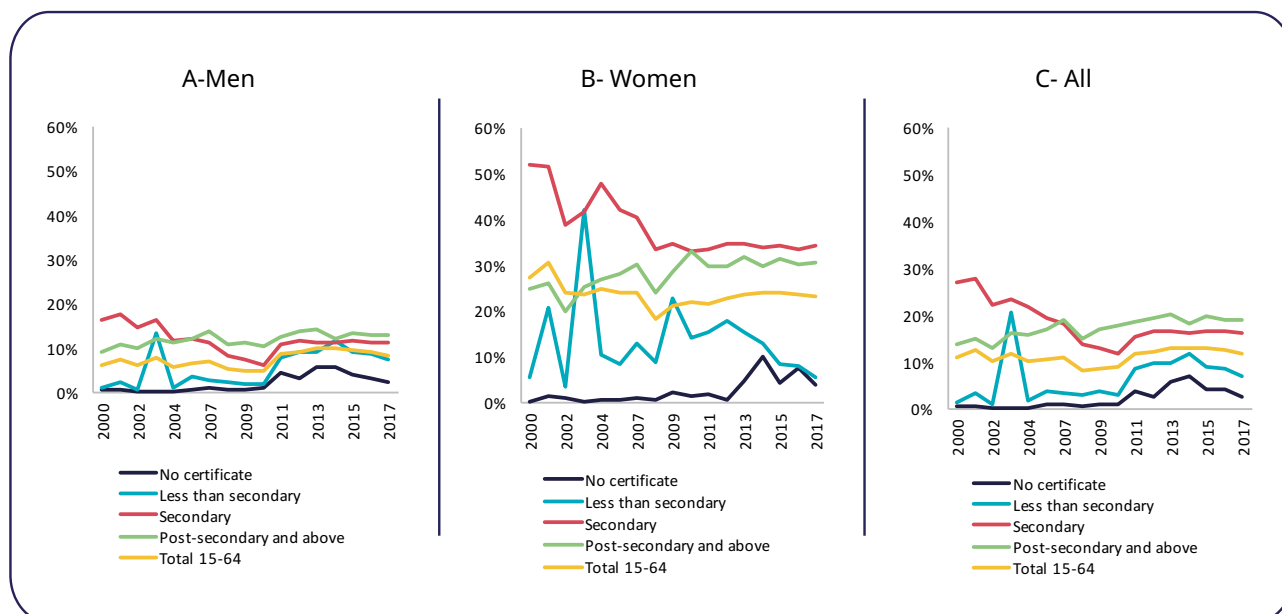
Source: Authors' calculations, based on LFS 2000–04 & 2006–17.

The trend in unemployment by educational level is shown in figure 19. In 2017, it was very high among post-secondary graduates (18.9 per cent) and secondary graduates (16.3 per cent) and very low among the less educated (6.9 per cent for people with less than secondary education and 2.5 per cent among people with no certificate). This distinction is more or less valid for men and women, only that women's unemployment rates are significantly higher. The rate fluctuated most

depending on educational level. Over the period 2000–17, it increased sharply for people for whom it was initially very low, i.e. people without a diploma (525 per cent) or with lower than secondary education (only for men) and to a lesser extent among post-secondary graduates (36 per cent). On the contrary, it fell 40 per cent for those with secondary education. As a result, unemployment rates have converged across educational levels, more among men than women.



► **Figure 19.** Standard unemployment rate, by educational attainment and sex, ages 15–64, 2000–17



Source: Authors' calculations, based on CAPMAS LFS 2000–04 & 2006–17.

3.2. Labour underutilization

The main indicators of labour force participation, employment rate and unemployment rate are insufficient to understand the complexity of the Egyptian labour market. The concomitant decline in activity, unemployment and employment has in fact been accompanied by an increase in discouraged unemployment, skills-related underemployment and a deterioration in the quality of jobs.

In order to complete the analysis, this section explores the trends in labour underutilization measured by the following indicators: discouraged job-seekers; youth not in any type of education, employment or training; time-related underemployment; and skills-related underemployment.

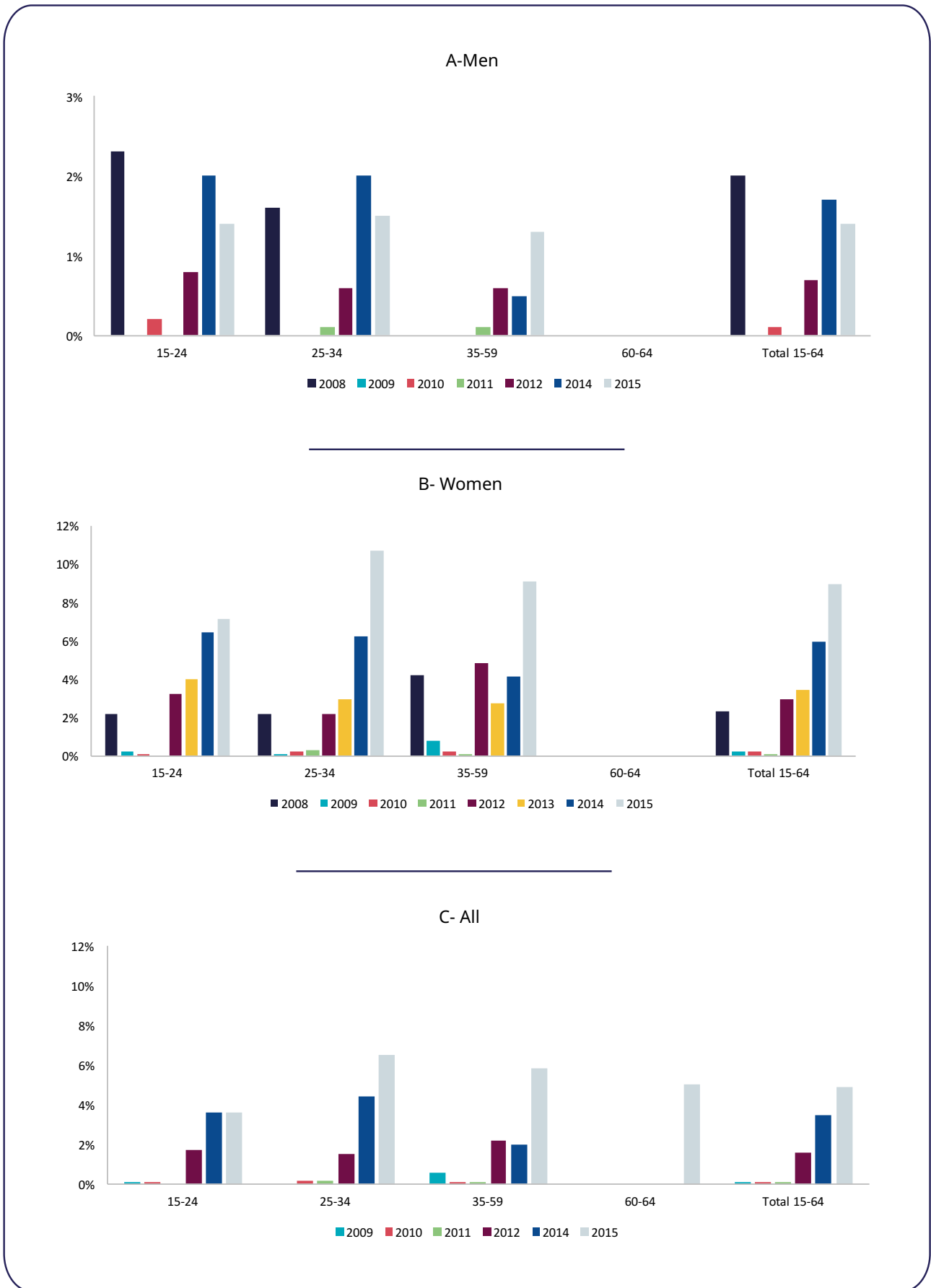
3.2.1. Discouraged job-seekers

The concept of discouraged job-seekers was introduced during the 19th International Conference of Labour Statisticians in 2013 as one of the measures of labour underutilization. As per the ILO definition, discouraged job-seekers are a part of the potential labour force. They refer to persons of working-age who do not work, want to work but are not searching for a job because they do not believe they can find one (ILO, 2015, and ILO, 2018).

Figures 20 and 21 show the trend in the percentage of discouraged job-seekers by age group, education and sex among the unemployed, in the broad sense (i.e. including those not looking for a job).⁷ Though relatively small, the percentage of discouraged job-seekers is much higher among women than among men. For example, in 2015 this group represented 8.9 per cent of unemployed women versus just 1.4 per cent of men.

⁷ The analysis of discouraged job-seekers is limited to the period 2008–15, as before 2008 the distinction between standard and broad unemployment was not possible. The years 2016 and 2017 are excluded because of inconsistent estimates.

► **Figure 20.** Percentage of discouraged job-seekers, by age group and sex, ages 15–64, 2008–15

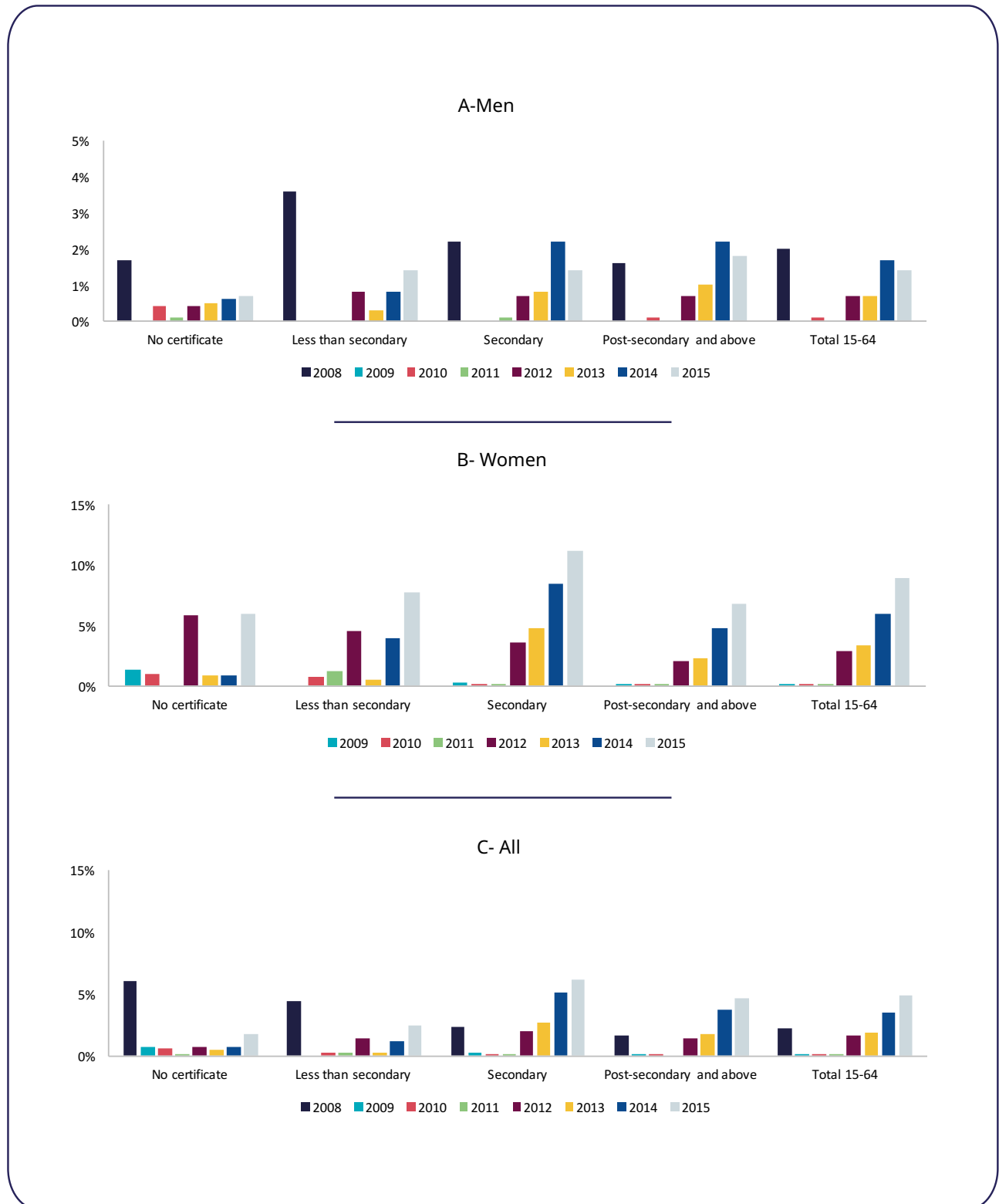


Source: Authors' calculations, based on CAPMAS LFS 2008–15.

Discouraged job-seekers were also found mainly among secondary and above female graduates (figure 21). Between 2008 and 2015, the percentage of discouraged job-seekers increased overall, in particular among women with secondary and above education. The scarcity of

job opportunities offering suitable working conditions for women, and educated women in particular, partly explains why the share of discouraged unemployment is higher among women.

► **Figure 21.** Percentage of discouraged job-seekers, by education and sex, ages 15–64, 2008–15



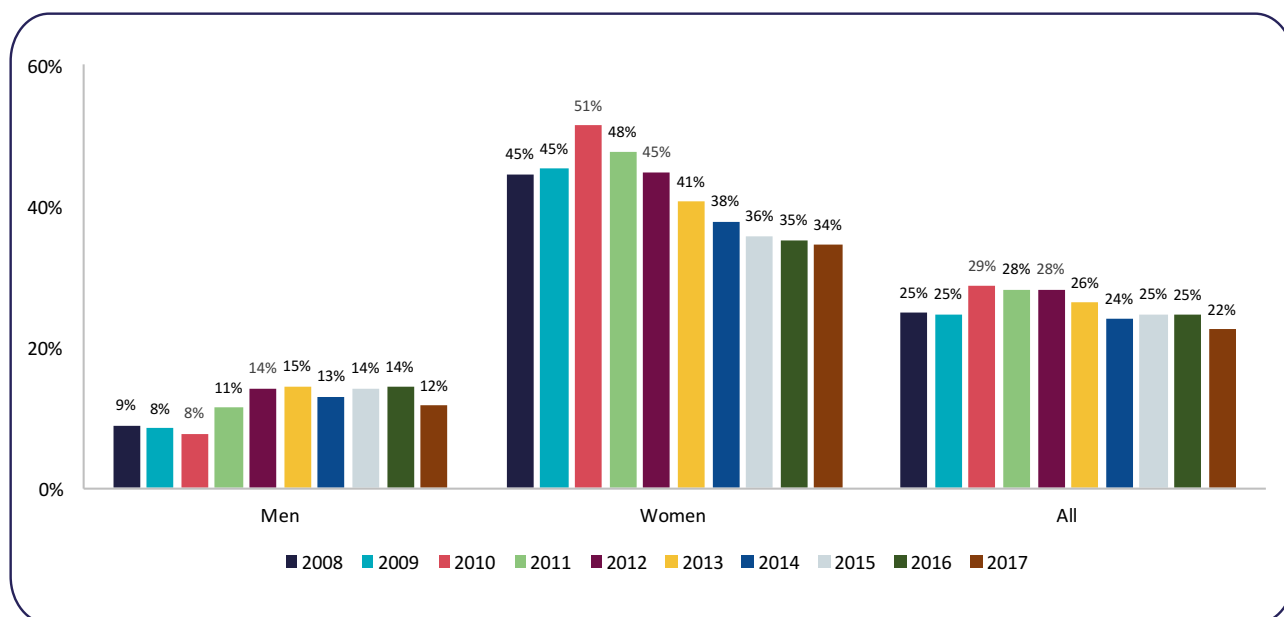
Source: Authors' calculations, based on CAPMAS LFS 2008–15.

3.2.2. Youth not employed or enrolled in education or training

As shown in figure 22, a large proportion of youth (aged 15–24) are not employed or enrolled in education or training (NEET).⁸ The overall proportion of youth NEET reached 22.4 per cent in 2017 and it was three times as high among women (34.4 per cent) than among men (11.6 per cent). Between 2008 and 2017, the proportion of youth NEET declined by 10 per cent – going from 24.8 to 22.4 per cent. The proportions of men and women not in

employment or education changed, moving in opposite directions between 2008 and 2017. The proportion of NEET young men increased from 8.9 to 11.6 per cent, in particular between 2011 and 2013, and has decreased since 2013. The proportion of NEET young women fell from 44.5 to 34.4 per cent, steadily declining between 2010 and 2015 and stabilizing after 2015.

► **Figure 22.** Proportion of youth in NEET by sex, ages 15–24, 2008–17



Source: Authors' calculations, based on CAPMAS LFS 2008–17.

Young people in NEET can either be unemployed in the broad sense (i.e. including discouraged job-seekers) or inactive. As shown in figure 23, in 2017, the large majority of men (82 per cent) were unemployed and searching for a job while the large majority of women were inactive (77 per cent). Discouraged unemployment was negligible for both men and women.

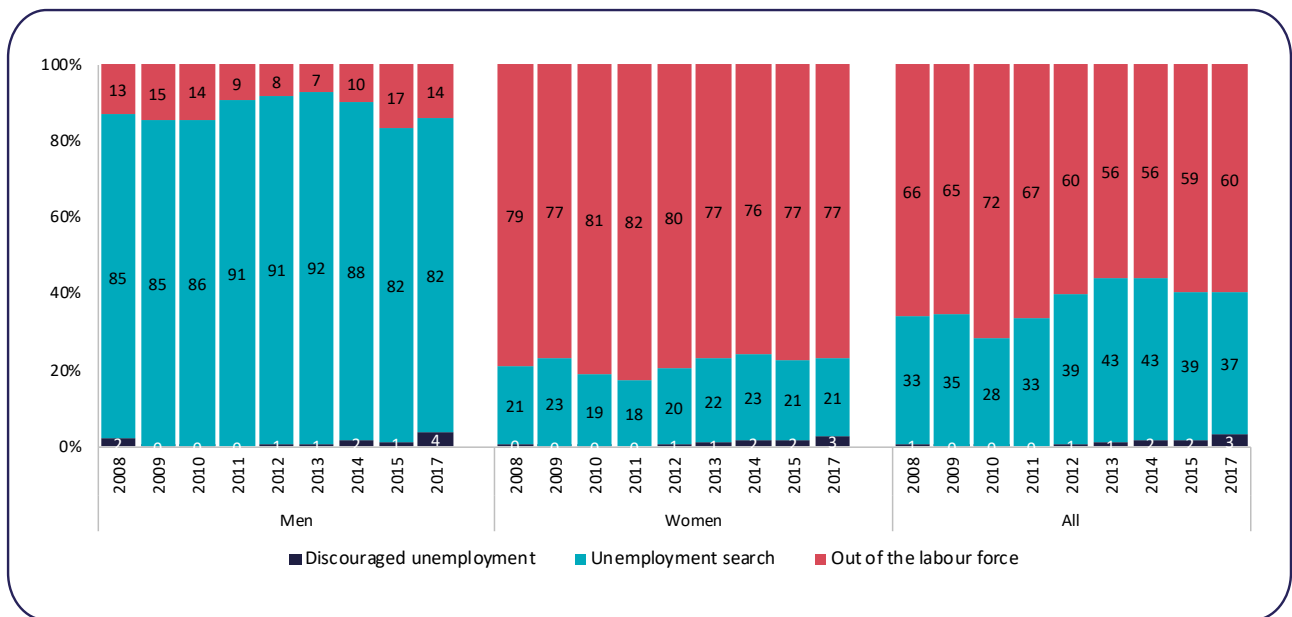
The proportion of inactive men fell from 13 per cent in 2008 to 7 per cent in 2013 and then rose again to 14 per cent in 2017. Between 2008 and 2014, more than two-thirds of inactive men were disabled and more than a

quarter declared that they did not want to work. However, between 2015 and 2017 the proportion of disabled men in NEET has fluctuated and could be linked to a problem with reporting this information. It is therefore difficult to explain why the proportion of inactive men increased recently.

Meanwhile, the proportion of inactive women (90 per cent of whom are housewives) increased between 2008 and 2012 before falling and remaining at 76–77 per cent since 2013.

⁸ Men in military service were excluded.

► **Figure 23.** NEET distribution, by labour market status and sex, ages 15–24, 2008–17



Source: Authors' calculations, based on CAPMAS LFS 2008–17.

» 3.2.3. Time-related underemployment

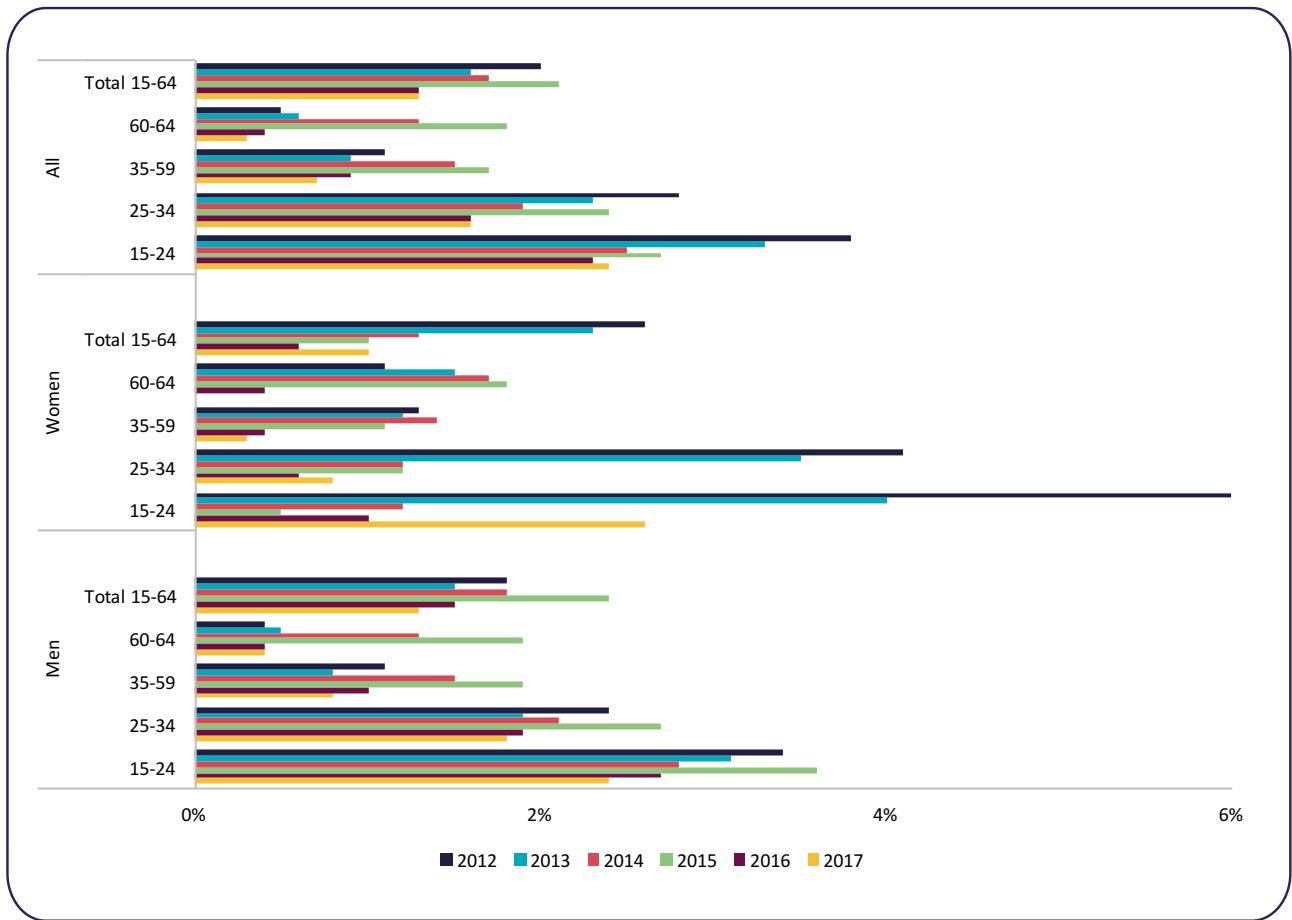
In Egypt, time-related underemployment⁹ is a very marginal phenomenon, regardless of gender, age group, educational level or sector of activity (see figures 24, 25 and 26). It represented only 1.3 per cent of all jobs in 2017. This proportion varied between 0.3 per cent among the 60–64 age group and 2.4 per cent among youth (aged 15–24). When it comes to educational level, the variation

was between 0.8 and 1.8 per cent. Although time-related underemployment was more reported in the construction sector, it remained at a very low level (3.0 per cent in 2017). Between 2012 and 2017, time-related underemployment decreased for all age groups, for men and women, and across all educational levels and most industries.



⁹ Time-related underemployment concerns individuals working less than 35 hours per week, wanting to change work and/or wanting additional work.

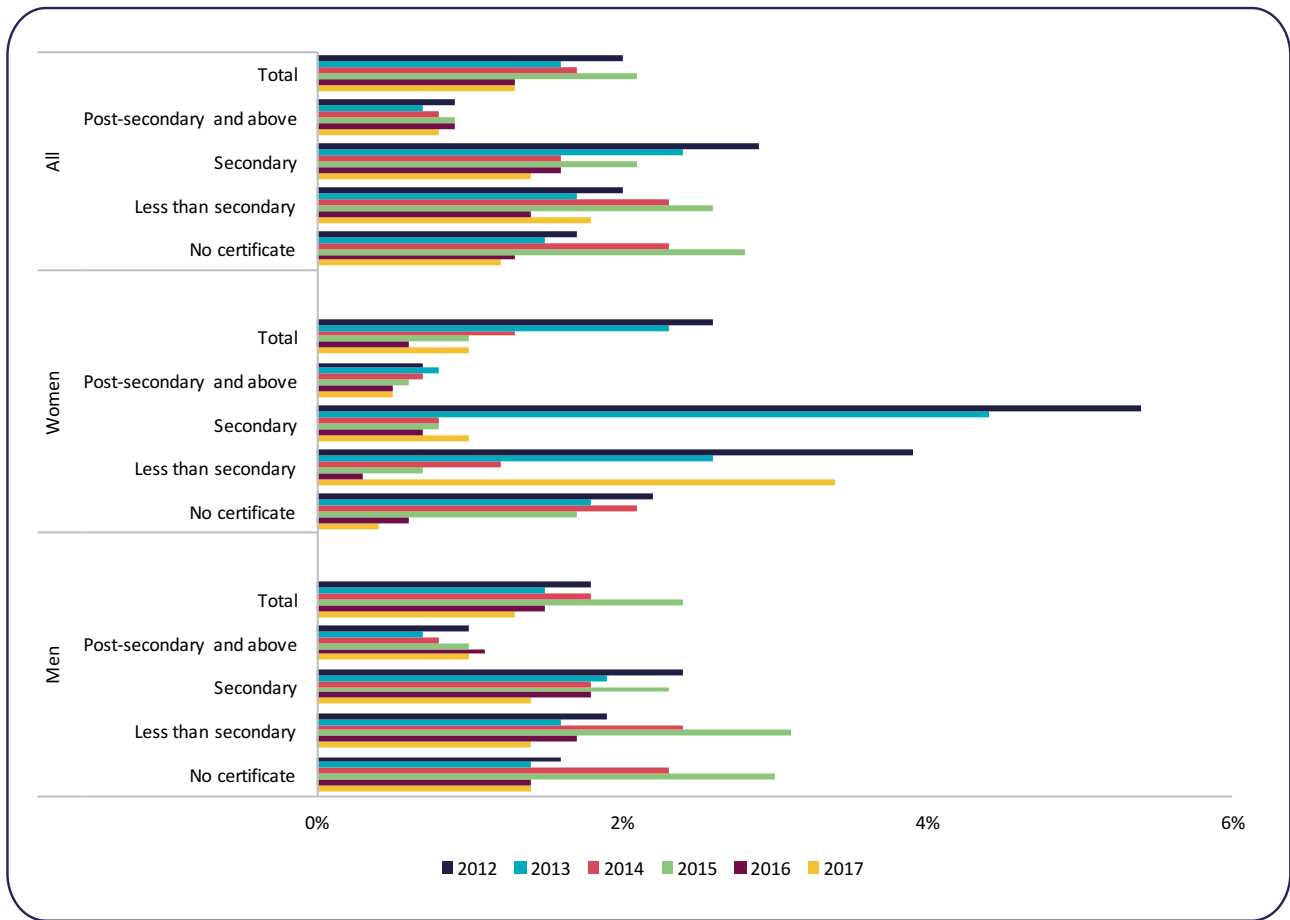
► **Figure 24.** Time-related underemployment, by age group and sex, ages 15–64, 2012–17



Source: Authors' calculations, based on CAPMAS. LFS 2012–17.



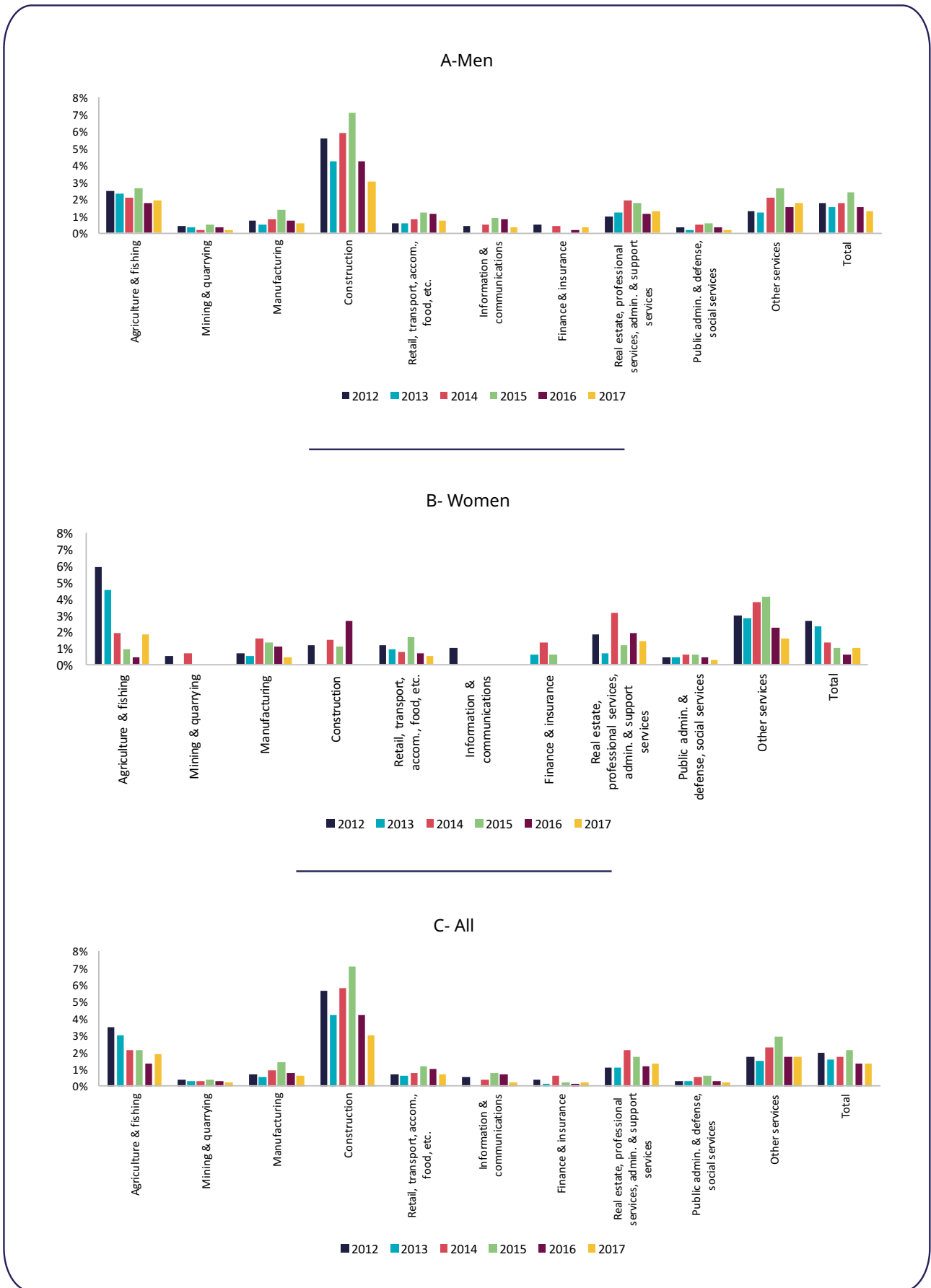
► **Figure 25.** Time-related underemployment, by education and sex, ages 15–64, 2012–17



Source: Authors' calculations, based on CAPMAS, LFS 2012–2017.



► **Figure 26.** Time-related underemployment, by economic activity and sex, ages 15–64, 2012–17



Source: Authors' calculations, based on CAPMAS. LFS 2012–17.

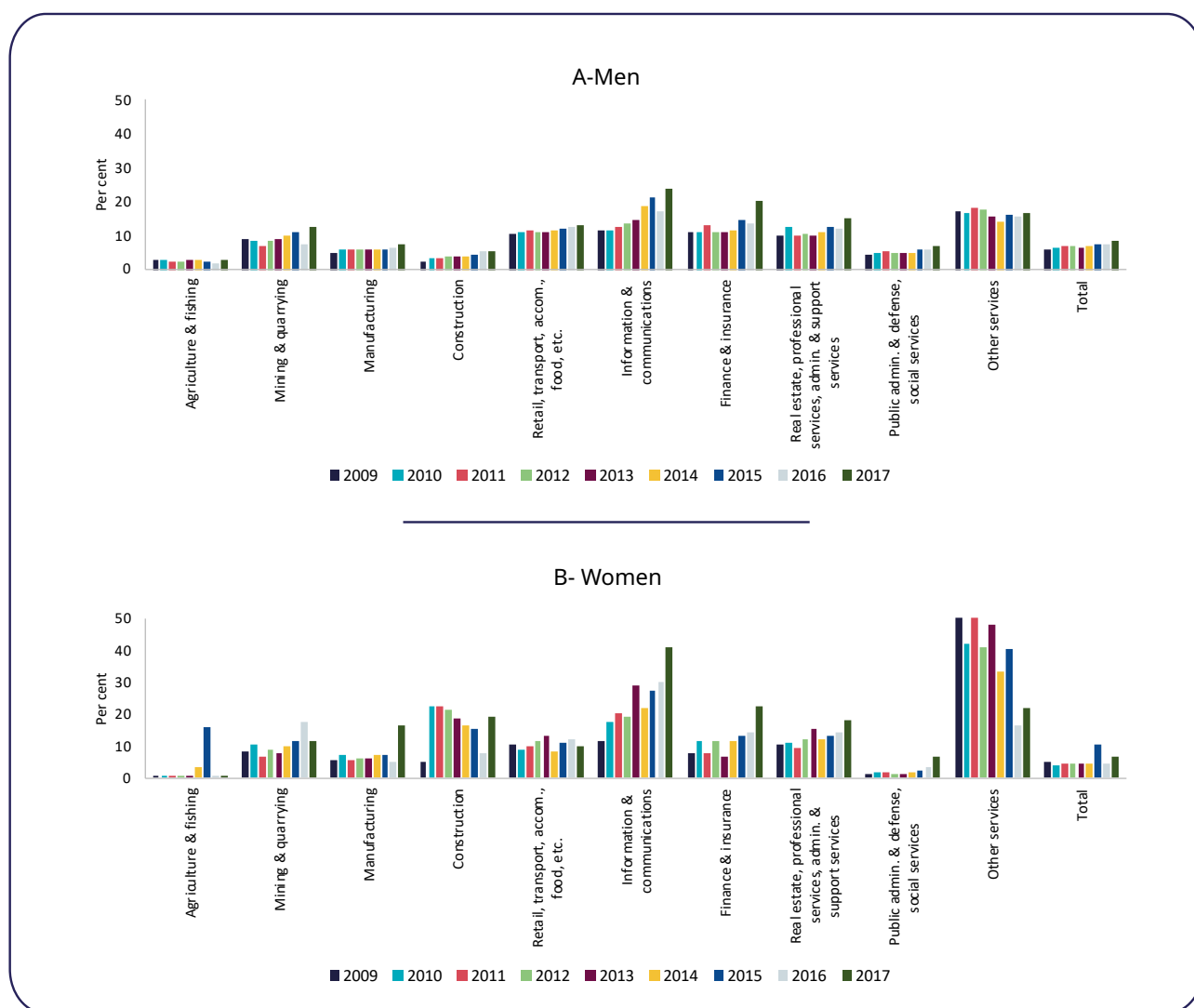
3.2.4. Skills-related underemployment

Skills-related underemployment is an indicator of labour market mismatch measuring the percentage of employed individuals whose educational attainment is higher than that required by their occupation.¹⁰

As shown in figure 27, in 2017 skills-related underemployment was more important in certain sectors: information and communication; finance and insurance; other service activities; and in real estate, professional, scientific, technical, administrative and support service activities. The magnitude of skills-related underemployment across industry sectors was quite similar between men and women, although men had a higher incidence of skills-related underemployment. There was an increased mismatch over the 2009–17 period, for both men and women and for almost all economic

activities. For both men and women, the rise was more pronounced in the sectors of construction, finance and insurance, and information and communication, in addition to manufacturing for women. This can be explained by the fact that during this period, the fastest-growing occupations among workers with tertiary education were: clerks, sales workers and demonstrators, and machine/plant operators (each growing at a rate of 10 per cent, per year) (Selwaness and Fedi 2019). These types of occupations require a level of skill that is usually acquired with less than university education. Thus, it is possible that sectors witnessing a rise in their skills mismatch, also experienced a disproportionate growth in these occupations.

► **Figure 27.** Percentage of skills-related underemployment, by economic activity and sex, ages 15–64, 2009–17



Source: Authors' calculations, based on CAPMAS. LFS 2009–17.

¹⁰ See Appendix 2b for the mapping of the level of skill required by each occupation (1-digit) to the corresponding minimum educational level (Table 1), and how to construct the mismatch between the required educational level and the actual educational level attained by the worker (Table 2).

» 3.3. Type of employment

This section focuses on the trend in types of employment. Seven types are distinguished here: public employment, formal wage employment in the private sector, informal wage employment inside establishments in the private sector, informal employment outside establishments in the private sector, employer, self-employed and contributing family worker.¹¹

The type of employment is highly correlated with gender, age, educational level and economic activity. Women, the more educated and people working in certain sectors (public administration, mining and quarrying, information and communication, finance and real estate, professional and administrative services) have greater access to protected jobs.

The distribution of employment by sex is clearly segmented (figure 28). In 2017, informal employment had become the main type of employment for men (24 per cent were outside establishments and 15 per cent in establishments). Formal employment (19 per cent in the public sector and 13 per cent in the private sector) came only in second place. Non-wage employment represented a significant part of total male employment (12 per cent as employers and 14 per cent as self-employed) and contributing family work was almost non-existent (4 per cent). In comparison, total protected employment, in particular in the public sector (33 per cent) and to a lesser extent in the private sector (8 per cent) represented an important share of total female employment. The share of informal employment was smaller than that of men and informal employment was generally more predominant in establishments (18 per cent) than outside establishments (6 per cent). Another notable gender difference is the large share of female contributing family workers (25 per cent).

The distribution of the type of job is also strongly related to age (figure 28). The younger the workers, the more the share of informal employment (whether within or outside establishment) was dominant. For example, informal employment accounted for almost two-thirds of young people's employment, but less than a quarter of the employment mix of those aged 35–59. Moreover, protected forms of employment (in the public or private sectors) increased with age. Public employment accounted for only 5 per cent of youth employment, 14 per cent for those aged 25–34, and one-third of employment for the 35–59 age cohort. Similarly, formal private employment was more present among the 25–34 age group (15 per cent) than among youth aged 15–24 (8 per cent), but its share was smaller among the 35–59 age group, reaching only 11 per cent in 2017. Non-wage employment, which represented a very small percentage among young people (12 per cent self-employed and 5 per cent employers) increased very sharply with age. It largely dominated the employment mix of the 60–64 age group (63 per cent). Finally, while contributing family work decreased with age

among men, it increased with age among women. The most notable change over time has been the substantial increase in the proportion of informal wage employment (both inside and outside establishments), and to a lesser extent the rise in self-employment (mainly among male workers) and formal private wage work. This occurred while the share of public employment has been falling, and to the detriment of all other forms of employment, which is reflected by a drop in the shares of contributing family workers and employers (mainly among working men). This general trend occurred for both men and women and for all age groups with informal employment inside establishments, increasing more rapidly than informal employment outside establishments. The increase in informal employment was greater for women than for men regardless of age and education. The two age groups (35–64 and 60–64) experienced the strongest growth in informal wage work, but starting from low levels in 2008, this type of employment was still relatively minor in 2017. The increase in informal employment among youth (78 per cent of informal employment inside establishments and 27 per cent of informal employment outside establishments) is worrying as it started from already high levels in 2008. This reflects the deterioration of employment opportunities in the labour market upon exiting school or university. While formal private employment generally increased between 2008 and 2017, this was not the case for young men. For those men, informal employment – the most vulnerable type of precarious employment (that is, informal employment outside establishments) – has become more and more predominant.

The distribution of the type of employment varied according to educational level (figure 29). In 2017, the percentage of protected employment, in particular public employment, increased sharply with education, from 7 per cent among people without a certificate to 48 per cent among post-secondary and university graduates. While informal employment outside establishments decreased significantly with education, informal employment inside establishments increased with education, from 12 per cent among those with no certificate, to 17–18 per cent among those with higher education. Non-wage employment (employer, self-employed) and unpaid employment decreased with education.

The trend by educational level reveals that the increase in informal employment occurred at all educational levels but that it was particularly sharp among the least educated women and men (with no certificate) and among the most educated (post-secondary and above graduates). For example, although starting from low levels, the share of informal jobs inside establishments increased by 116 per cent and 222 per cent for male and female post-secondary and above graduates, respectively, as compared to increases of 22 and 134 per cent for male

¹¹ Formal employment refers to employment with social security as compared to informal employment, which does not offer social security.

and female less than secondary graduates, respectively. The continuous increase in the share of informal employment outside establishments has resulted in the predominance of this form of vulnerable employment among men regardless of their educational level, with the exception of men with post-secondary education. The share of informal employment inside establishments has become increasingly important for women with less than secondary or secondary education.

Employment type also differs substantially by industry (figure 30). For men, information and communication, manufacturing, followed by real estate and professional services, and finance and insurance activities, are the four industry sectors that had, on average, the largest shares of formal private wage work in the 2009–2017 period. In contrast, in the construction sector, the most vulnerable types of jobs have predominated, on average, namely informal private wage work outside of establishments (65 per cent), and self-employed outside of establishments (16 per cent). Also, slightly more than half of workers in agriculture and fishing (55 per cent), and slightly less in trade, transportation, accommodation, and food services (45 per cent) are engaged in vulnerable types of jobs, whose vulnerability differs according to sector. Informal private wage work outside of establishments and unpaid family work outside of establishments are the two most dominant types of vulnerable jobs in agriculture and fishing, whereas informal private wage work inside of establishments and self-employment outside of establishments are the more likely ones in the 'wholesale, retail trade, transportation, accommodation and food services' sector. As for women, the job composition by industry reflects their preference for formal jobs or jobs inside of establishments if they could not have a formal job.

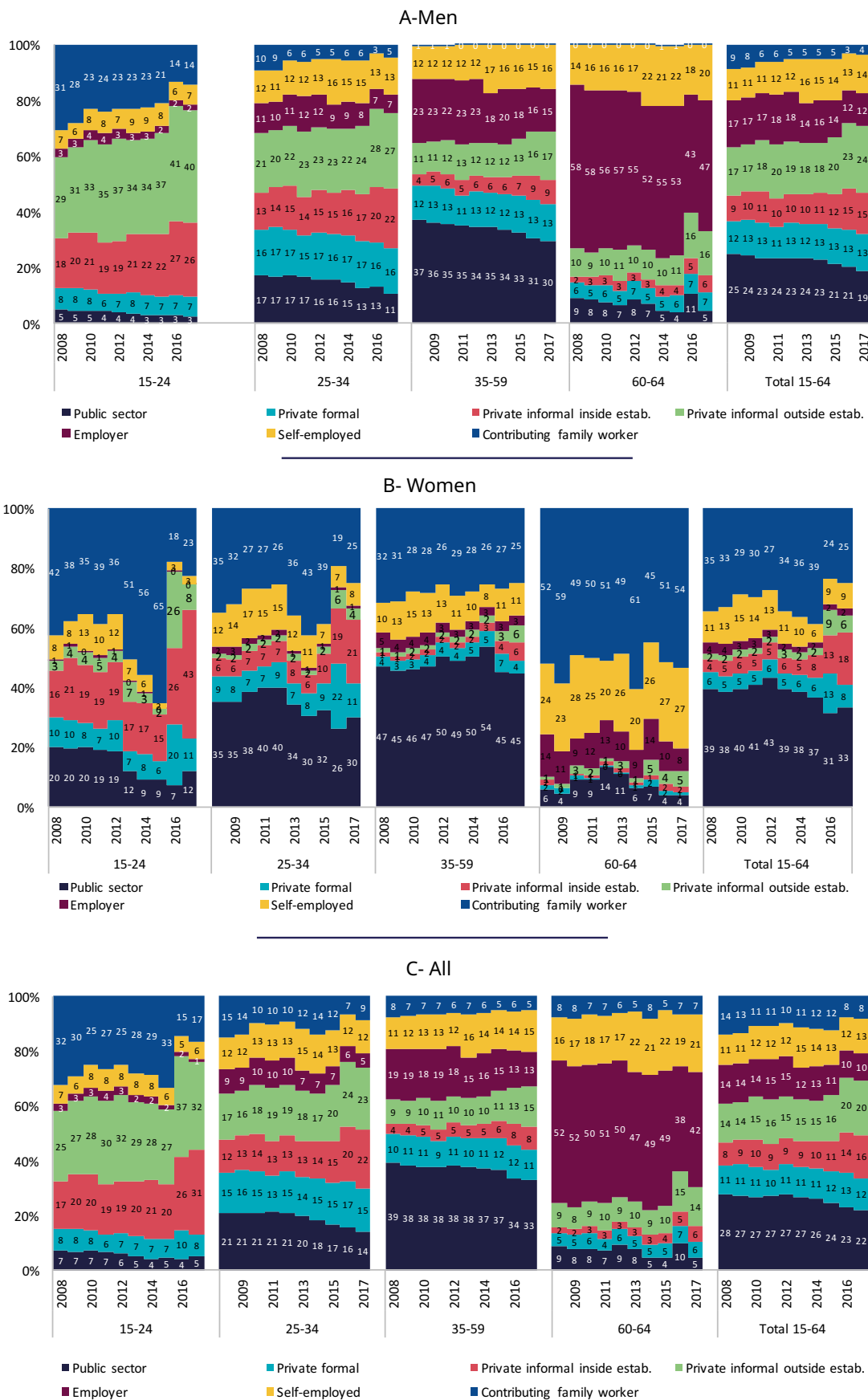
Remarkably, the quality of jobs has deteriorated significantly in the sectors, with the highest share of employment in total employment – namely, agriculture and fishing; public administration, defense and social services; wholesale, retail trade, transportation and storage, accommodation and food; construction; and manufacturing (see figure 7). For instance, the construction sector, whose share of employment almost doubled between 2003 and 2017, has contributed more and more to the most vulnerable types of jobs. Moreover, the share of informal wage work outside establishments has increased by 15 per cent, rising from 60 per cent in 2008 to 69 per cent in 2017, while the share of employers and private formal wage work has fallen by 76 and 28 per cent, respectively. The 'wholesale, retail trade, transportation

and storage, accommodation and food services' sector – whose share in total employment rose from 19 per cent in 2003 to 23 per cent in 2017 – experienced an increase in informal private employment inside establishments (51 per cent), and in self-employment (12 per cent). At the same time, this sector experienced a decline in more favourable forms of employment (a 40 per cent reduction in the share of employers and 7 per cent dip in formal private employment). Also, while the share of the manufacturing sector in total employment remained stable, at 11–12 per cent between 2003 and 2017, the share of the most favourable jobs within the manufacturing sector has fallen sharply (by 31 per cent of public employment and 37 per cent of the share of employers). The proportion of informal jobs inside establishments in the manufacturing sector increased sharply (44 per cent) and that of formal private employment and self-employment has stagnated. The type of employment in 'public administration, defense and social services' has very slightly changed and remained relatively protected, consisting mainly of public employment or formal private employment. Finally, although the weight of the agricultural sector in total employment has decreased, the share of its informal jobs outside establishments has increased sharply (73 per cent), going from 19 per cent in 2008 to 32 per cent in 2017. It is worth noting that informal private wage work inside of establishments was more concentrated than average in the manufacturing sector (28 per cent of this sector's workforce versus 12 per cent of total national workforce), followed by 'wholesale, retail trade, transportation, accommodation and food services' (17 per cent).

Although the distribution of the type of job differs considerably across sex, age groups, educational levels and economic activities, its evolution has been the same across all these categories over the last decade. There has been a clear deterioration in the quality of jobs.

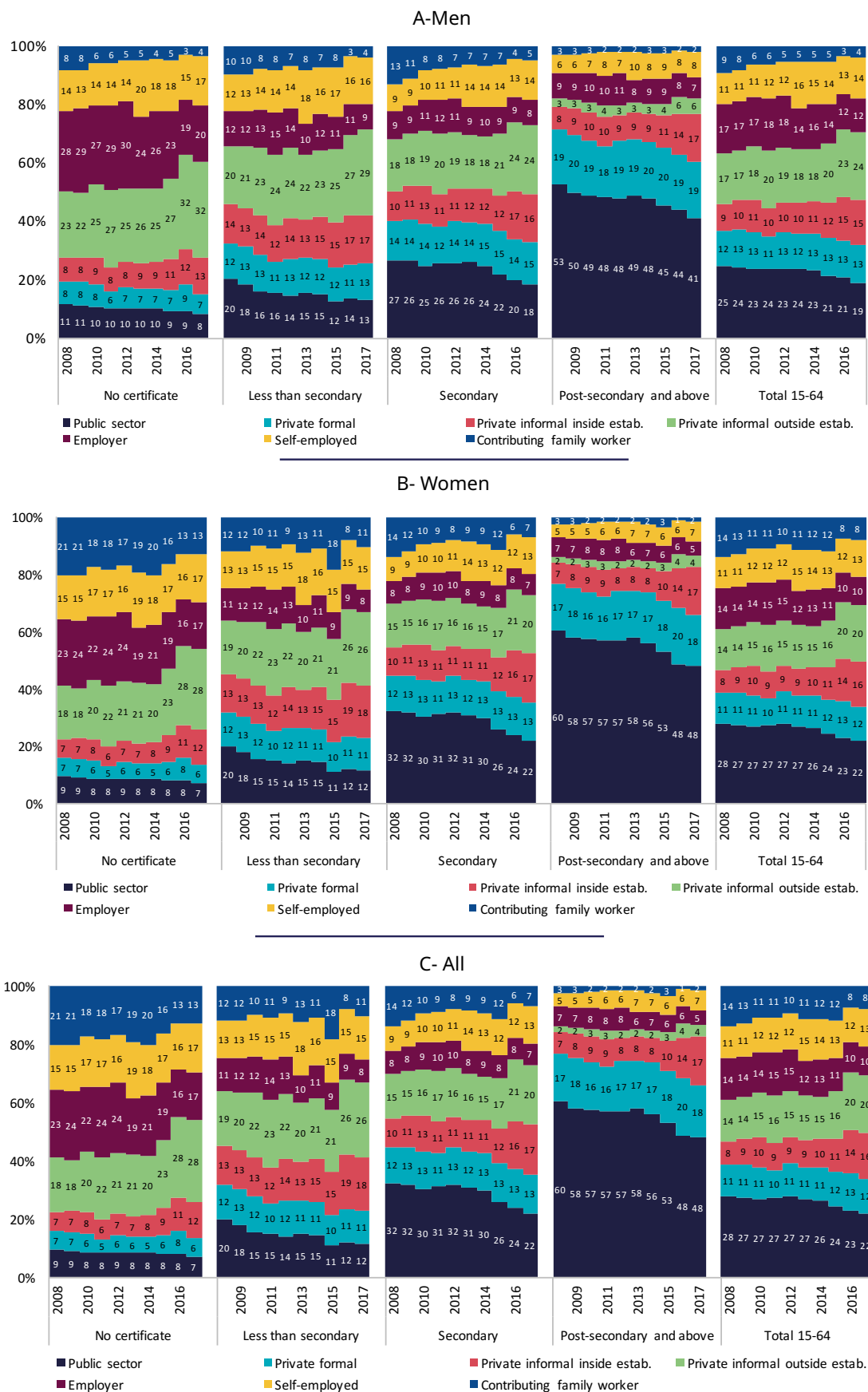
Protected employment in the public sector has fallen sharply and has not been replaced by formal employment in the private sector but by an increase in informal employment within and outside establishments, and by a decline in the shares of employers and family workers – as was also demonstrated in recent studies (Amer and Atallah 2019; Assaad et al. 2019). The magnitude of this transition varied across different categories. Informal employment (both inside and outside establishments) has increased more sharply among women and among post-secondary and university graduates – who were less likely to engage in this type of employment, thus bridging the gap across gender and educational levels.

► **Figure 28.** Type of employment, by age group and sex, ages 15–64, 2008–17



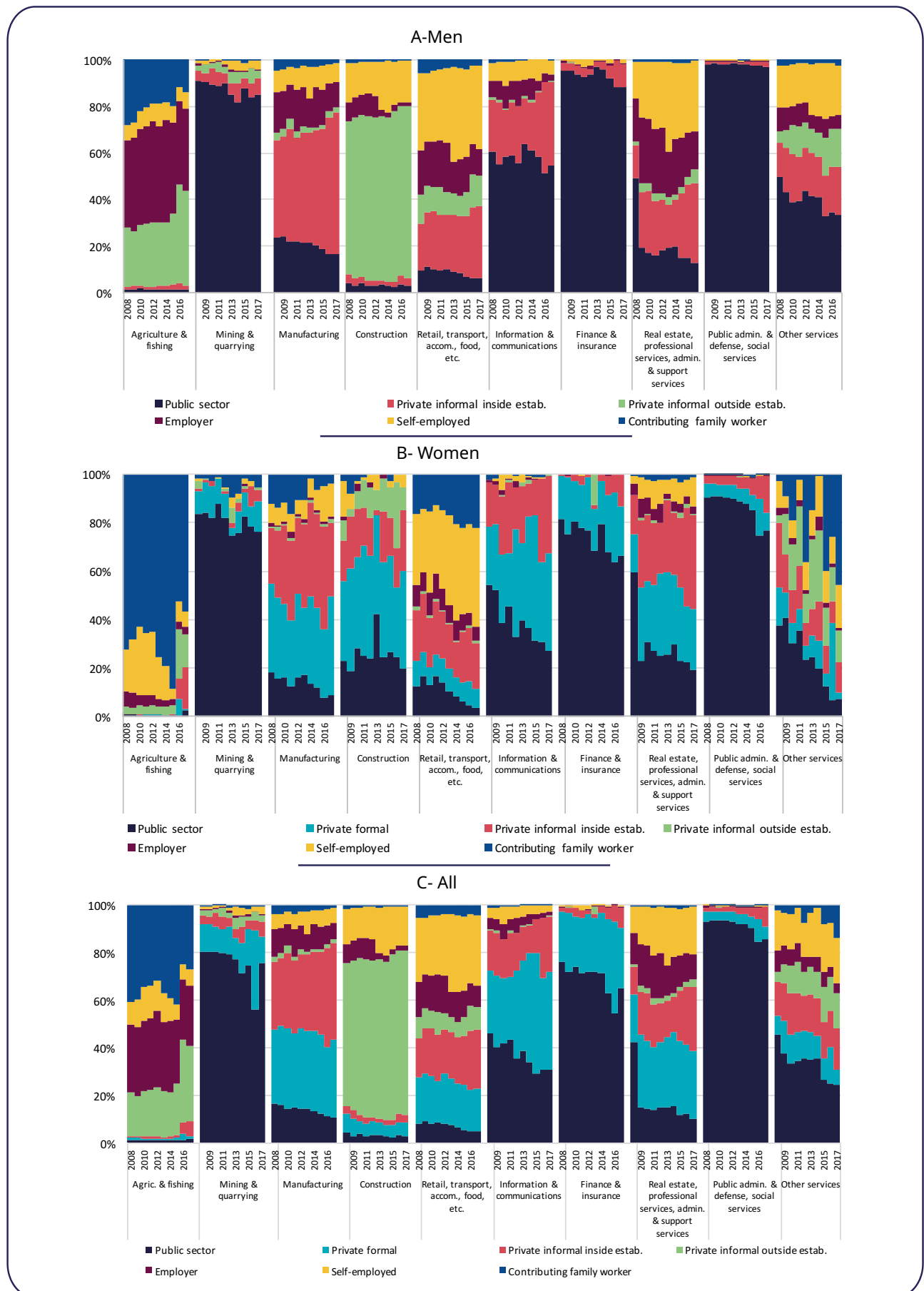
Source: Authors' calculations, based on CAPMAS. LFS 2009–17.

► **Figure 29.** Type of employment, by educational attainment and sex, ages 15–64, 2008–17



Source: Authors' calculations, based on CAPMAS. LFS 2009–17.

► **Figure 30.** Type of employment, by industry sector and sex, ages 15–64, 2008–17



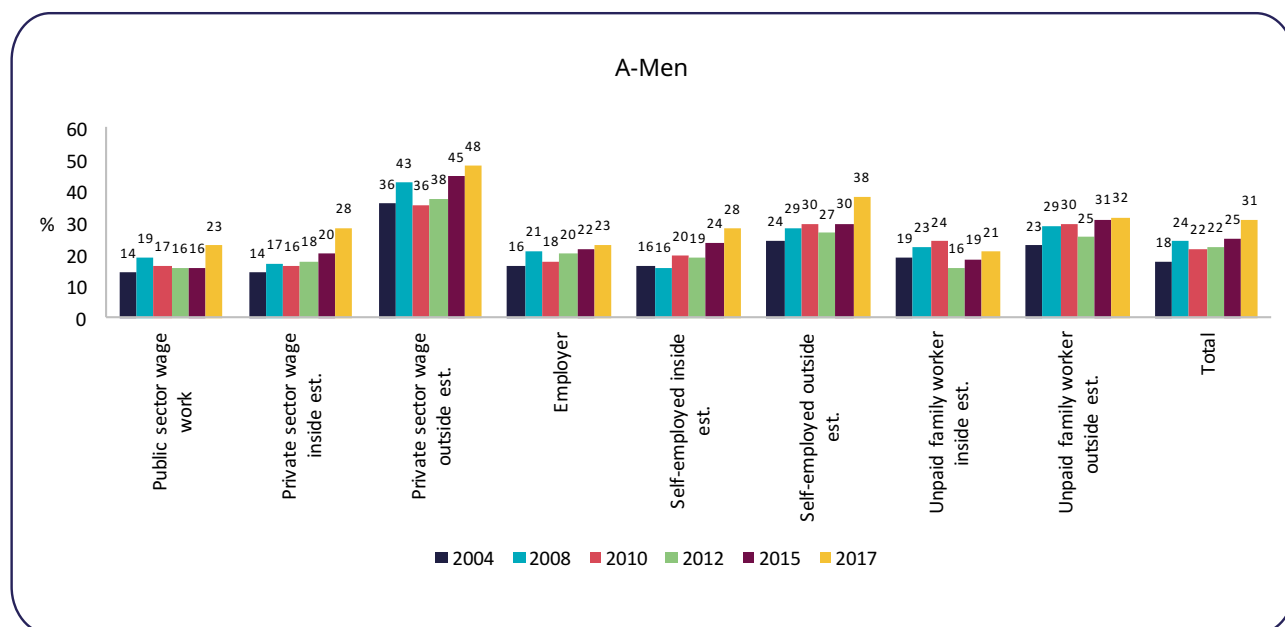
Source: Authors' calculations, based on CAPMAS. LFS 2009–17.

>>> 3.4. Working poverty

The ‘working poor’ are defined as employed individuals in households with a disposable income below the regional poverty line.^{12,13} There has been a substantial increase in the share of the working poor, from 18 to 29 per cent

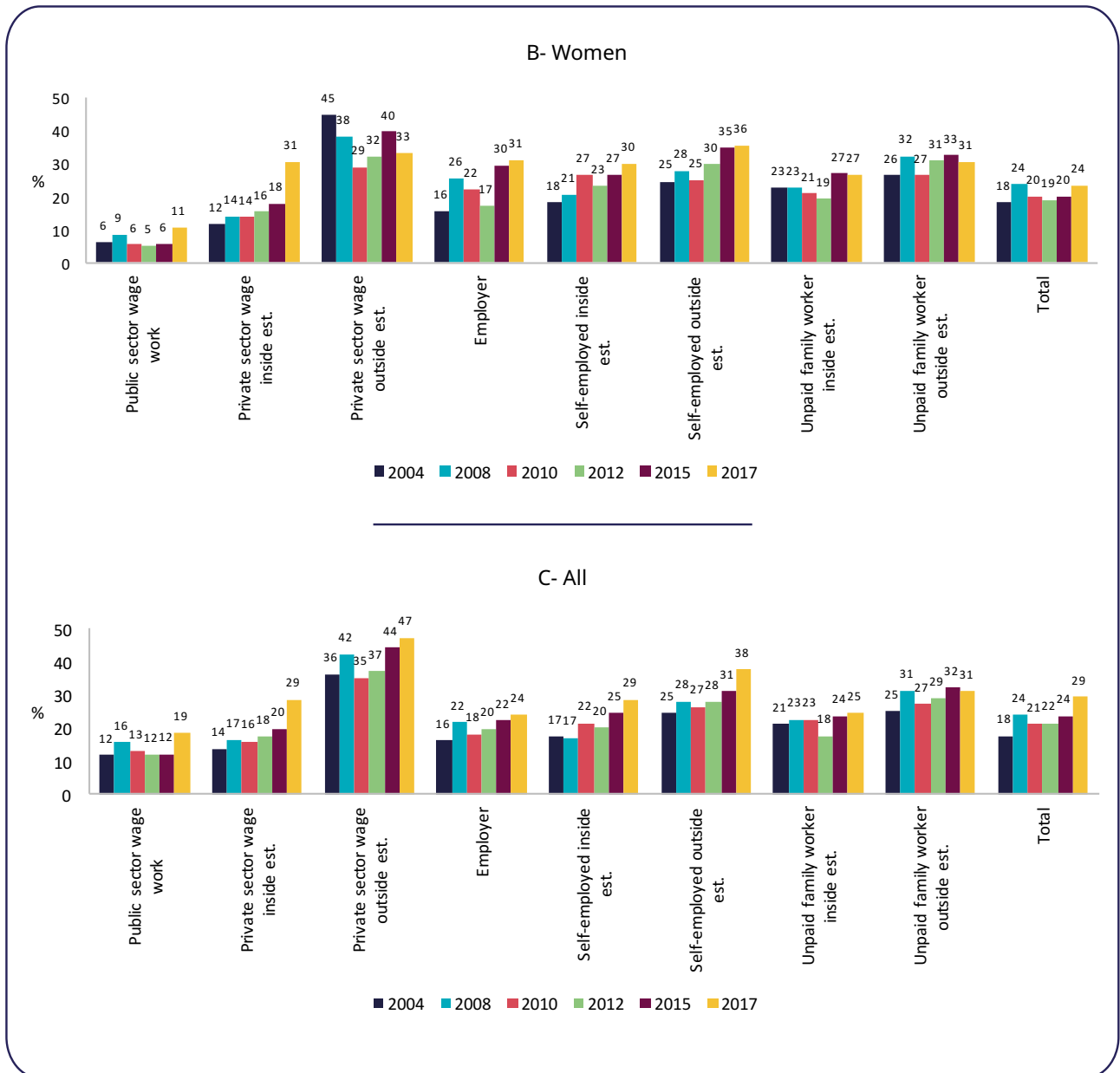
between 2004 and 2017 (figure 31, panel C). Over this period, the increase was more pronounced on average for working men (from 18 to 31 per cent) than for working women (from 18 to 24 per cent).

► **Figure 31.** Percentage of the working poor, by employment status and sex, ages 15–64, Egypt, 2004–17



¹² This indicator was based on the harmonized waves of the Household Income, Expenditure, and Consumption Survey (HIECS) from 2004 to 2015, retrieved from the Economic Research Forum (ERF)'s data portal. The HIECS surveys are collected through three household questionnaires: a consumption and expenditure questionnaire, an income questionnaire and an auxiliary questionnaire to that on consumption and expenditure. The consumption and expenditure questionnaire includes demographic information for all individuals living for at least six months in the household (such as age, gender and marital status), education, health, employment, smoking behaviour, dwelling conditions, possession of transportation vehicles, and other relevant consumption and expenditure information. Starting from 2014/15, the HIECS included a battery of questions to identify participation in market work. These are 15 activities that the individual performs for the purpose of sales in the market and are similar to the detecting employment questions that are usually included in the Egyptian Labour Market Panel Survey (ELMPS) waves since 2006. In the previous waves of HIECS from 2004/05 to 2012/13, an individual is considered employed if he/she reported working for at least one hour during the last week, or normally has a job but did not work last week. In those waves, there were no additional questions to detect participation in market work. Thus, there is a possibility that capturing employment in those earlier HIECS waves can be underestimated. However, HIECS is considered to be a reliable source of identifying the working poor because we can assume that the incidence of error in measuring employment in HIECS would be pretty similar between poor and non-poor households. Therefore, even if there would be some errors in capturing employment, HIECS should still provide a good picture of the working poor.

¹³ For the years 2004 to 2015, the poverty line at the household level was not included in the data sets. Therefore, to identify whether or not a household is poor, regional poverty lines published by CAPMAS were used. For the Household Income, Expenditure and Consumption Survey (HIECS) 2017, although the poverty line was available, the authors relied on published regional poverty lines to ensure comparability across waves, and to avoid any measurement bias. Regional poverty lines led to an overestimation in poverty rates by 1 to 2 percentage points.



Source: Authors' calculations, based on HIECS 2004, 2008, 2010, 2012, 2015, 2017.

Disaggregating by employment status shows that for men,¹⁴ private sector wage workers outside of establishments were the most likely, on average over the 2004–17 period, to be poor and/or to live in poor households. Nearly half of these workers in 2017 (48 per cent) were identified as working poor. Self-employed outside of establishment represents the second most vulnerable group, in terms of their propensity to be working poor, where 38 per cent of them are poor/live in poor households. These types of jobs have been

generated and are more concentrated in construction activities, 'wholesale, retail trade, transportation and storage, accommodation and food services' sectors that have been disproportionately growing over the last decade.¹⁵ The sharp increase in the incidence of poverty over time has hit all types of employment, but to varying degrees. The most noticeable increase was among private wage workers inside of establishments, whose incidence of being poor, while the lowest in 2014, almost doubled (to 28 per cent) for men and more than doubled (to 31

¹⁴ There was no available information on the formality status of working individuals in the HIECS harmonized waves from 2004–15. Thus, it was not possible to distinguish between formal and informal types of employment for these years. As for the HIECS 2017 wave, raw data were retrieved from CAPMAS that included information on the social security coverage of employed individuals, making it possible to check the proportion of working poor distinguished between formal private wage work and informal private wage work, inside or outside establishments only in 2017 as shown in Figure 32.

¹⁵ The patterns of the working poor by sector is shown in Figure 3 Appendix 2a.

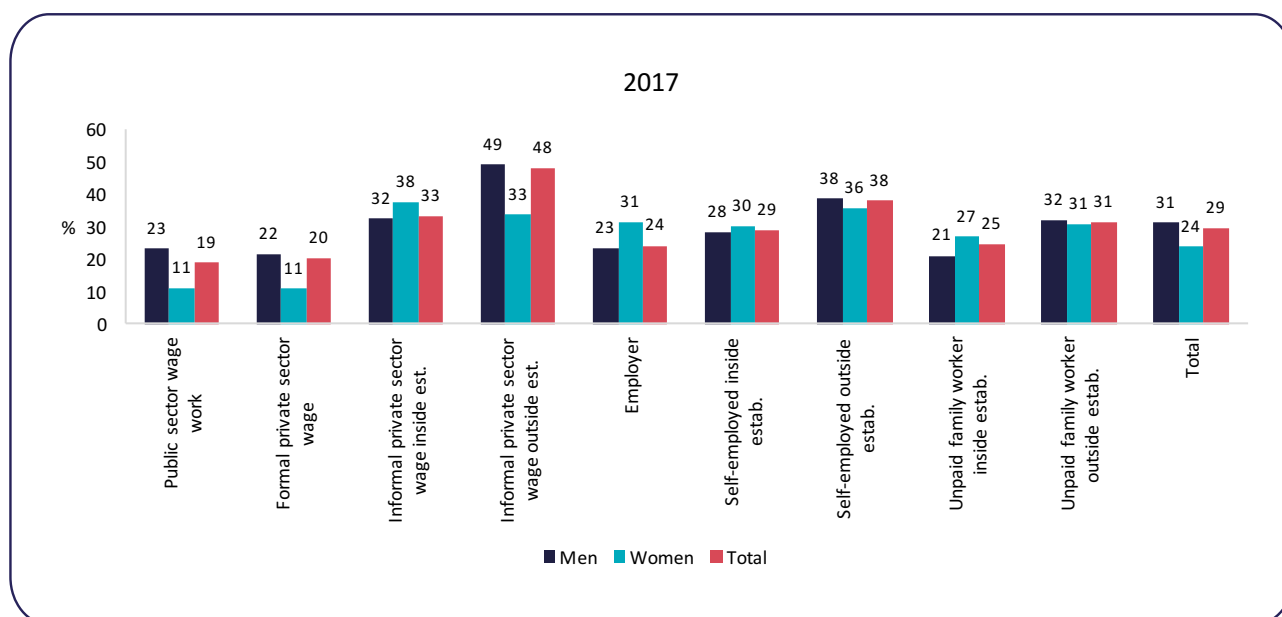
per cent) for women in 2017. This was driven by the informalization of this type of employment over time for both men and women, where the proportion of workers who were socially uncovered in private sector wage employment increased to 71 per cent by 2018 (Selwaness and Ehab 2019).

As shown in figure 32, the incidence of working poverty is substantially more likely in informal private wage work inside establishments (33 per cent overall, 32 per cent for men and 38 per cent for women) than formal private wage work (20 per cent overall, 22 per cent for men and 11 per cent for women). A similar rise in working poverty was

observed among male wage workers in the public sector. Those were the least likely to be poor in 2004 (14 per cent). By 2017, the working poor among public sector workers reached 23 per cent. This is also associated with a rising share of informal workers (i.e. without social insurance) among public sector workers. For working women, the propensity of working poverty also increased sharply among employers (from 16 to 31 per cent over the same period). Public sector female workers, although least likely to be poor, saw their incidence of working poverty to nearly double, rising from 6 to 11 per cent in the 2004–17 period.



► **Figure 32.** The working poor (in percentage), by employment status, formality of wage work, and sex, ages 15–64, Egypt, HIECS 2017



Source: Authors' calculations, based on HIECS 2017.

A number of factors can explain this increase in working poverty. From 2015 to 2018, prices rose faster than the increase in income, which led to a substantial drop in real income and real wages (Armanious, 2020). Moreover, working poverty grew due to an increasing share of informal private sector wage employment inside of establishments, in the overall employment mix – a type of job whose real wages declined to reach their lowest levels over time, as demonstrated in section 3.6. Whether the expansion of private sector wage employment outside of establishments contributes to higher working poverty is debatable. Although the incidence of working poverty is highest and growing among private sector wage employment outside of establishments, real wages have increased for this segment of workers and their incidence of low pay, although the highest, has declined, as discussed in section 3.7. This suggests that there is a

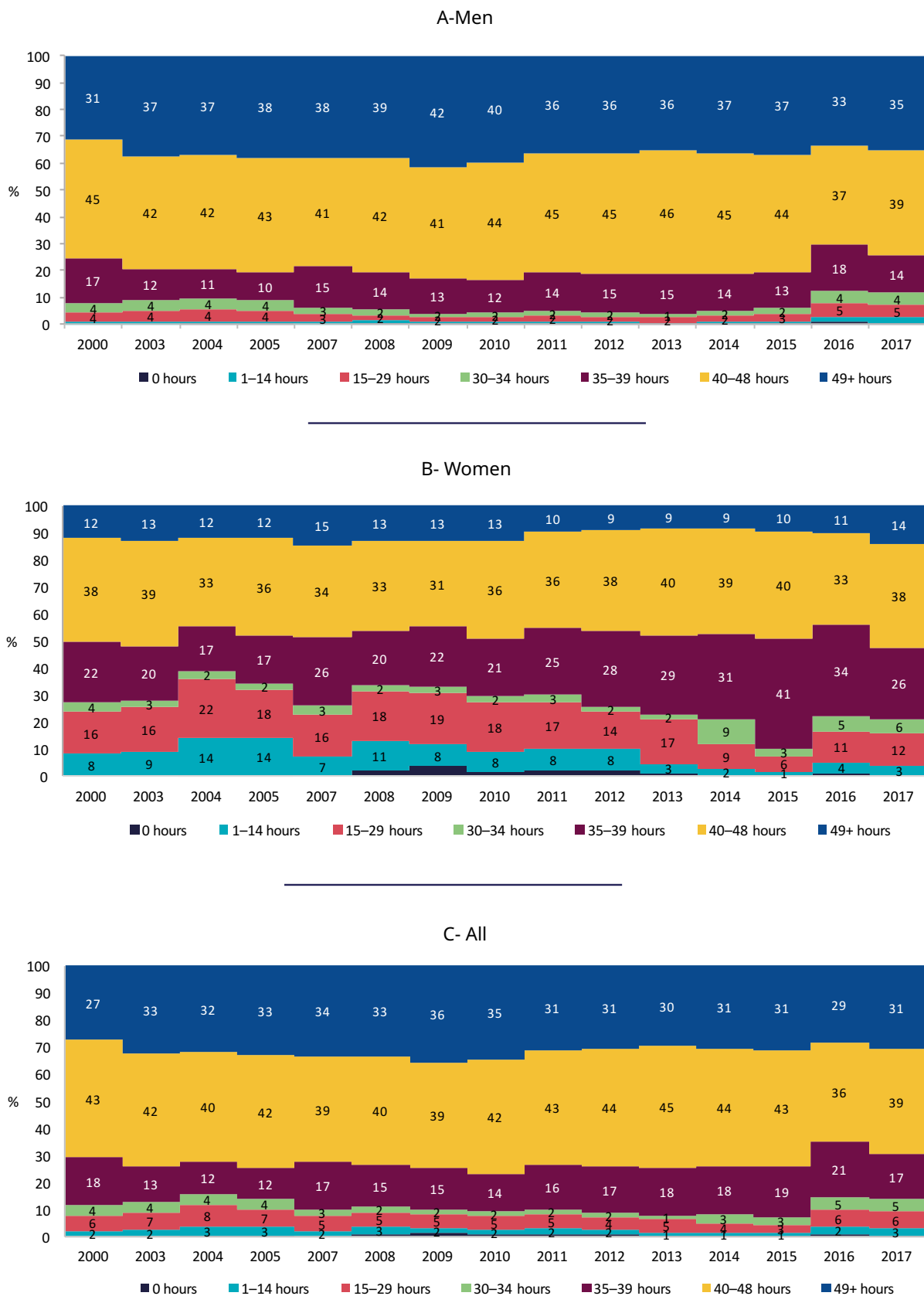
two-way relationship between working poverty and this type of employment. Poor individuals can be more likely to work in such types of work, hence working poverty is highest among them. Also, the 'informal wage workers outside of establishments' group is not homogeneous, masking important differences across sectors. There are two other mechanisms with which working poverty can increase: low labour force participation (captured by a lower share of full-time workers to the number of adults in the household), and high dependency ratios (i.e., the number of children and elderly compared to the working-age population). It is thus alarming that labour force participation has declined in recent years while dependency ratios have been on the rise. These trends have to be reversed in order to stop the increase in working poverty.

»»» 3.5. Hours of work

The number of hours of paid work differs substantially between employed men and women, with men spending longer hours of paid work per week than women (figure 33). On average, men worked 46–48 paid hours per week whereas women worked 37–39 paid hours per week over the 2000–17 period. As for the distribution of working hours by categories, the vast majority of men worked more than 40 hours per week (75–80 per cent), while nearly half of working women spent less than 39 hours of work per week, and slightly more than a third worked 40–48 hours per week (figure 33). Men were almost three times as likely as women to engage in jobs that consume

more than 48 hours of work per week. The long working hours fulfilled by men fuel employers' expectations that workers do more than 40 hours per week. This expectation is likely to affect women's economic participation and engagement in the labour market, due to the prevailing gender norms and social expectations that women face in terms of fulfilling unpaid care and domestic work responsibilities. The latter represents a binding constraint, as the amount of unpaid care work in the household does not change whether or not women are employed (Assaad et al. 2017).

► **Figure 33.** Distribution of categories of hours of work per week, by sex between 2000–17



Notes: The authors calculated the average hours of work per week as a three-period moving average to smooth yearly fluctuations. The 2001, 2002 and 2006 rounds were excluded as data on hours of work were not available.

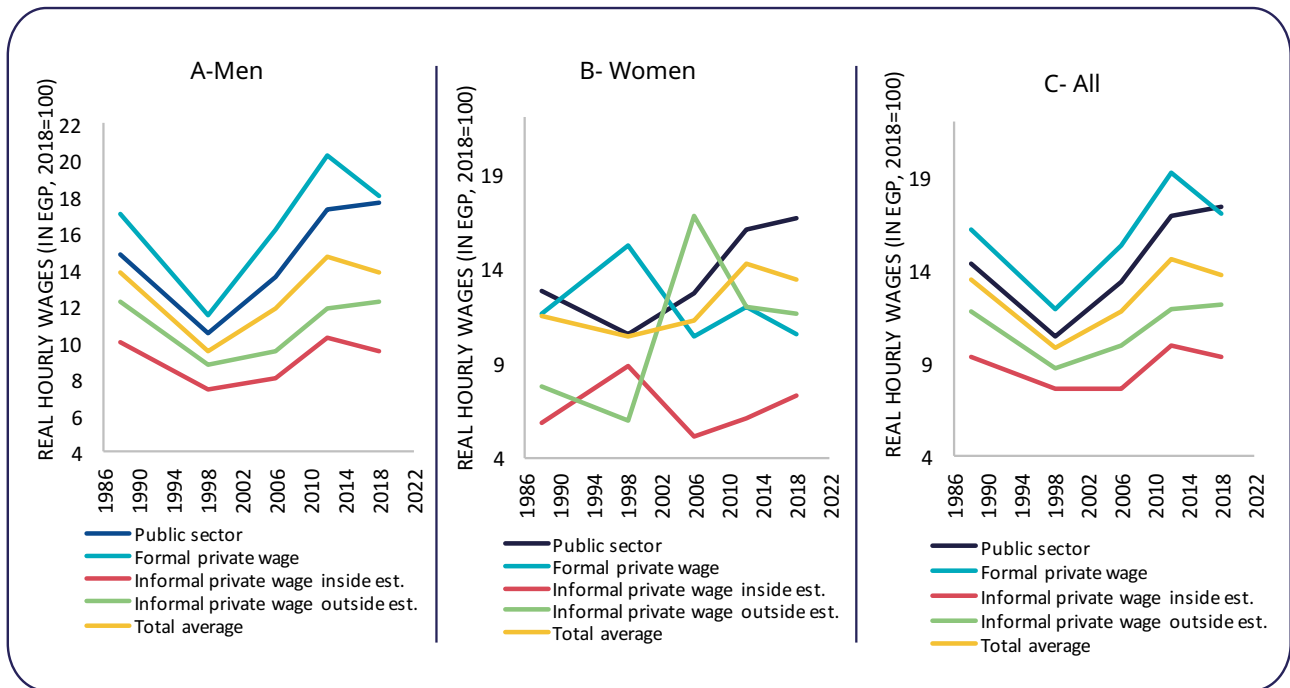
Source: Authors' calculations, based on CAPMAS LFS 2000–17.

3.6. Real wages

There has been an important decline in the real hourly wage overall in 2018, mainly driven by a fall in real hourly wages in formal private sector jobs and informal private sector jobs inside of establishments (figure 34). This has resulted in real monthly wages falling as well, especially in a context where hours of work were almost stagnant

(figure 35). In contrast, real wages in informal private sector jobs outside of establishments have increased steadily since 2006. Also, real hourly wages in public sector jobs continued to increase since 1998, on average, which has also led to an increase in real monthly wages for workers in these jobs.

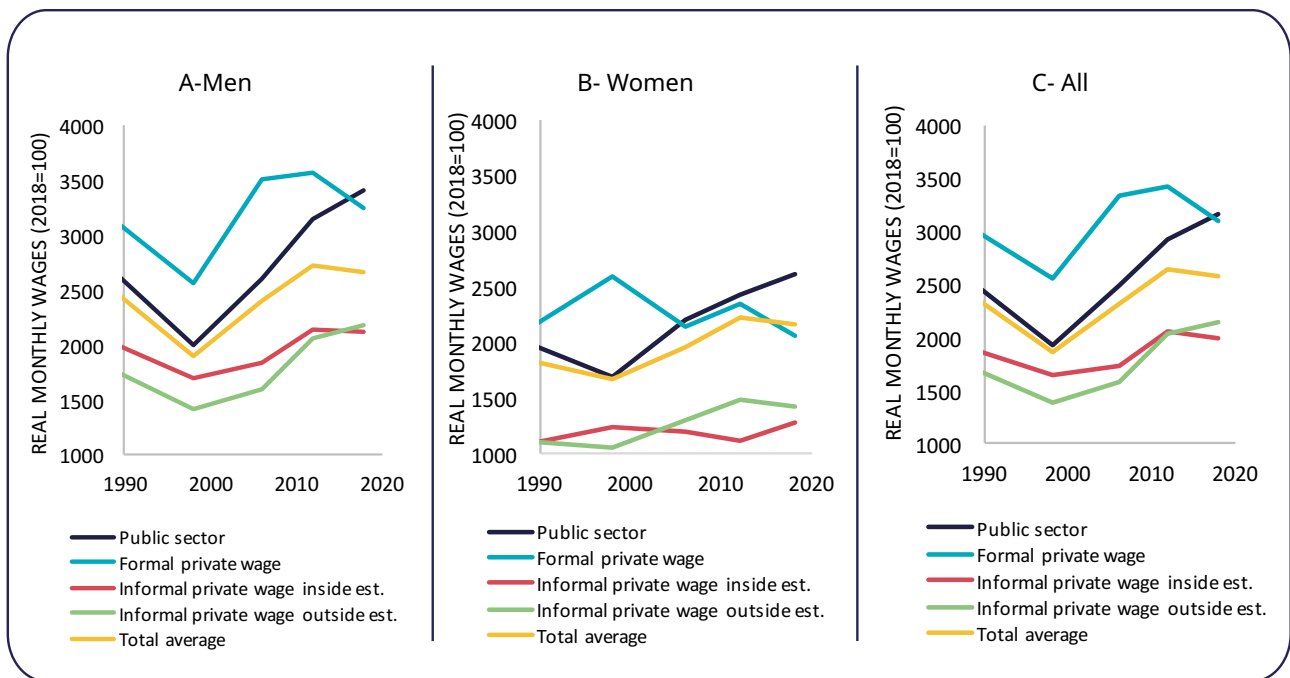
► **Figure 34.** Evolution of average real hourly wages, in 2018 prices, by type of wage employment and sex, wage workers (aged 15–64), 1998–2018



Source: Authors' calculations, based on the Egypt Labour Market Panel Survey (ELMPS) in 1998, 2006, 2012 and 2018.



► **Figure 35.** Evolution of average real monthly wages (2018 prices), by employment status and sex, wage workers (aged 15–64), 1998–2018



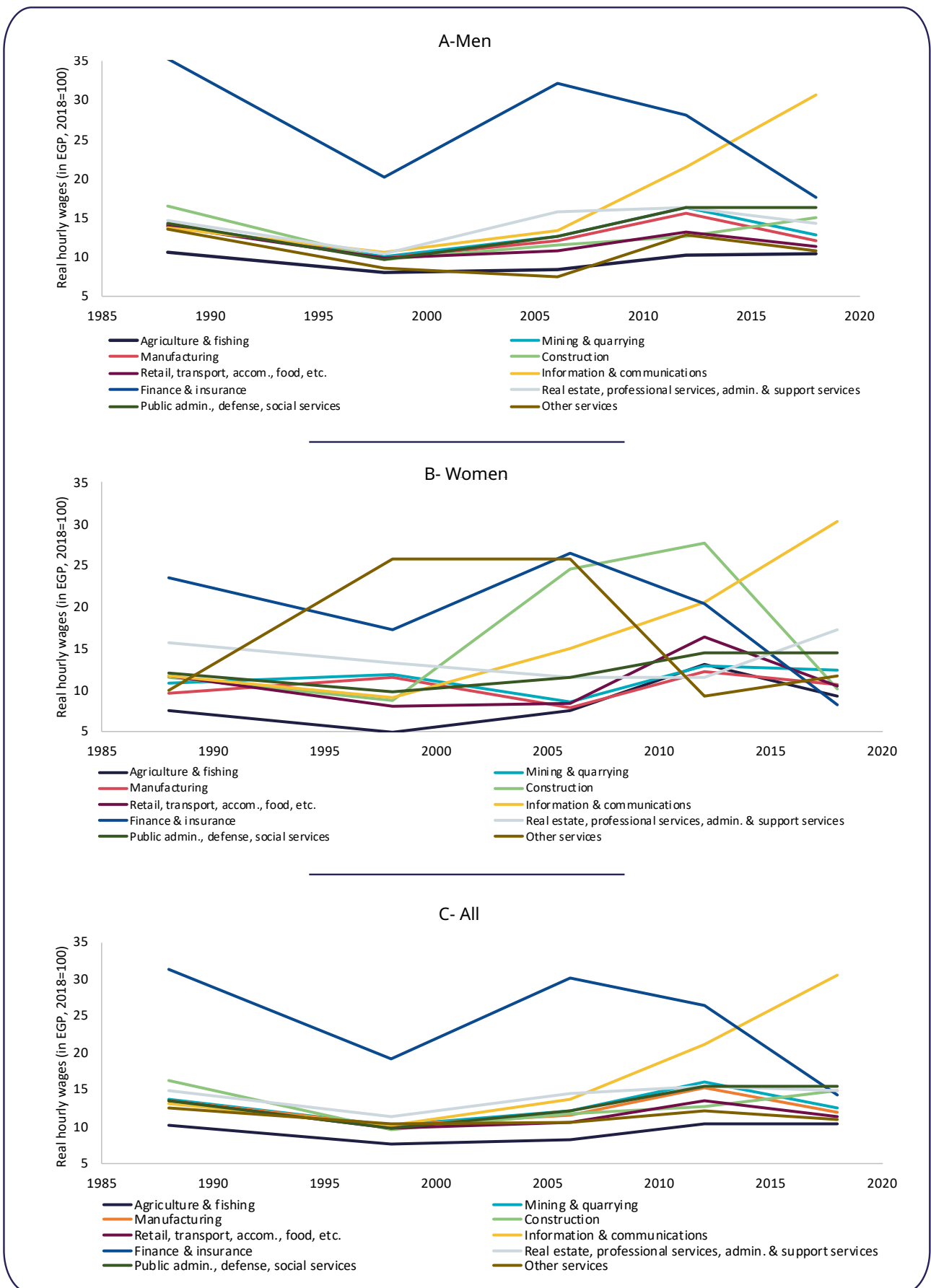
Source: Authors' calculations, based on ELMPS 1998, 2006, 2012 and 2018.

When examining the differences by sector, real wages for men have declined in 'manufacturing', 'wholesale, retail trade, transportation and storage, accommodation and food services', and in 'other services' (figures 36 and 37). These sectors are the largest in Egypt in terms of employment. In contrast to the generally declining

trend in wages, men working in the 'information and communication' sector experienced a rapid increase in their real hourly (and monthly) wages, followed by workers in the 'construction' sector, and to a lesser extent those in public administration and social services. A similar pattern exists for women.

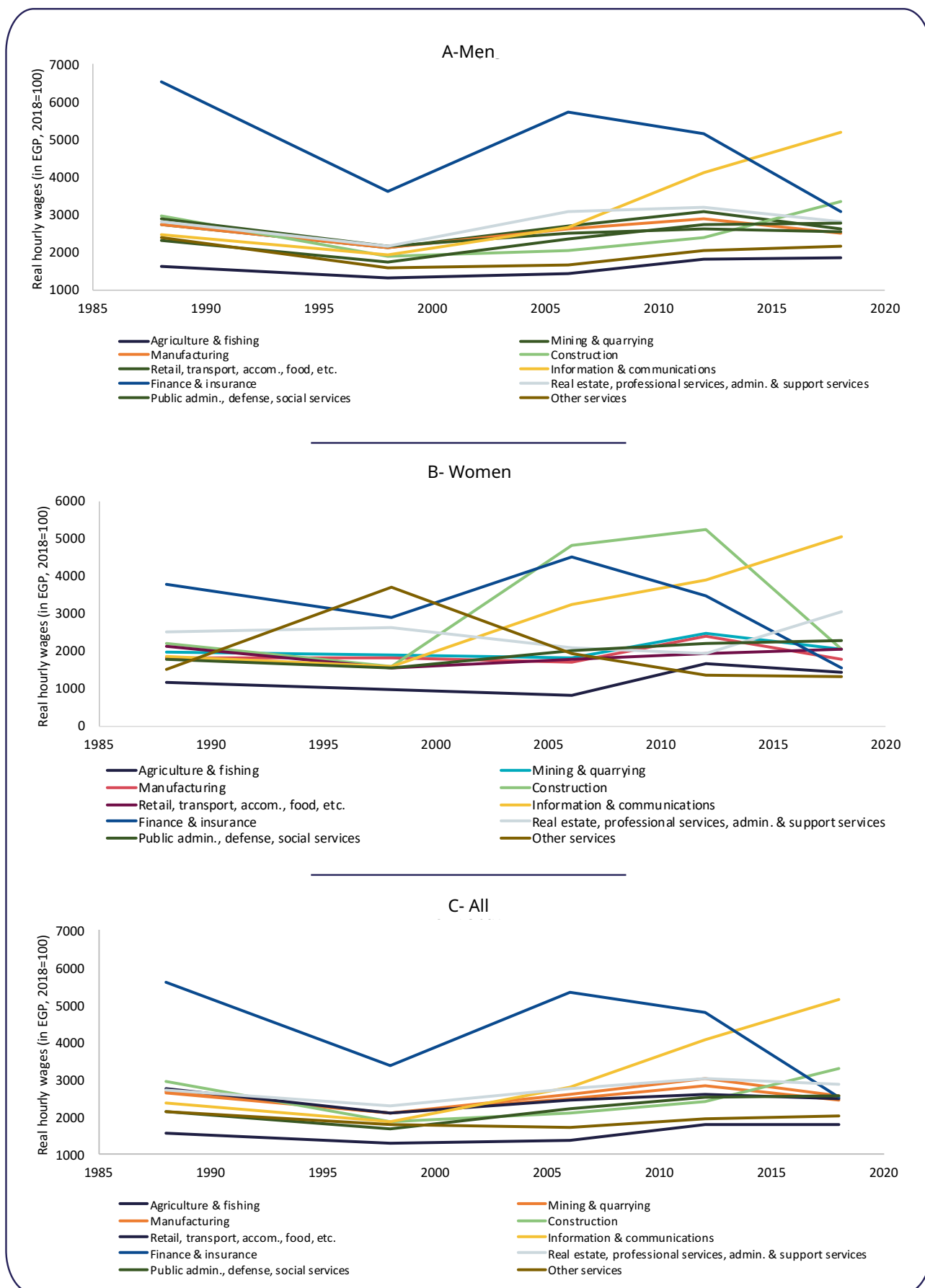


► **Figure 36.** Average real hourly wages (2018 prices), by industry sectors and sex, wage workers (ages 15–64), 1998–2018



Source: Authors' calculations, based on ELMPS 1998, 2006, 2012 and 2018.

► **Figure 37.** Average real monthly wages (2018 prices), by industry sectors and sex, wage workers, ages 15–64, 1998–2018



Source: Authors' calculations, based on ELMPs 1998, 2006, 2012 and 2018.

Patterns of declining real wages in manufacturing jobs (which are more likely to provide formality and long-term gains in terms of career progression) in contrast with rising wages in construction jobs (which are more volatile and informal) are expected to shift the preferences of

job-seekers towards short-term financial gains in informal jobs and away from long-term gains in the formal sector. Also, increasing wage trends in the public sector would further deepen the continued preference for working in it.

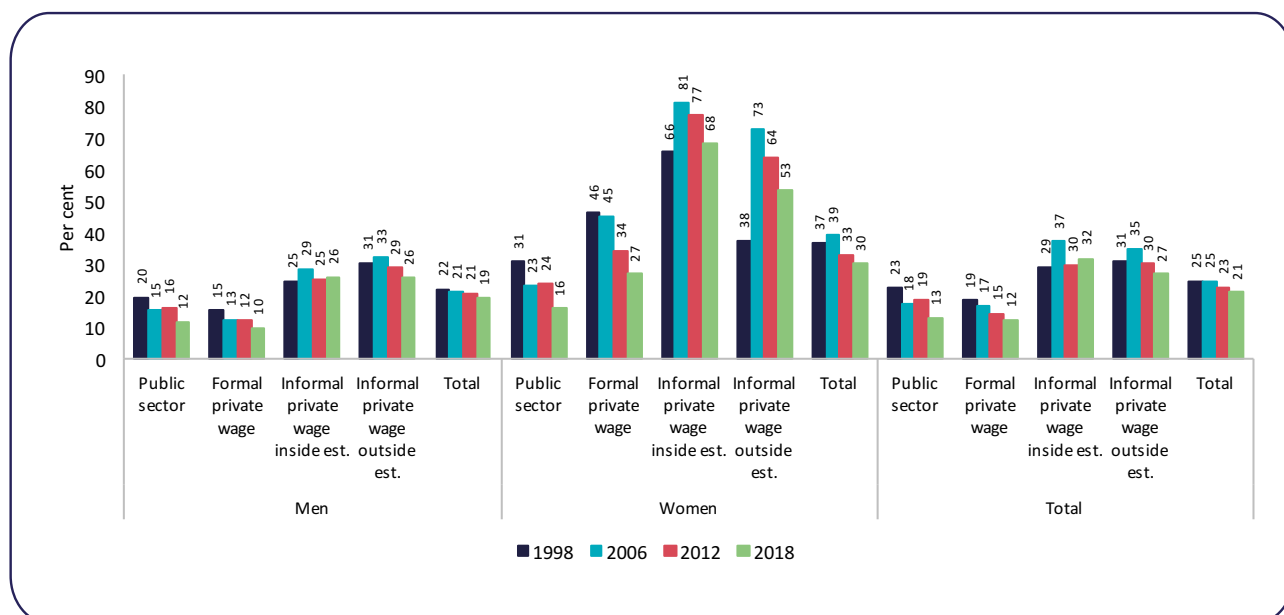
>>> 3.7. Low-wage employment

Figure 38 illustrates the proportion of low-wage earners by type of employment, showing the extent to which the combination of the institutional sector of employment, informality and whether the job is inside or outside of establishments, matters.

Among men, the proportion of low-wage earners fell from 22 per cent in 1998 to 19 per cent in 2018. This was mainly driven by the decline in the proportion of low-paid earners among informal wage workers outside of establishments, a group that represents an increasing share of the wage

employment mix in Egypt. Low-paid jobs were most concentrated in informal private wage employment outside establishments, representing an average of 31–33 per cent in 1998–2006, which then declined to 26 per cent in 2018. Informal wage workers outside of establishments had the highest incidence of low pay, perhaps because they worked, on average, fewer hours per week than other types of wage employment, all other factors being constant.

► **Figure 38.** Proportion of wage workers in low-paid jobs (below 2/3rds of the median monthly wage at the regional level), by employment status and sex, ages 15–64, 1998–2018



Note: Calculations are based on wage workers with strictly positive wages.

Source: Authors' calculations, based on ELMPs 1998, 2006, 2012 and 2018.

Table 2 shows that among men, informal wage workers outside of establishments worked an average of 8.4–8.8 hours per day and 4.8–5.4 days per week during 1998–2018. In comparison, both formal wage workers and informal wage workers inside of establishments worked on average more than 9 hours per day and more than 5.8 days per week. Nevertheless, the decline in the proportion of low-wage-earners among informal wage workers outside of establishments over time is attributed to their rapidly increasing real hourly wages (figure 34). The proportion of low-paid jobs in the public sector and in formal private sector wage work, while the lowest of all categories, also exhibited noticeable declines in 2018 to 12 per cent and 10 per cent, respectively. This was mainly

due to the rise in real hourly wages among public sector workers and the slight increase in the number of working hours among formal private sector wage workers. The proportion of low-paid jobs in informal private sector wage work inside of establishments stagnated at 25–26 per cent – a similar level to that observed among informal wage workers outside of establishments in 2018. Thus, the overall decline in the incidence of low-paid jobs among men is mainly attributed to the declining proportion of low-wage earners among informal workers outside of establishments, who represent an increasing share of men's wage employment, followed by – to a lesser extent – the reduced proportion of low-paying jobs among public sector and formal private wage work.

► **Table 2.** Average hours per week and days per week, and percentage of irregular work, by wage employment status and sex, ages 15–64, 1998–2018

	1998	2006	2012	2018
Men				
Public sector				
Average hours/day	7.6	7.9	8.1	8.2
Average days/week	6.0	5.8	5.6	5.6
% irregular	0.4	0.1	0.5	0.4
Formal private wage				
Average hours/day	9.3	9.1	9.1	9.3
Average days/week	5.8	6.0	5.8	5.8
% irregular	3.7	2.9	5.5	3.6
Informal private wage inside est.				
Average hours/day	9.7	9.5	9.4	9.4
Average days/week	5.9	6.0	5.8	6.0
% irregular	16.3	6.3	17.8	14.0
Informal private wage outside est.				
Average hours/day	8.4	8.6	8.8	8.5
Average days/week	4.8	5.4	5.2	5.1
% irregular	75.8	56.2	77.5	56.4
Women				
Public sector				
Average hours/day	6.7	7.2	7.0	7.1
Average days/week	5.9	5.7	5.4	5.5
% irregular	0.3	0.1	0.1	0.1
Formal private wage				
Average hours/day	7.7	8.5	8.0	8.2
Average days/week	5.8	5.8	5.7	5.8
% irregular	0.0	0.8	0.0	0.1
Informal private wage inside est.				
Average hours/day	8.9	9.1	8.2	7.5
Average days/week	6.0	6.0	5.8	5.8
% irregular	9.1	2.8	5.9	17.9
Informal private wage outside est.				
Average hours/day	8.6	7.6	8.0	7.1
Average days/week	5.8	4.6	5.0	4.8
% irregular	76.9	75.7	71.3	56.7

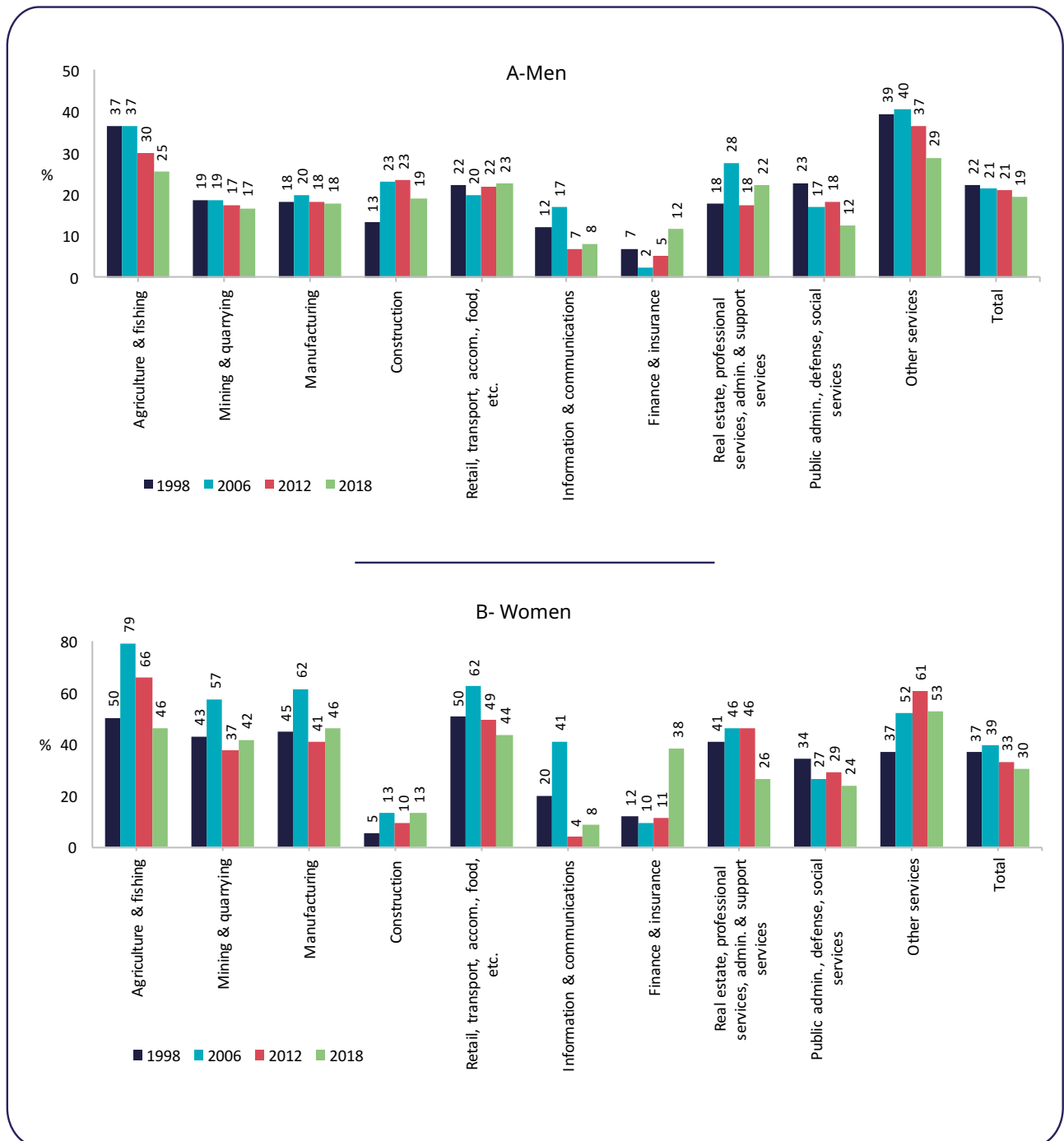
Source: Authors' calculations, based on ELMPS 1998, 2006, 2012 and 2018.

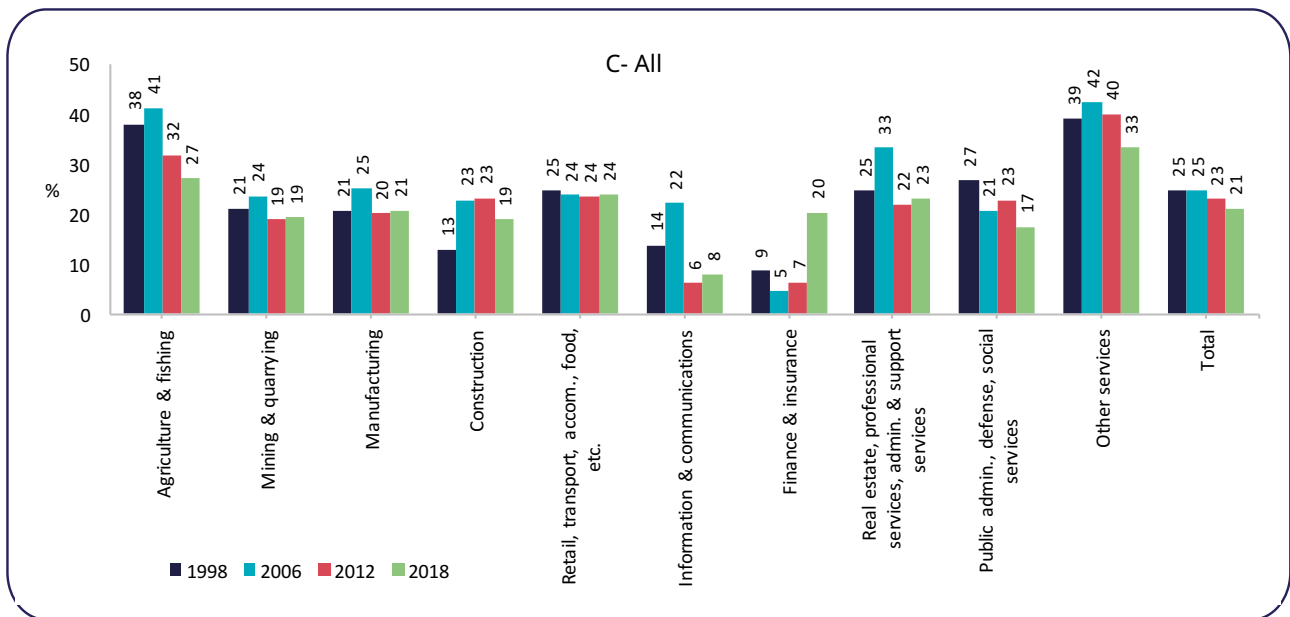
Similarly, patterns of low-wage employment by industry reveal that, among men, the proportion of low-wage earners in 'construction', which is dominated by informal wage work outside of establishments, also exhibited a decline – falling from 23 per cent in 2006–12 to 19 per cent in 2018, a similar level to the overall average incidence of low-paid jobs. This is, again, in line with the trend of rising wages in the construction sector.

Male wage workers in the 'information and communication', and 'public administration, defense and social services'

sectors were less likely than average to be in low-paid jobs in 2018. This is also the case for workers in 'finance and insurance activities', who were less likely than the average (12 per cent) to work in a low-paying job; however, this group experienced rapid increases over time, up from 2 per cent of low-paid jobs in 2006. Male workers in 'agriculture, forestry and fishing' and 'other services' were much more likely than average to be in low-paid jobs (figure 39).

► **Figure 39.** Proportion of wage workers in low-paid jobs (below 2/3rds of the median monthly wage at the regional level), by industry sectors and sex, ages 15–64, 1998–2018





Notes: Calculations are based on wage workers with strictly positive wages.

Source: Authors' calculations, based on ELMPS 1998, 2006, 2012 and 2018.

Women were one and a half times more likely than men to be paid a low wage (30 per cent in 2018), although – similarly to men – they experienced a decline in their proportion as low-wage earners, down from 37–39 per cent in 1998–2006. However, the reasons behind their declining incidence of low-paid jobs are different from those for men. Salaried women's incidence of low-paid jobs decreased, mainly due to the proportion of low paid-jobs in the public sector and formal private wage employment being nearly halved (from 31 to 16 per cent among public sector workers and from 46 to 27 per cent among formal private wage workers). Both of these categories represent the majority of women's wage employment. As for women who work in informal private wage work inside of establishments, the vast

majority were low-paid, peaking at 81 per cent in 2006, which then declined to 68 per cent in 2018. This is still a strikingly high incidence of low pay, representing more than two and a half times the proportion of their male peers. The increasing share of this type of employment among women reflects the severity of the inhospitable conditions that women face in the labour market, which takes a toll on their labour force participation. Moreover, the fact that the incidence of low-paid jobs in the public sector is the lowest, coupled with all its other benefits – such as care provisions, social security, shorter working hours, and more socially accepted/safer workplaces – will further fuel women's entrenched preference for public sector jobs.



► **Box 1.** The use of hourly versus monthly wages in the calculation of the proportion of low-wage jobs

Among men, the proportion of low-wage earners using the hourly wage stagnated at 23–24 per cent of wage employment over time, in contrast to a slightly declining and lower proportion of low-wage-earners when based on the monthly wage.

When using the hourly wage, low-paid jobs appear to be most concentrated in informal private wage employment inside establishments, reaching an average of 38–41 per cent. This can be explained by the fact that this group of workers has the lowest average hourly wage – one that is also declining (figure 34). In comparison, low-paid jobs, when using the monthly wage, are highest among informal private wage workers outside of establishments. This is because this group works fewer hours per week on average, reflected in lower hours per day and days per week (table 2).

Across industries, the difference in the incidence of low-paid jobs based on the hourly wage and that based on the monthly wage also reflects the pattern of hours of work and irregularity. Although workers in agriculture, forestry and fishing were as likely as the average to work in low-paying jobs based on the hourly wage, they become much more likely than average to be low-paid based on the monthly wage. This is because these wage workers are likely to be irregular and to work a lower number of hours per week. On the contrary, while workers in 'retail trade, transportation and storage, accommodation and food services' are more likely to be receiving low hourly wages, they work longer hours per week, which makes their proportion of low-paid jobs based on monthly wages much lower than that based on their hourly wage.

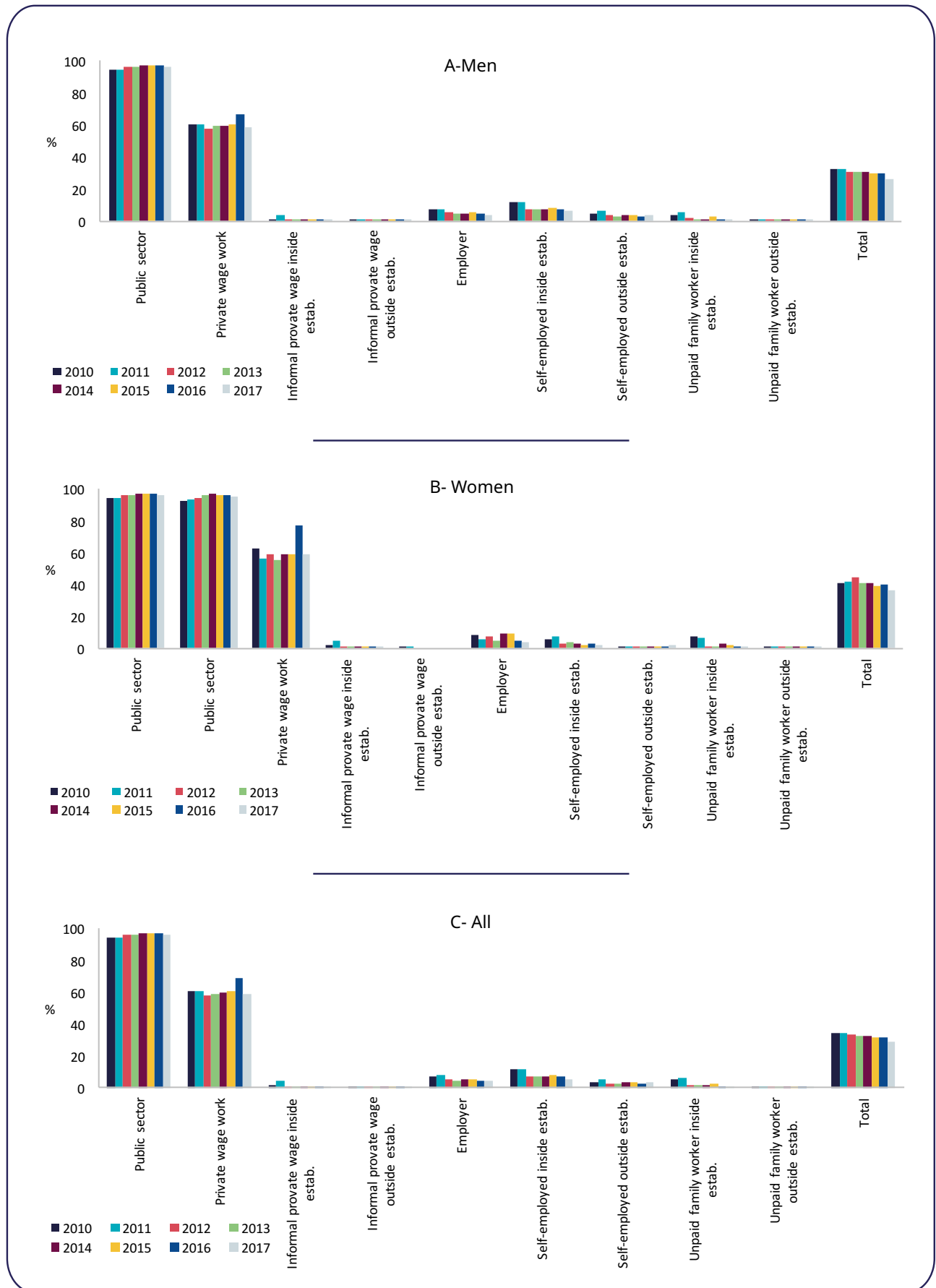
»»» 3.8. Access to health insurance

Access to health insurance among employed individuals aged 15–64 decreased substantially from 2010 to 2017, falling from 34 to 29 per cent overall, from 32 to 27 per cent among employed men, and from 41 to 36 per cent among employed women (figure 40). The decline is mostly driven by the fall in access to health insurance among employers and the self-employed and to a lesser extent contributing family members. Public sector workers are the most likely to have health insurance coverage (around

94–97 per cent of total employment), followed by formal private wage workers (around 59–60 per cent). Other than these two employment statuses, health insurance coverage is minimal. For instance, informal private wage employees both inside and outside of establishments are completely deprived from health insurance coverage, as their rates fluctuate between 0 and 1 per cent over time. This is in addition to those who work as contributing family members outside of establishments.



► **Figure 40.** Incidence of access to health insurance (as a %), by employment status and sex, ages 15–64, 2010–17

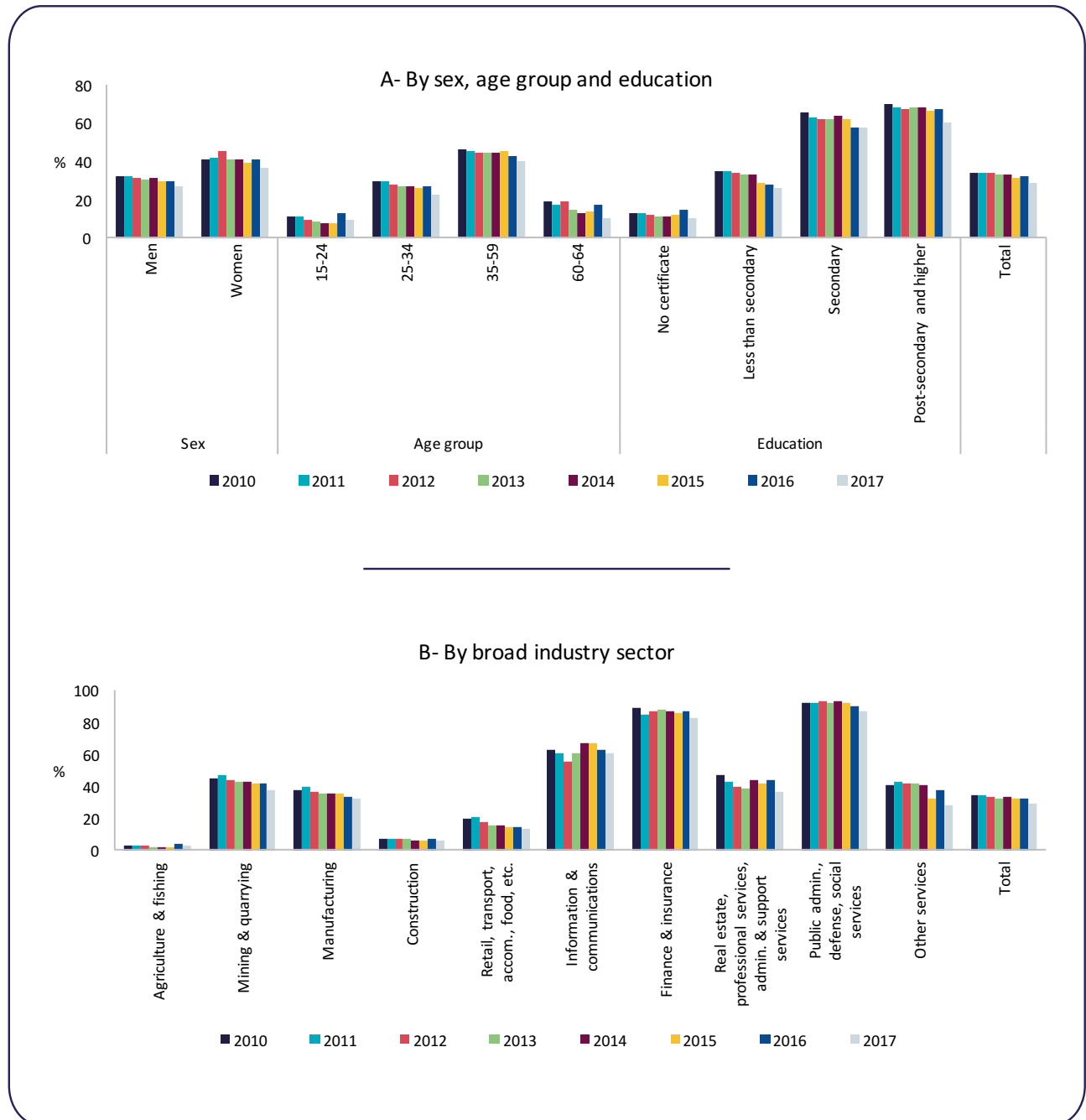


Source: Authors' calculations, based on CAPMAS. LFS 2010–17.

As expected, the most disadvantaged workers in terms of health insurance coverage are young individuals (15–24) as they are the most likely to work in precarious jobs, such as informal private wage employment or non-wage work, both of which are associated with the lowest rates of health insurance (figure 41, panel A). As shown in figure 41 (panel B), the sectoral patterns of health insurance coverage mirror the distribution of types of employment by industry. Industries with a high share of public sector

and/or formal private wage employment are likely to provide health insurance coverage, whereas industries dominated by informal private wage work outside of establishments (such as construction) have the lowest rates of health insurance coverage. It is noteworthy that industries with rising shares of informal private wage work inside establishments, such as manufacturing, have experienced important declines in their overall rates of health insurance.

► **Figure 41.** Incidence of access to health insurance, by sex, age group, education and industry sector, employed individuals ages 15–64, 2010–17



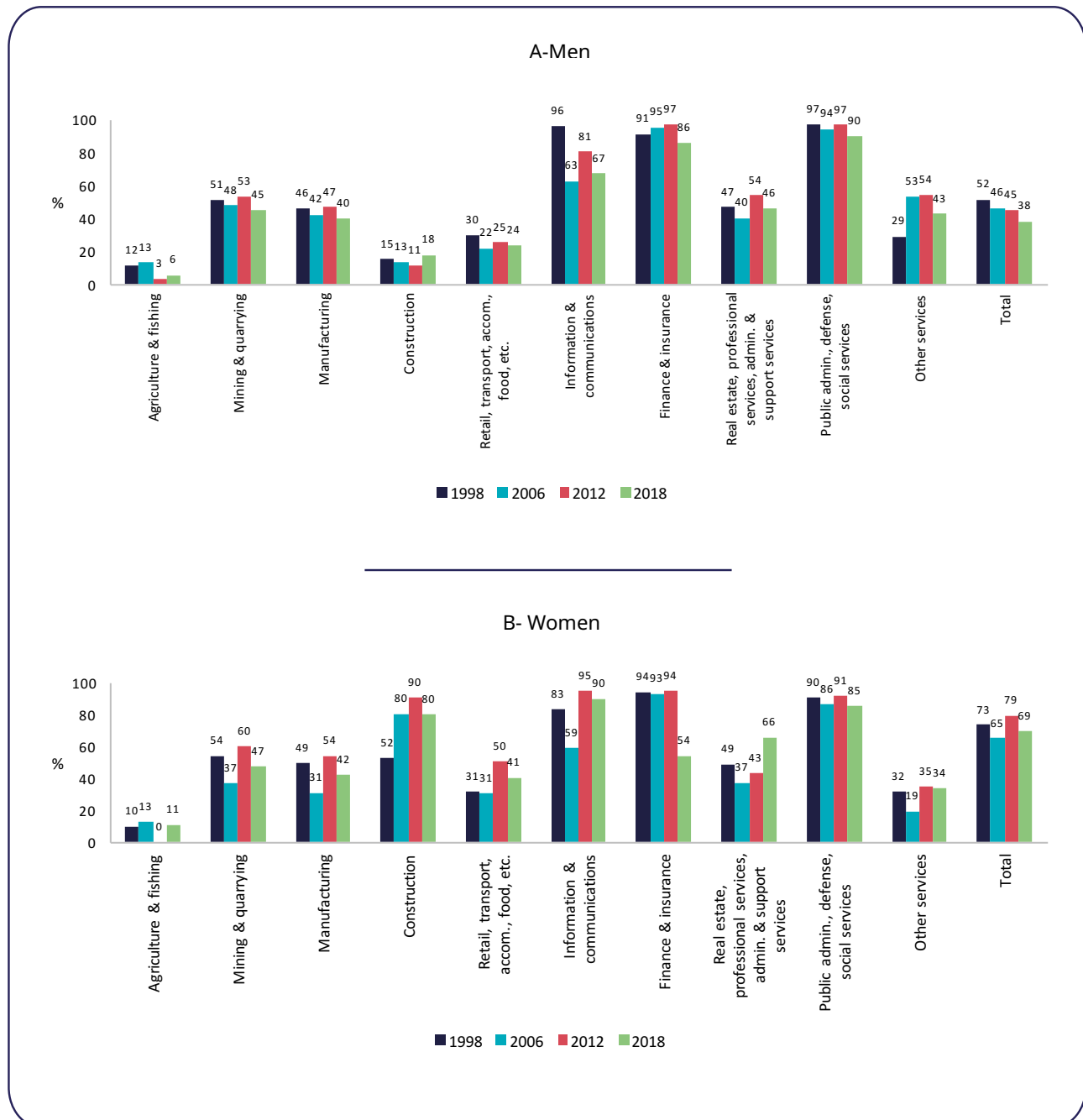
Source: Authors' calculations, based on CAPMAS. LFS 2010–17.

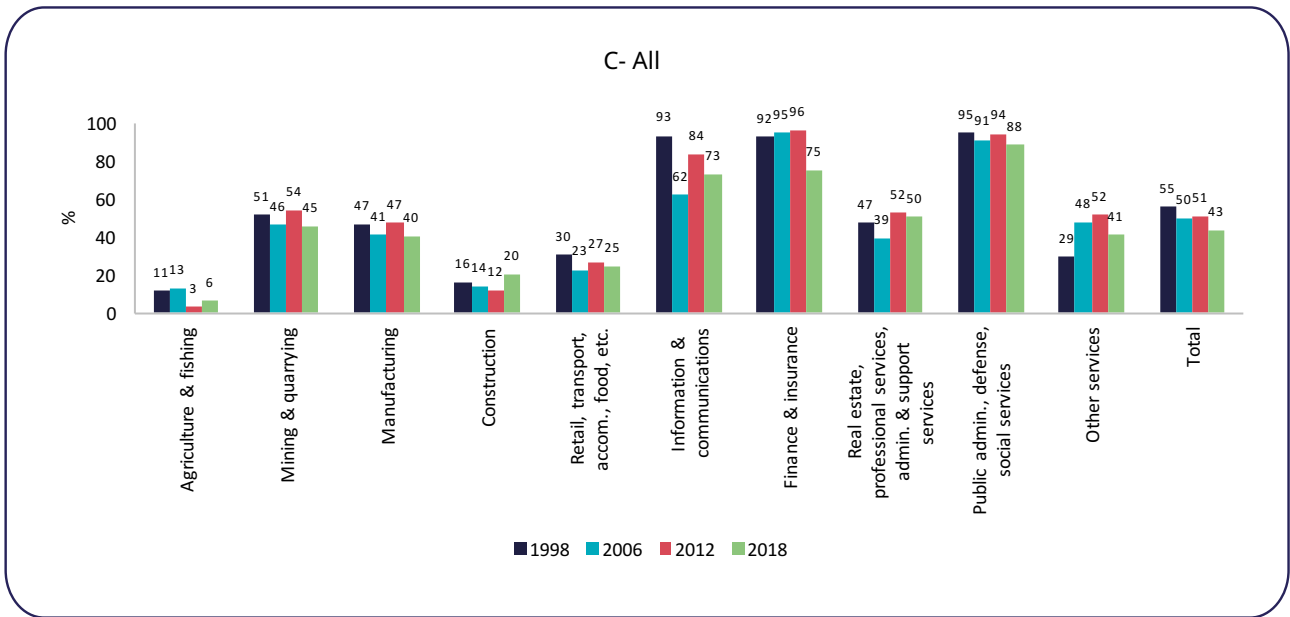
>>> 3.9. Access to paid annual leave and sick leave

As illustrated in figure 42, women have much higher rates of access to paid or sick leaves than men, reaching 69 per cent on average in 2018, versus 38 per cent for men. This suggests that women have higher “reservation working conditions” (Dougherty 2014) than men and self-select

jobs that potentially offer various benefits/care-related provisions and are, hence, more socially acceptable and reconcilable with their unpaid care and domestic work responsibilities.

► **Figure 42.** Incidence of access to paid or sick leave, by industry sectors and sex, primary wage employment, ages 15–64, 1998–2018





Notes: Information on access to paid or sick leaves is only available for wage workers.

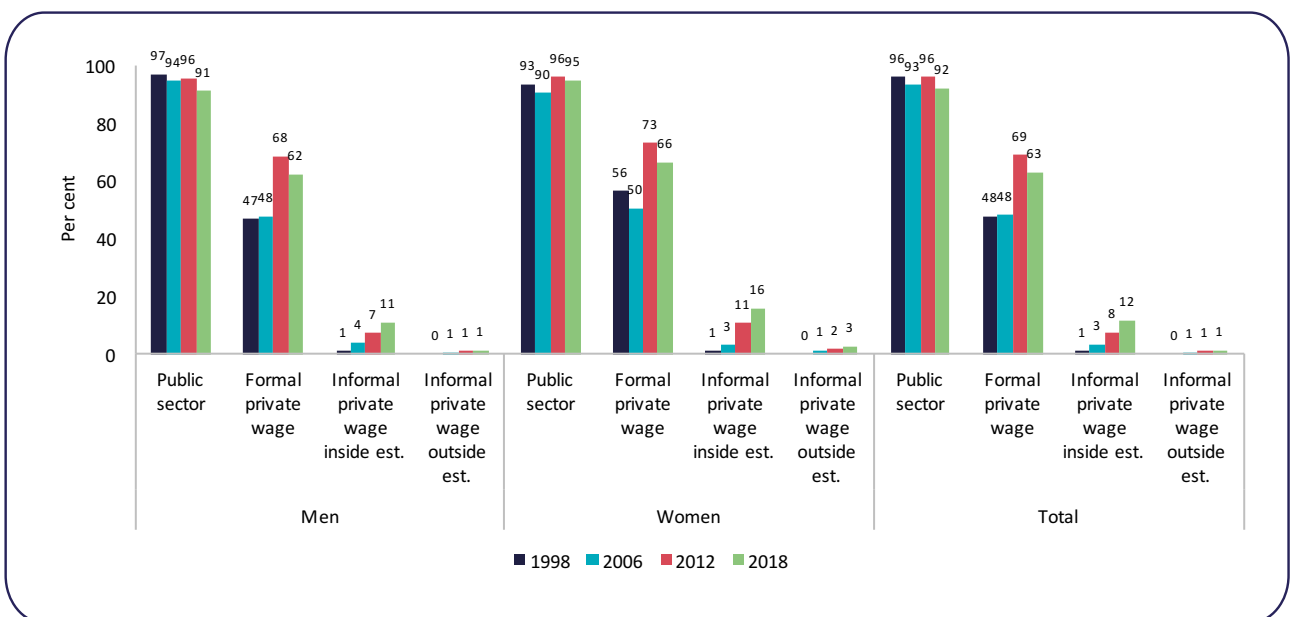
Source: Authors' calculations, based on ELMPs 1998, 2006, 2012 and 2018.

In line with increasing informality and decreasing health insurance coverage, employed men have experienced a deterioration in access to paid or sick leaves, which fell from 52 per cent in 1998 to 38 per cent in 2018 (figure 42). This is basically due to the important rise in informal private sector wage employment outside of establishments, which is associated with minimal chances (0–1 per cent) of access to paid or sick leaves (figure 43). A positive development is that the rates of access to leave entitlements among the second-most-disadvantaged group of wage workers (namely informal private sector

workers inside of establishments) increased from 1 to 11 per cent between 1998–2018 (figure 43).

Similar to the sectoral patterns of health insurance coverage, the three industry sectors that are most likely to offer jobs with paid and sick leaves to their workers are information and communication, finance and insurance activities, and public administration, defense and social services (figure 42). This is, again, because these sectors have the highest rates of coverage/formality.

► **Figure 43.** Incidence of access to paid or sick leave, by type of employment and sex, primary wage employment, ages 15–64, 1998–2018



Notes: Information on access to paid or sick leaves is only available for wage workers.

Source: Authors' calculations, based on ELMPs 1998, 2006, 2012 and 2018.

In a nutshell, this section demonstrates that broader labour market indicators, such as unemployment and employment rates, sometimes fail to explain the real transformations that the labour market exhibits as a result of sectoral changes and growth patterns. Rather, the need to look beyond those indicators towards more nuanced ones is crucial. Discouraged job-seekers, the prevalence of informality, the overall mix of employment types, the extent of working poverty, and the trends in hours of work, real wages, and access to benefits reflect that working conditions in the Egyptian labour market may have not caught up with the macroeconomics

improvements. In Egypt, labour moved to sectors exhibiting lower productivity growth, reflecting a negative structural change (see Overview chapter; Hanan and Levy 2020; World Bank 2020). Workers were reallocated towards sectors like ‘construction’, ‘wholesale, retail trade, and transportation’ that experienced lower-than-average productivity growth, and away from higher-productivity sectors, such as ‘manufacturing’ and tradable services. This pattern of structural change between sectors may not result in improved living standards, real wages, and quality of jobs in those less-productive sectors.





4. Conclusion

This chapter combines macroeconomic and microeconomic factors in order to explain the nexus between growth and job creation.

At the macroeconomic level, the first part of this chapter has indeed shown that the more capital-intensive sectors (such as extractive industries and the chemicals sectors) have seen their share in GDP increase to the detriment of agriculture and more labour-intensive sectors (in particular, manufacturing). The result has been a sharp decline in the share of labour in GDP. There is thus a disconnect between the sectors contributing the most added value and the sectors contributing most to employment. For example, the mining sector contributes 16 per cent of GDP while providing only 2 per cent of jobs. The share of the private sector in GDP has increased, but it has been largely directed towards the construction sector, where jobs are very precarious.

It is also important to underline the restricted role of the manufacturing sector, a sector which is likely to generate decent jobs. However, its shares in value added and employment have declined. Moreover, labour productivity in the manufacturing sector is relatively low, especially in comparison with the extractive industries sector. Finally, private investment in the manufacturing sector has fallen sharply since 2014.

At the microeconomic level, and along with these sectoral changes over the past two decades, the Egyptian labour market has undergone profound transformations. Understanding these changes cannot be limited to analysing changes in labour force participation and unemployment rates. These need to be complemented by other aggregates such as the employment rate, discouraged job-seekers, time-related underemployment, skills-related underemployment, job quality, working poverty and trends in real wages. Although the unemployment rate fell in the second half of the 2010s, this decline cannot be attributed to the economic recovery alone, as the employment rate also fell. Thus, five main findings are noteworthy.

First, the slowdown in the growth of the working-age population (due to the aging of the youth bulge) may partly explain the easing of demographic pressure on the labour market, which has resulted in reduced youth unemployment. However, this slowdown in demographic pressure is only temporary, and the labour market will have to cope with large cohorts of new entrants

in the near future. Other explanations for the falling employment rates may be the freeze in public sector hiring in 2016 and the deterioration in the quality of jobs in the private sector, both of which have discouraged job-seekers (women and youth in particular) from entering the labour market.

Second, the shift in the employment mix in the Egyptian labour market, with the strong emergence of wage employment outside establishments and rising informality, even within 'inside establishment' jobs, was associated with a heightened sense of vulnerability among workers. There has been a fast increase in working poverty, especially among certain types of employment, such as private wage employment, both inside and outside of establishments. In addition, real hourly wages decreased in 2018, mainly due to the drop in real hourly wages in formal private sector jobs and informal private sector jobs inside of establishments. In contrast, real wages in informal private sector jobs outside of establishments increased steadily. Low-paid jobs were mostly concentrated in informal private wage employment outside of establishments among men and in employment inside of establishments among women. Nevertheless, wage workers in construction were less likely to be in low-paid jobs and have also seen their real wages increase over time.

Third, the sectoral patterns of health insurance coverage and paid or sick leave entitlements mirror the distribution of types of employment by industry. Industries with high shares of public sector and/or formal private wage employment are likely to provide job-related benefits, whereas industries dominated by informal private wage work outside of establishments (such as 'construction') offer almost no benefits.

Fourth, some groups became more vulnerable. In particular, women, young people and the less educated represent the most vulnerable groups in terms of access to the labour market, and the quality of jobs.

From a gender perspective, women participate very little in the labour market. The female employment rate remains among the lowest in the world, and although it has increased over the entire period studied, it has recently declined. Although the female unemployment rate has fallen, it remains three times higher than the male unemployment rate and the share of female discouraged job-seekers is not only much higher than that of men but it

has increased more markedly over the years. Women have high reservation working conditions, especially in terms of working hours, to cope with domestic responsibilities – conditions the private sector can rarely provide. The share of informal jobs for women therefore remains lower than for men, but the tendencies of job precariousness (informal jobs) and working poor are greater for women than for men. Moreover, the proportion of low-paid working women is also higher than that of men.

Young people continue to have difficulty inserting into the labour market. The unemployment rate for young people remains at very high levels and an increasingly high proportion gives up looking for a job due to the deterioration in the quality of jobs. The share of informal jobs for young people has increased more sharply than for older people, becoming the norm (two-thirds of all jobs held by young people). As a result, the youth employment rate has fallen sharply.

Finally, although the most educated people (post-secondary and above) hold more formal jobs (in the public and private sectors) than the less educated, their advantage has narrowed. The proportion of informal jobs among the most educated has indeed increased more rapidly than for other educational groups.

Fifth, patterns of declining real wages in potentially better quality jobs, combined with rising wages in more volatile

and informal jobs, are expected to shift the preferences of job-seekers towards short-term financial gains in informal jobs and away from long-term gains in the formal sector, especially sectors that contribute to the value-added and rise in exports, such as 'manufacturing'.

To sum-up, as has been shown, the drivers of growth and trends in the structure of investments may further explain the fact that economic growth has not generated jobs over the last 20 years in Egypt but, on the contrary, has contributed to deterioration in the quality of jobs. Thus, from a policy perspective, three recommendations are proposed. First, at the macroeconomic level, reforms must focus on higher-productivity sectors that generate good quality jobs, such as the manufacturing sector and tradable services. Proper investment in these sectors can curb the de-industrialization trend, the worsening working conditions and the rising abstention from the labour market. Second, in order to increase both domestic and foreign investments, enhancing the business climate, along with facilitating access to finance, land and energy, especially for small and medium enterprises, should remain at the top of the reform agenda. Third, improving the quality of education is key to facilitating access to skilled labour for these sectors.





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Economic growth and labour market
outcomes in an agrarian economy:
The case of Sudan

By

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Executive summary

This chapter aims to examine the link between economic growth and labour market performance in Sudan during the period from 2000–18. The study first outlines the trends in macroeconomic performance and labour market outcomes, then decomposes the aggregate labour productivity and skills upgrading into within-sector and structural change components. The study uses the Sudan Labour Force Survey (2011) and Household Budget Surveys (2009 and 2014/2015). The results indicate a positive association between growth performance and employment in Sudan over the last two decades. The study reveals that own-account work and unpaid family workers are the most vulnerable segment of the labour market, with working poverty increasing over time. They also show that labour productivity growth is driven primarily by the services sector, while the contribution of the agricultural sector is very negligible, despite its

large contribution to employment. Moreover, the results indicate that within-sector change has been the main driver of aggregate productivity growth over the last two decades. Somewhat surprisingly, the analysis reveals that there is no association between educational attainment and productivity, suggesting that the expansion in education over the last two decades has had no significant impact on enhancing labour productivity in Sudan. Finally, the study ends with some recommendations to enhance the role of growth in creating jobs. Given that the analysis in the current study has been constrained by the shortage of data, the research suggests that labour market surveys should be given special attention by the Government and international organizations. In addition, new data collection attempts should reflect international standards and conventions.





4.1 The pace and pattern of growth in Sudan (2000–18)

This section discusses the pace and pattern of growth in Sudan during the period between 2000 and 2018. It begins by presenting stylized facts about Sudan's economy, and briefly investigates the oil boom that took place in Sudan in the period between 1999 and 2011. The authors also discuss the trends in macroeconomic indicators, including:

gross domestic product (GDP); growth of value added and employment by sector; value added per worker by sector (labour productivity); sectoral employment/growth elasticity; patterns of public and private investment by sectors; domestic credit and the contribution of foreign direct investment (FDI) to GDP.

»»» 4.1.1 Some stylized facts and the distribution of value added (main sectors)

The Sudanese economy is characterized by a low standard of economic development, defined by GDP per capita and the Human Development Index (World Bank 2019). Sudan is among the lower-middle-income economies with a Human Development Index that is lower than both the global average and the Arab States average, as per the Human Development Report (UNDP 2019). Sudan's economy also suffers from uncertainty and high fluctuation in economic growth and macroeconomic performance (World Bank 2019). After the secession of South Sudan in 2011, Sudan's economy lost around 75 per cent of its oil revenues. This, in turn, had immediate negative effects on Sudan's fiscal planning and balance of payments (IMF 2013; Nour 2013, 2018, 2020).

The Sudanese economy has long been characterized by a small share of industry, notably manufacturing, and a high share of agriculture and service sectors in GDP and employment (see table 1 below). The distribution of value added by sectors – measured by the share of value added of agriculture, industry and services in

GDP – implies that over the 2000–17 period the highest share of value added in GDP was reported in the services sector, followed by agriculture and industry. Data from the World Development Indicators Database (World Bank 2020) explains that the share of value added in GDP in the services sector showed an increasing trend over the 2000–17 period. The share of value added in GDP in the agriculture sector showed a declining trend in 2000–10, but showed an increasing trend in 2011–13, then a declining trend in 2013–17. The share of value added to GDP in industry displayed an increasing trend during the 2000–08 period, followed by a declining trend during 2008–17. More specifically, the share of value added to GDP in industry showed a substantial decline during the 2011–18 period, which is not surprising due to the loss of oil and Sudan's share of the extractive industry within the industrial sector following the separation of South Sudan in 2011 (see table 1 below).

► **Table 1.** GDP growth and distribution of share by sectors (percentage of GDP), 2000–2018

Year	GDP growth (annual %)	GDP per capita (million Sudanese pounds)	Agriculture, (% of GDP)	Industry, (% of GDP)	Manufacturing, (% of GDP)	Services, (% of GDP)
2000	8.4	1,086.5	-	-	-	-
2001	10.8	1,274	45.5	16.6	7.9	31.7
2002	6	1,457.4	46.2	23.1	7.9	30.9
2003	6.3	1,656.4	45.6	24.1	8.2	30.2
2004	5.1	1,991.2	39.2	28	7.1	32.8
2005	5.6	2,421.2	39.6	28.3	7	32.1
2006	6.5	2,707.2	36.8	27.5	6.5	35.7
2007	5.7	3,215.4	36.2	33	7.2	30.8
2008	3.8	3,461.0	31	23.5	10.6	45.5
2009	4.5	3,439.8	31.1	23.8	10.8	45.1
2010	6.5	3,802.6	31.1	21.2	8	47.7
2011	3.8	5,357.4	28.9	23.2	13.7	47.8
2012	0.7	6,340.4	30.6	20.4	15	49
2013	6.8	8,401.0	30.5	21.5	15.7	47.9
2014	7	12,010.7	28.2	24	17.2	47.8
2015	3.7	13,170.9	29.9	20.1	13.4	50
2016	3.9	15,288.1	30.1	19.7	13.4	50.2
2017	5.2	18,965.4	27.6	21.7	15.3	50.7
2018	5.7	29,271.6	28.2	21.4	14.8	50.4

Source: Adapted from Sudan Central Bureau of Statistics (CBS) (without publication date) and the Central Bank of Sudan (CBOS) Annual Reports (various issue of the report). 2002–2018.

»»» 4.1.2 Oil boom and economic growth in Sudan (1999–2011)

In 1999, Sudan began exporting oil. The country became increasingly active in oil exports from 1999 to 2011 and has become an oil-dependent economy. The heavy reliance on oil had both a positive and negative impact on the Sudanese economy during the period from 1999–2011 (Nour 2011b, 2013, 2014). The positive effects and opportunities for Sudan’s development included satisfying domestic consumption, increasing government resources, revenues and spending, and increasing economic growth as measured by the growth in GDP and its composition. In addition to the impacts of oil on foreign trade – as measured by the volume and structure of exports – the impacts were positive for the balance of trade and balance of payments. The same can be said of the impact of oil on FDI.

Sudan’s oil boom brought positive and negative effects on employment and economic growth, which became particularly marked by the massive loss of oil revenues after the secession of South Sudan in 2011.

In particular, oil has had a significant positive impact on GDP, the structure of the Sudanese economy and macroeconomic indicators – as measured by the share of oil in GDP, its growth rate and its composition. The increasing impact of oil can be measured by the rapid and continuous contribution of the oil sector to GDP, increasing from 1 per cent in 1999 to 10 per cent in 2004. Furthermore, oil has led to positive impacts in real GDP growth, for instance, the average rate of growth of GDP increased from 6.2 to 6.8, 9 and 9.6 per cent over the periods 1997–99, 2000–09, 2005–07 and 2006–08, respectively, putting Sudan among the fastest-growing economies in Africa. Sudan became a top growth performer in the region, with oil playing a pivotal role. Oil has also led to structural change in the composition of its GDP, as the dividends from oil exportation have caused major transformations in the economy. Since 1999, oil has brought a rapid increase in Sudan’s real economic growth, GDP and GDP per capita incomes between 2000 and 2011. Consequently, Sudan moved from being a low-income economy to a lower-medium-income economy, according

to World Bank classifications. Therefore, the structure of the Sudanese economy has shifted over time from being predominantly reliant on agriculture to relying on oil for growth and exports.

At the same time, studies have found that while the increasing dependence on oil has had some positive effects, it has also sparked a number of negative impacts on Sudan's economy. Nour (2011b, 2013) also points out the negative impacts of oil and the challenges to development in Sudan during the 1999–2011 period, which include the high volatility and risk of dependence on highly fluctuating oil prices in the international market, unsustainable oil revenues and the lack of diversification.

In addition, oil had a weak effect on improving social development indicators and the challenges related to Sudan's north-south conflict. The major challenge related to the dependence on oil is the uncertainty in economic growth, as measured by long-run GDP and GDP per capita growth rates. According to UNDP (2010), prior to the global financial crisis, the Sudanese economy had been one of the fastest-growing in the world, despite the economic sanctions by the United States of America. However, the global financial crisis in 2008 resulted in low global oil prices— which dropped from 10.5 per cent in 2007 to 7.8 and 5 per cent in 2008 and 2009, respectively – reducing Sudan's GDP growth.

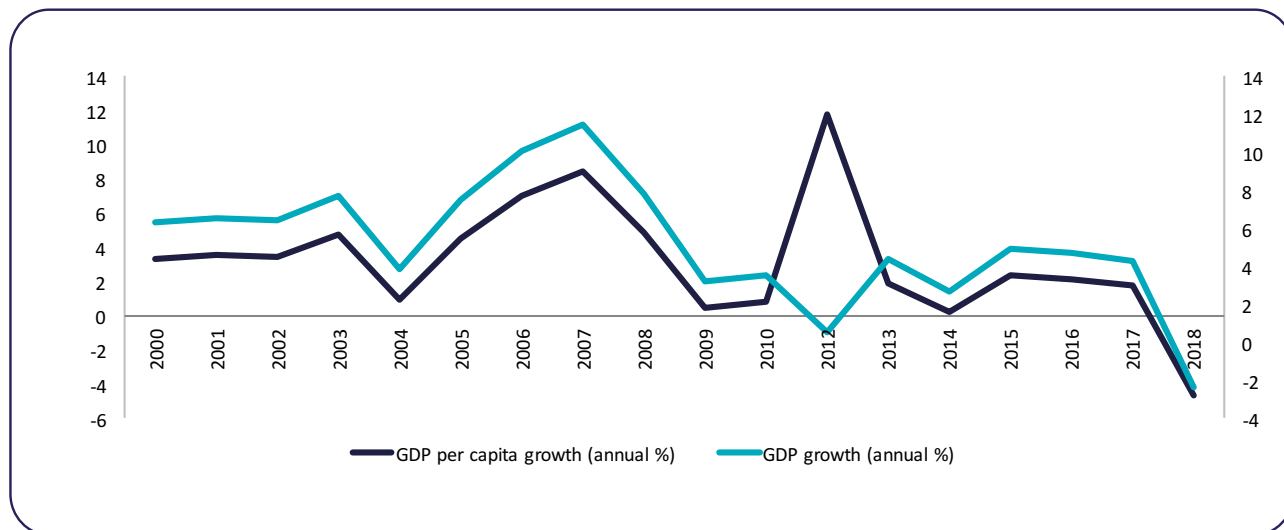
4.1.3 Trends in economic performance and GDP indicators

4.1.3.1 Real GDP, per capita GDP growth and the composition of GDP

Data from the World Development Indicators Database (World Bank 2020) indicate significant fluctuation in Sudan's GDP annual growth rate during the 2000–17 period. For instance, although the GDP growth rate was increasing between 2000 and 2007, that turned into a decreasing trend after the global recession in 2008 and until 2012. Sudan's GDP growth rate started increasing again in the period between 2012 and 2015. Fluctuations in GDP growth rates during the past two decades are attributed to both internal and external shocks. Namely,

the global financial crisis in 2008 and the secession of South Sudan in 2011. Following the separation of the South, the loss of oil revenues led to a substantial decline in the annual growth rate of the GDP, followed by a gradual recovery between 2012–17 (See figure 1 below). Similarly, the GDP per capita annual growth rate fluctuated between 2000 and 2017. Per capita GDP growth increased between 2000 and 2007, then declined during the recession from 2008–10, and increased again after the secession of the South in 2012.

► **Figure 1.** Annual percentage of GDP and GDP per capita growth, 2000–2018



Source: Adapted from the World Bank. 2020. World Development Indicators Database. Accessed 5 May 2020.

An analysis of the composition of GDP by expenditure type between 2000 and 2016 reveals that the share of private consumption in GDP showed a declining trend over the 2000–11 period, followed by an increasing trend from

2012–16. In contrast, the share of general government expenditure increased between 2000 and 2011, then decreased after secession in 2011 (table 2).

► **Table 2.** Composition of GDP at current prices by expenditure method (% share in GDP), 2000–16

Year	Government final consumption expenditure	Private final consumption expenditure	Investment	Exports	Imports	Trade balance
2000	5.46	86.03	11.51	14.52	17.53	-3.01
2001	6.43	80.24	16.69	10.86	14.23	-3.37
2002	6.11	78.45	21.83	11.24	17.64	-6.39
2003	5.98	79.96	17.73	12.03	15.7	-3.67
2004	8.35	75.74	19.02	14.36	17.47	-3.11
2005	9.24	81.67	19.55	14.03	24.49	-10.46
2006	9.71	75.63	25.72	12.94	23.99	-11.05
2007	8.02	73.38	22.73	15.58	19.7	-4.12
2008	7.78	70.02	20.59	18.76	17.15	1.61
2009	8.44	75.89	20.51	13.72	18.55	-4.84
2010	7.47	70.17	21.66	17.13	16.44	0.69
2011	7.18	69.06	26.7	14.32	17.26	-2.93
2012	6.55	81.7	20.01	6.96	15.22	-8.26
2013	6.61	83.74	17.76	9.82	17.92	-8.1
2014	5.98	84.76	14.8	7.48	13.02	-5.54
2015	6.25	86.38	12.97	6.5	12.11	-5.6
2016	5.9	89.84	9.83	5.29	10.86	-5.57

Source: Adapted from CBOS (Central Bank of Sudan) 2018.

Notably, the contribution of investment in GDP more than doubled during the period between 2000 and 2011, then started declining after the secession of the South. The trade balance showed substantial sustained deficit from 2000–16, with the exception of 2008 and 2010 (when the trade balance showed a temporary surplus). However,

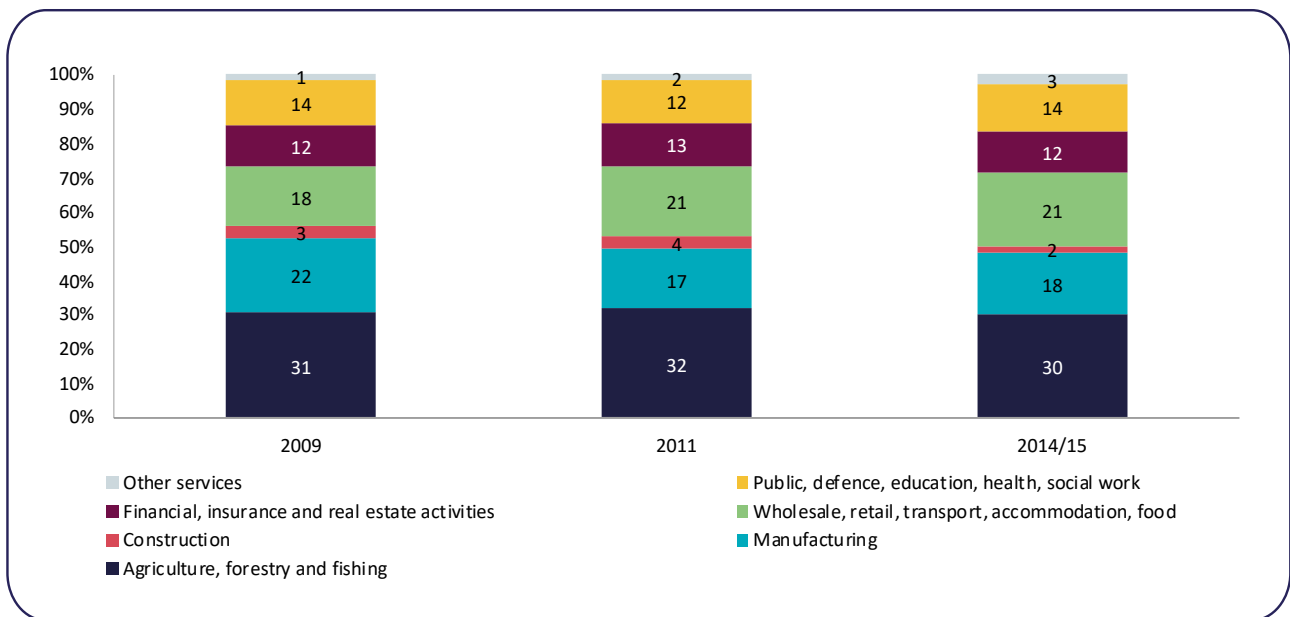
between 2011 and 2016, the trade balance showed a substantial deficit. In fact, the deficit in the trade balance nearly doubled between 2011–16, which is not surprising in view of the loss of oil exports after the separation of South Sudan.

» 4.1.3.2 Distribution of value added and employment by broad industry sectors

Data from the Central Bank of Sudan (CBOS) are used to explain the distribution of value added by broad industry sector during the 2009–14/15 period (see figure 2). The trends in the value-added contribution to GDP varied enormously by broad industry sector in 2009–11 and in 2011–14/15. For instance, the value-added contribution to GDP of ‘agriculture, forestry and fishing’, ‘financial and insurance’, ‘real estate activities’ and ‘construction’ industry sectors showed an increasing trend in the 2009–11 period and a declining trend during 2011–14/15.

In contrast, the value-added contribution to GDP by the ‘manufacturing, mining and quarrying’ and the ‘public administration and defense, education, health and social work activities’ sectors showed a declining trend in the 2009–11 period and an increasing trend from 2011–14/15. Meanwhile, the value-added contribution of GDP to both the ‘wholesale and retail, transportation and storage, accommodation and food services’ and the ‘other services’ sectors displayed a continuously increasing trend in both 2009–11 and 2011–14/15 (figure 2).

► **Figure 2.** Distribution of value added by broad industry sector (percentage of contribution to GDP), 2009–14/15, 2000–18

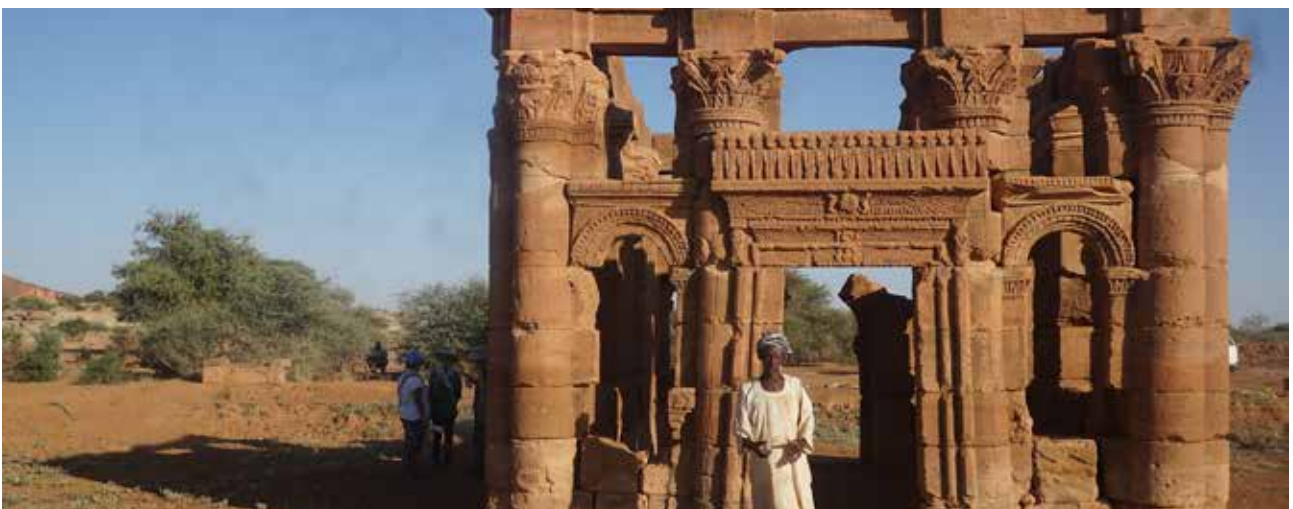


Note: The ILO's sectoral classifications are nine, but available data on GDP composition in CBOS or CBS allowed the authors to compute only seven sectors (the information and communications sector is missing, while real estate is added to the financial and insurance sector).

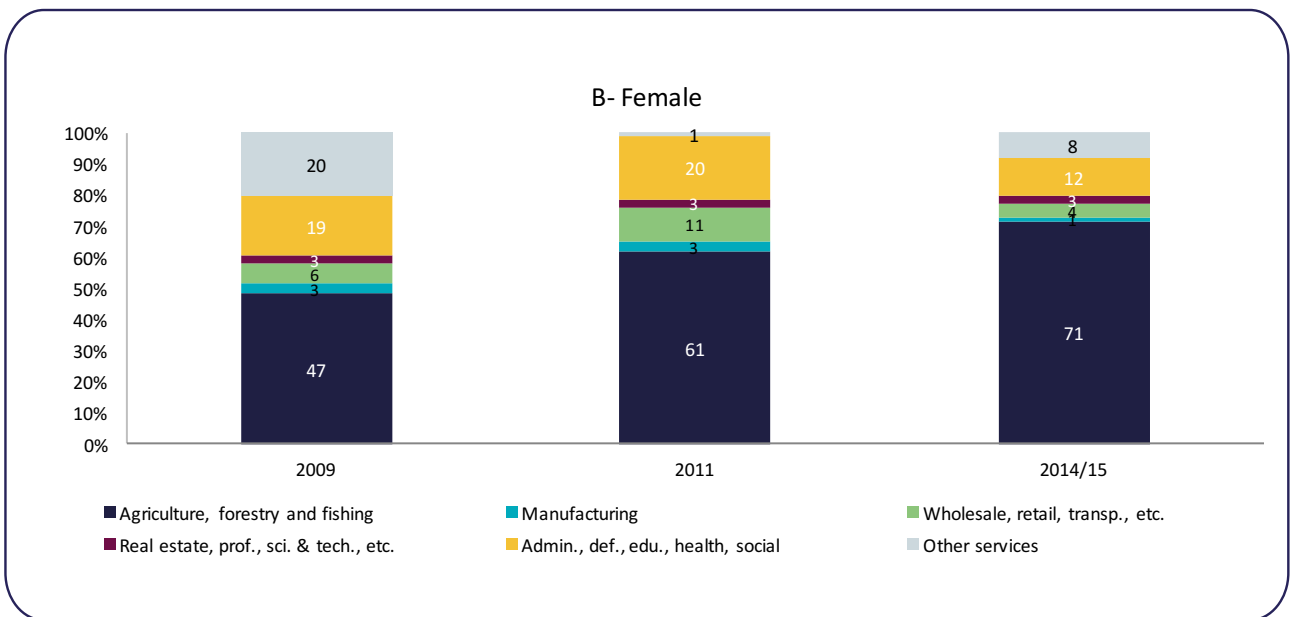
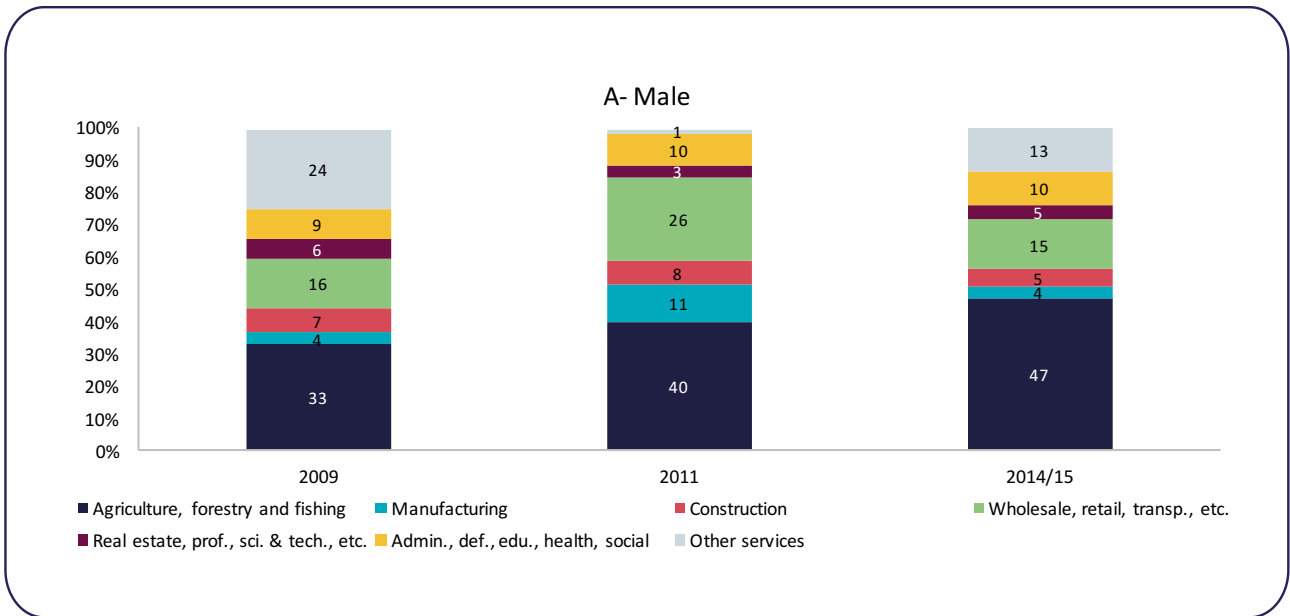
Source: Adapted from SBHS, 2009, 2011 and 2015.

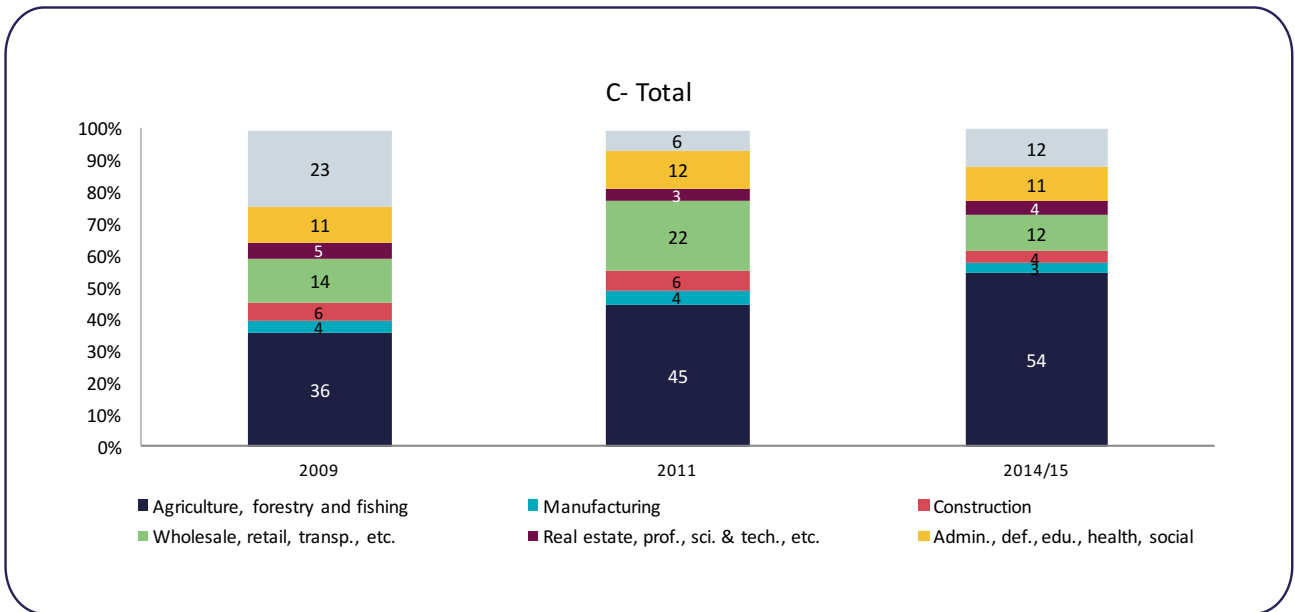
Furthermore, based on the 2009 and 2014/15 Sudan Household Budget Survey (SHBS), the distribution of employment was extracted by sector and by sex (for nine sectors) during the 2009–14/15 period (see figure 3). In 2014/15, the highest employment by sector can be seen in agriculture, followed by the 'wholesale, retail, transportation and storage, accommodation and food services' sector and the 'other services' sector, respectively. Again, this is not surprising in view of the fact that the agricultural sector remains important compared to other sectors in terms of offering employment opportunities for the majority of Sudan's population. Employment trends varied by sector in both the 2009–11 and 2011–14/15 periods. Employment in the 'manufacturing, mining and quarrying' sector, the 'wholesale, retail, transportation and storage, accommodation and food services' sector,

the 'information and communication' sector; and the 'public administration, defense, education, health and social work' sector showed an increasing trend in the 2009–11 period and a declining trend from 2011–14/15. In contrast, employment in the 'financial and insurance' sector as well as the 'real estate and professional, scientific, technical, administrative and support services activities' sector revealed a declining trend in 2009–11, which then turned into an increasing trend from 2011–14/15. Whereas employment in the 'agriculture, forestry and fishing' sector showed a continuous increasing trend in both the 2009–11 and 2011–14/15 periods, employment in the construction sector followed a continuous downward trend in both the 2009–11 and 2011–14/15 periods (see figure 3).



► **Figure 3.** Distribution of employment by broad industry sector, percentage currently employed, ages 15–64





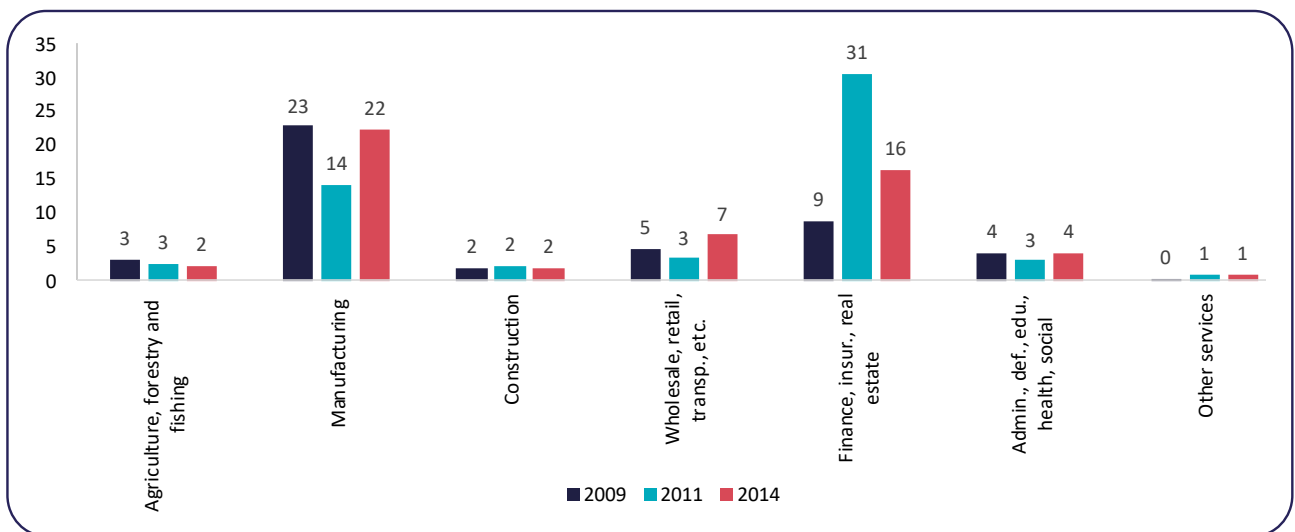
Source: Adapted from SHBS 2009, SHBS 2014/15, SLFS 2011.

» 4.1.3.3 Value added per worker (labour productivity) by broad industry sectors

Using data from CBOS on constant GDP, figure 4 shows the value added per worker (labour productivity) by broad industry sector during the 2009–14/15 period. It is worth noting that in 2014/15, the highest labour productivity was reported in the ‘manufacturing, mining and quarrying’ sector, followed by ‘financial and insurance activities’, ‘real estate and other professional activities,’ and the ‘wholesale, retail, transportation and storage, accommodation and food services’ sectors. The trend in value added per worker varied substantially by broad industry sector in 2009–11 and 2011–14/15. For instance, labour productivity in the ‘construction’, ‘financial and insurance’, ‘real estate and other professional activities’,

and ‘other services’ sectors all showed an increasing trend in the 2009–11 period but showed a declining trend in the 2011–14/15 period. In contrast, the value added per worker in the ‘manufacturing, mining and quarrying’ sector, ‘wholesale, retail, transportation and storage, accommodation and food services’ sector, and the ‘public administration and defense, education, health and social work’ sector all displayed a declining trend in the 2009–11 period and an increasing trend from 2011–14/15. Conversely, the value added per worker in the ‘agriculture, forestry and fishing’ sector followed a continuous decreasing trend in both 2009–11 and 2011–14/15. (See figure 4).

► **Figure 4:** Labour productivity by broad industry sector (thousands, Sudanese pounds), 2009–14



Note: The ILO’s sectoral classifications are nine, but available data on GDP composition in CBOS or CBS allowed the authors to compute only seven sectors (the information and communications sector is missing, while real estate is added to the financial and insurance sector).

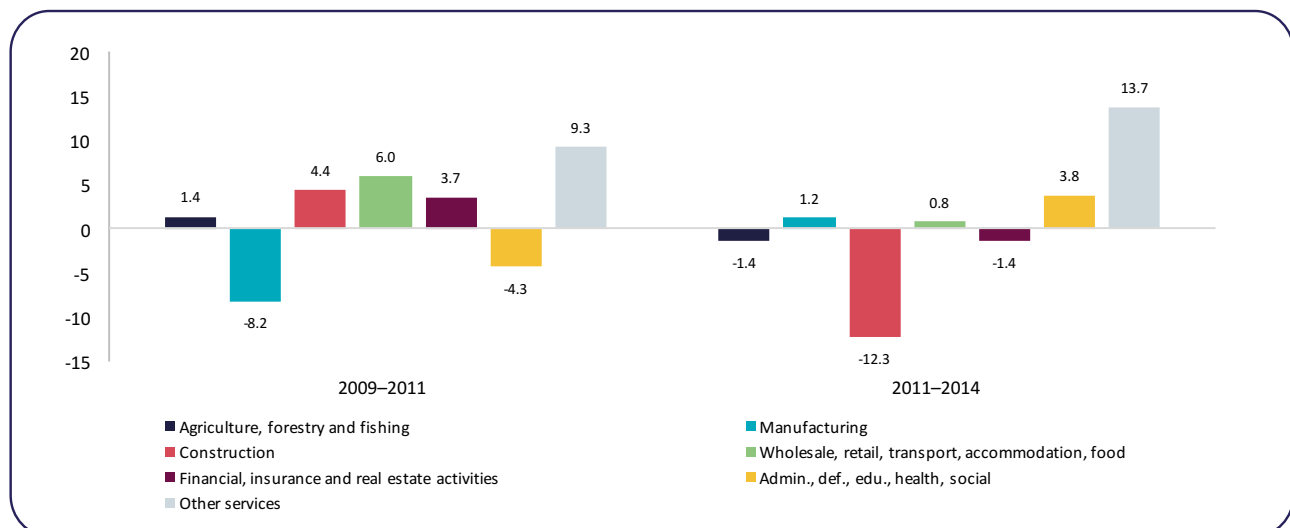
Source: Adapted from SHBS and CBOS (2009; 2011 & 2014/15).

» 4.1.3.4 Growth of value added and employment by broad industry sector

Data from CBOS on constant GDP illustrate the growth of value added by broad industry sector during the 2009–14 period (figure 5). In 2014/15, the highest growth in value added by broad industry sector was reported in ‘other services’ activities, followed by the ‘public administration and defense, education, health and social work’ and the ‘manufacturing, mining and quarrying’ sector, respectively. Deterioration in the average annual growth in value added was reported in four sectors, namely: ‘agriculture, forestry and fishing,’ ‘financial and insurance activities,’ ‘real estate and other professional activities’ and ‘construction’. Moreover, the growth of value added tended to vary by broad industry sector in the periods 2009–11 and 2011–14/15. The ‘agriculture, forestry and fishing,’ ‘construction,’ ‘public administration, defense, education, health and social work,’ ‘financial and insurance

activities’ and ‘real estate and other professional activities’ sectors all showed average annual growth in their value added during the 2009–11 period, then saw a marked deterioration in value added in 2011–14/15. By contrast, the ‘manufacturing, mining and quarrying’ sector showed a deterioration in value added over the 2009–11 period followed by a growth in the value added in 2011–14/15. Conversely, the ‘wholesale, retail, transportation and storage, accommodation and food services’ sector showed average annual growth in the value added and then showed only moderate growth reflecting a declining trend in the periods 2009–11 and 2011–14/15. In contrast, the ‘other services’ sector saw the average annual growth in the value-added increase in both 2009–11 and 2011–14/15 (figure 5).

► **Figure 5.** Percentage average annual growth of the value added by sector of economic activities (by broad sector, 2009–11)



Note: The ILO’s sectoral classifications are nine, but available data on GDP composition in CBOS or CBS allowed the authors to compute only seven sectors (the information and communications sector is missing, while real estate is added to the financial and insurance sector).

Source: Adapted from CBS 2018.

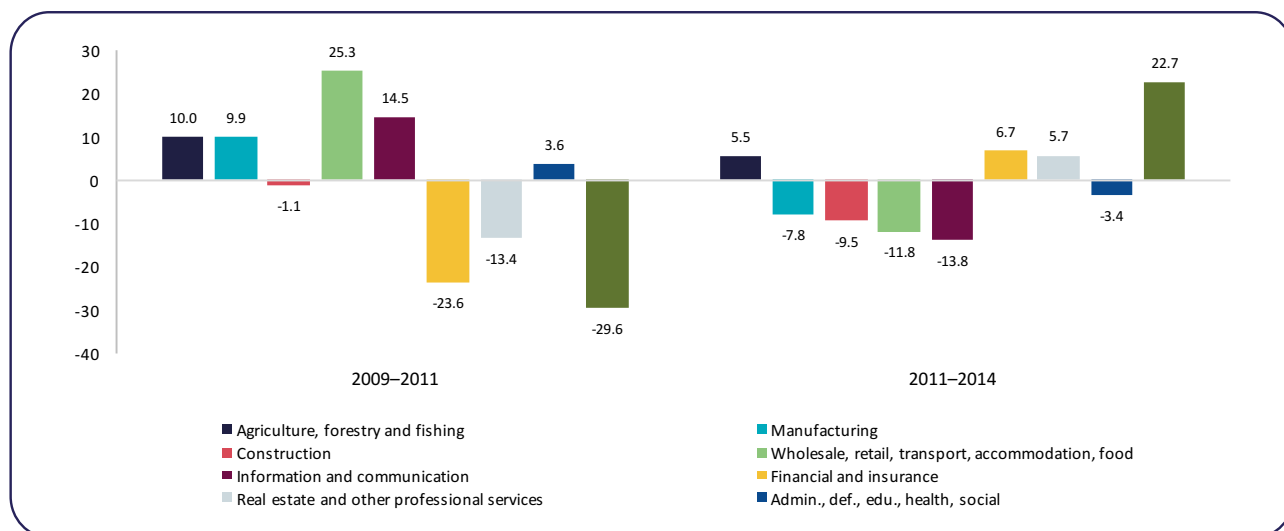
Moreover, based on the SHBS for 2009 and 2014/15, the average annual growth of employment was extracted by sector (for nine sectors) for the 2009–14/15 period (figure 6). Doing so reveals that in 2011–14/15, the highest average annual growth in employment by broad industry sector was reported in ‘other services activities’, followed by the ‘financial and insurance’ sector, ‘real estate and other professional services’, then ‘agriculture, forestry and fishing’, respectively. This result can be attributed to the recent expansion in the services sector in Sudan. Meanwhile, deterioration in the average annual growth in employment was reported in the ‘information and communication’ sector, followed by the ‘wholesale, retail, transportation and storage, accommodation and food services’ sector, respectively. This result can be attributed to the temporary contraction in these subsectors in Sudan.

The average annual growth in employment also varied enormously by broad industry sector in the 2009–11 and 2011–14/15 periods. For instance, in the ‘manufacturing, mining and quarrying’, ‘wholesale, retail, transportation and storage, accommodation and food services’, ‘information and communication’, and the ‘public administration and defense, education, health and social work’ sectors, the average annual growth in employment in 2009–11 turned into a deterioration in average annual employment in 2011–14/15. In contrast, in the ‘financial and insurance’ sector, ‘real estate and other professional activities’, and ‘other services’ sectors, there was a deterioration in average annual employment in 2009–11, which was reversed into average annual growth in employment in the 2011–14/15 period. Meanwhile, the ‘agriculture, forestry and fishing’ sector showed

substantial deterioration in average annual employment – which was nearly half as high in 2011–14/15 compared to 2009–11 – as the construction sector saw an intensified

deterioration in average annual employment in the 2009–11 and 2011–14/15 periods (see figure 6).

► **Figure 6.** Percentage average annual growth of the employment share by sector of economic activity by broad sector, 2009–14.



Source: Adapted from CBS 2018.

» 4.1.3.5 Growth of value added and employment by broad industry sector

Sectoral employment elasticities (elasticity of employment growth by sector) were measured based on the information in figures 5 and 6. As such, results in table 3 reveal that the estimated elasticity appears to be very high, particularly when compared to some studies in sub-Saharan African countries, which estimated that elasticity ranges between 2 and 3 (e.g. Ali et al. 2017). The literature provides three possible interpretations according to the value of the estimated elasticity (see appendix 3b). The first is when employment elasticity is negative or less than zero (employment elasticity < 0) – meaning that employment will decrease with productivity growth (e.g. manufacturing and financial as well as the public sector in the two periods). This reflects labour-destructing growth. Most of these sectors suffer from this problem – a decrease in the number of employees while total value added is growing. The second interpretation

– when employment elasticity is positive but less than one ($1 > \text{employment elasticity} > 0$) – means that employment grows when productivity increases (e.g. construction in the second period, 2011–14/15). This case seems more obviously related to a growth model that creates employment, but not proportionally, suggesting that capital and/or Total Factor Productivity are playing a role in driving growth. The third interpretation – when employment elasticity is positive and greater than one (employment elasticity > 1) – implies that employment grows when productivity goes down (e.g. agriculture and wholesale in the first period (2009–11). However, the same two sectors report negative elasticity in the second period (2011–14). Overall, employment elasticities vary across sectors and over time, reflecting the unfavourable structural transformation of Sudan’s economy over the past two decades.



► **Table 3.** Sectoral employment elasticities (2009–11 & 2011–14), arc-elasticity

Sector	(2009-11)	(2011-14)
Agriculture, forestry and fishing	7.02	-3.83
Manufacturing	-1.20	-6.32
Construction	-0.26	0.77
Wholesale; retail; transport; accommodation; food	3.62	-14.92
Financial, insurance and real estate activities	-7.69	-14.61
Public, defense, education, health; social work	-1.83	-0.93
Other service activities	-3.10	1.42

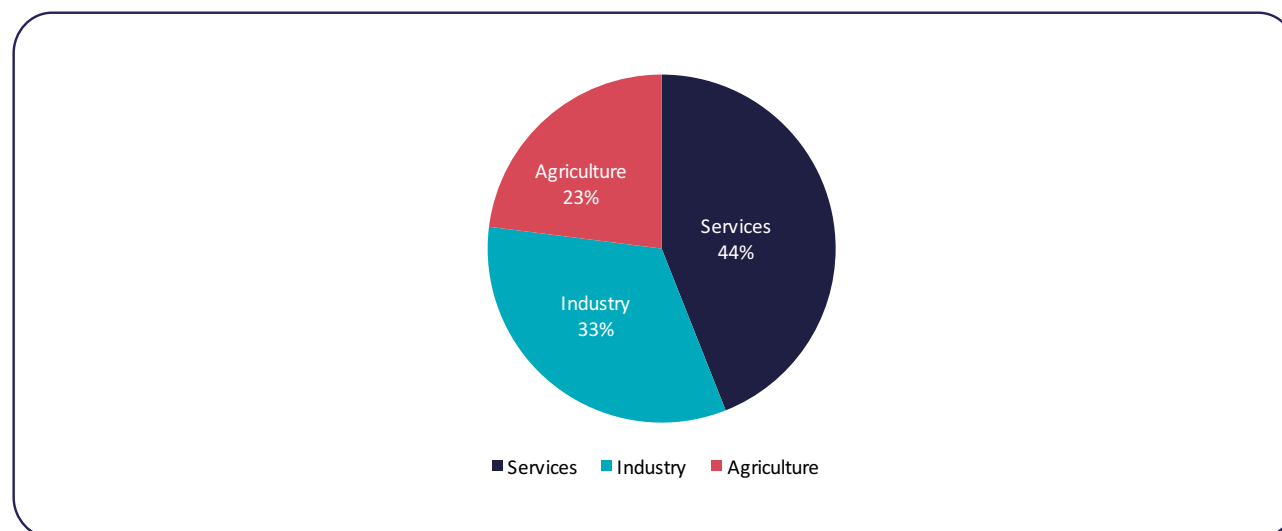
Source: Computed based on methodology described in Appendix 3b.

» 4.1.3.6 Pattern of public and private investment by sector (agriculture industry and services)

To track the pattern of public and private investment by sector (agriculture, industry and services), the distribution of investment examines the share of sectors in foreign and local investment and the share of sectors in total

investment in 2015. This analysis reveals that the highest share was reported in the services sector (44 per cent), followed by industry (33 per cent) and agriculture (23 per cent), respectively (see figure 7).

► **Figure 7.** Distribution of sectoral share in total investment, 2015



Source: Adapted from Ministry of Investment, as cited in CBS 2015. Investment Report. p. 19.

Foreign investment was concentrated in the services sector, while local investment was concentrated in the industrial sector; whereas both foreign and local investment have given less attention to the agricultural sector. During the period 2000–09, the industrial sector and agricultural sectors showed an increasing trend in investment, whereas the services sector revealed a decreasing trend in investment. Meanwhile, the pattern

of public and private investment’s contribution to the percentage of GDP growth during the 2001–08 period reveals that the contribution of the public sector to GDP growth showed an increasing trend during 2001–07 and a declining trend in 2007–08. In contrast, the contribution of the private sector to GDP growth showed a declining trend during 2001–07 and an increasing trend in 2007–08 (see table 4).

► **Table 4.** Foreign direct investment in non-oil sectors, 2000–10, in US\$ billions

Year	FDI US\$ billions)
2000	0.062
2001	0.028
2002	0.103
2003	1.067
2004	0.514
2005	2.703
2006	0.259
2007	1.412
2008	0.444
2009	0.469
2010	0.363
Total	7.424

Source: Adapted from Ministry of Investment, as cited in CBS 2015, Investment report 2015.

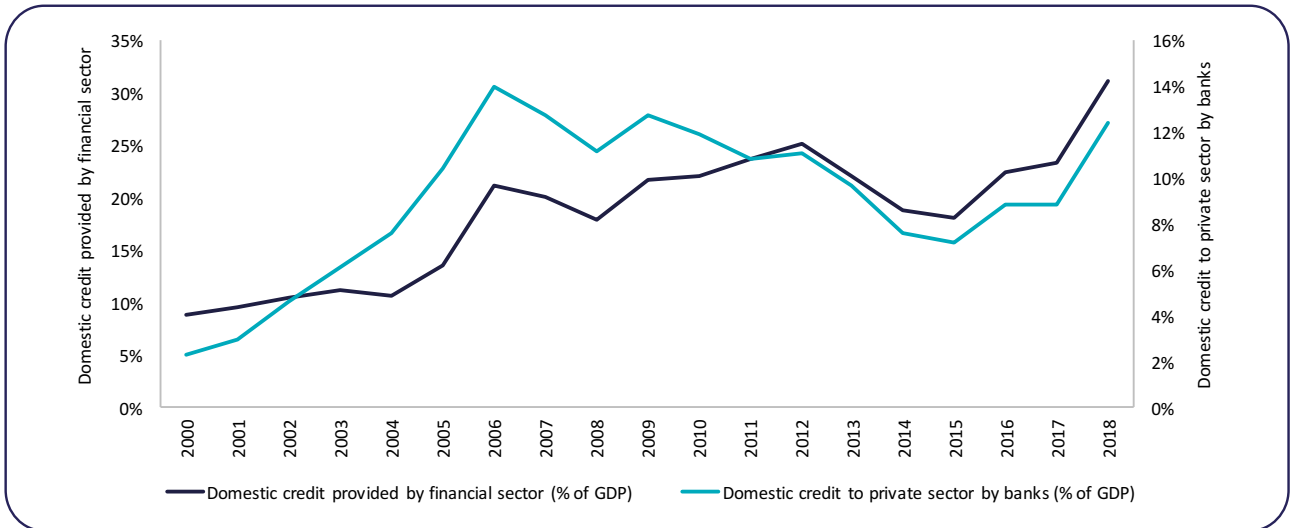
» 4.1.3.7 Domestic credit and FDI to GDP

Closer analysis reveals substantial variation in domestic credit over the 2000–17 period. For instance, domestic credit to the private sector (defined also as domestic credit to the private sector by banks, as a percentage of GDP) showed a substantial increasing trend from 2000–06, followed by a decline in 2007–11, then another increasing trend during 2011–12, followed by another

decline in the 2012–15 period, to finally increase again from 2015–17. Meanwhile, domestic credit provided by the financial sector (as a percentage of GDP) showed a substantial increasing trend in 2000–12, followed by a declining trend during 2012–16, then increasing again from 2016–18 (figure 8).



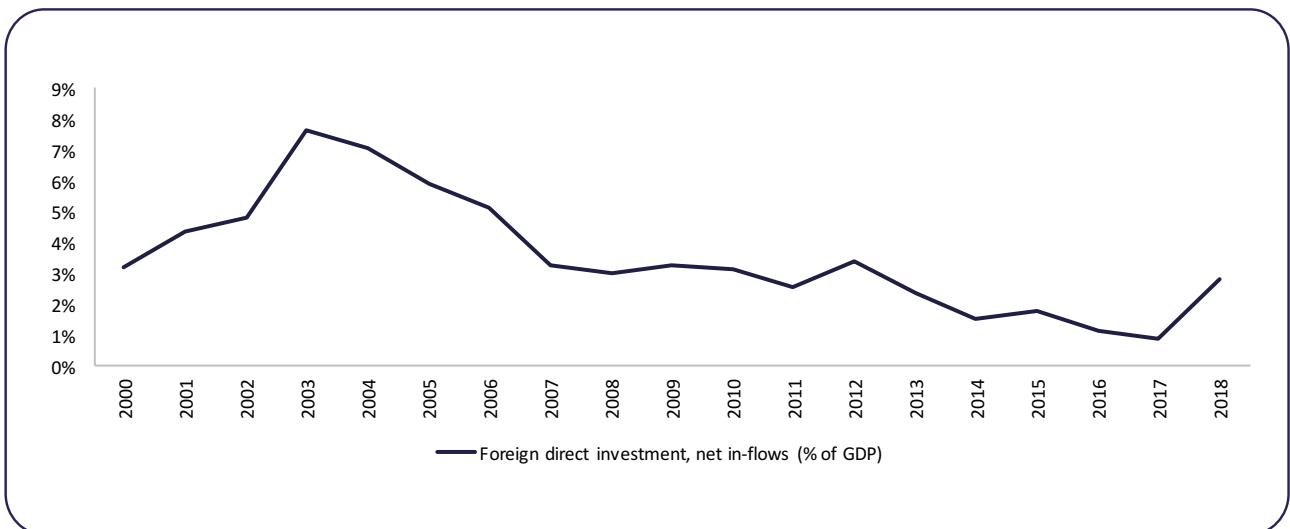
► **Figure 8.** Domestic credit to GDP, percentage of GDP, 2000–18



Source: Adapted from World Bank. 2020. World Development Indicators Database. Accessed 5 May 2020.

Furthermore, there was remarkable variation in FDI as a percentage of GDP over the period from 2000 to 2017. For instance, it showed an increasing trend during the 2000–05 period, followed by a declining trend in 2005–11, then increasing again during 2011–12, and declining from 2013 to 2017 (see figure 9).

► **Figure 9.** Foreign Direct Investment to GDP (FDI as a percentage of GDP), 2000–18



Source: Adapted from World Bank. 2020. World Development Indicators Database. Accessed 5 May 2020.



4.2 Trends in labour market outcomes in Sudan

This section investigates the evolution of labour market outcomes in Sudan in the period between 2000 and 2018, focusing on key labour market indicators, such as the labour force participation rate, unemployment rate and working poverty rate. These trends are examined in the context of age, gender, education and the different

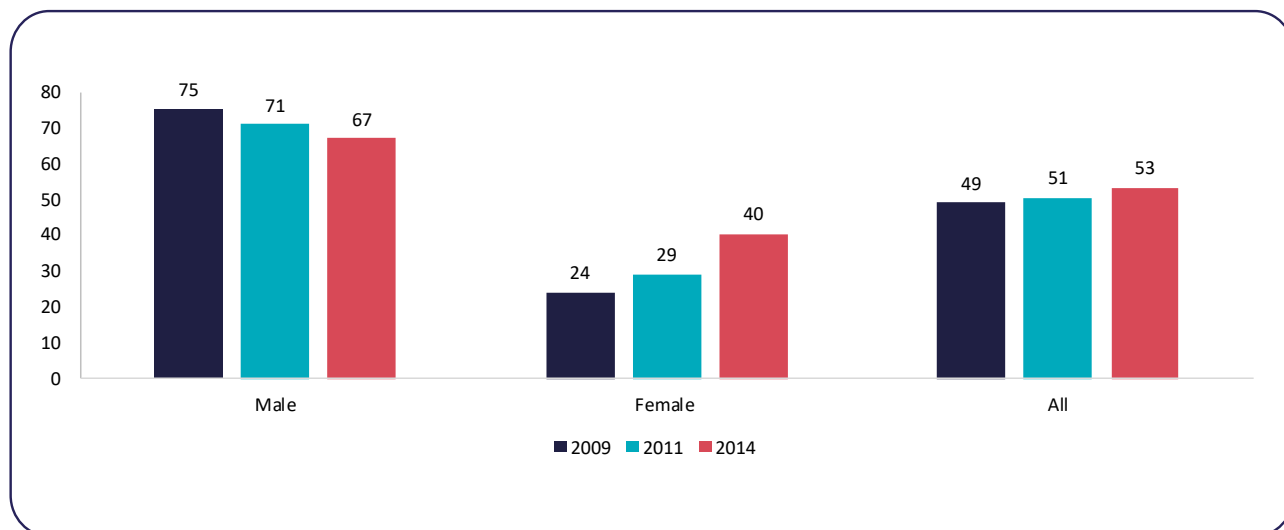
economic sectors. The data for this section are obtained from the 2011 Sudan Labour Force Survey (SLFS) conducted in early 2011 (i.e. before the secession of the South). In addition, the study uses the SHBS for 2009 and 2014/2015.

>>> 4.2.1 Trends in the labour force participation rate

Using the extended definition of the labour force, with a working age between 15 and 64, figure 10 below presents the trends in the labour force participation rate (LFPR) in the years 2009, 2011 and 2014/2015. It shows that labour force participation grew slightly, from 49 per cent in 2009 to 51 and then 53 per cent in 2011 and 2014/15, respectively. This increase in the LFPR can be attributed to the increase in female participation in the

labour force over the last two decades. The increase in the employment-to-population ratio also contributed to the increase in labour force participation (see figure 10). Figure 10 also indicates that while the male LFPR has declined over time, the female LFPR has grown steadily. The growth in female labour force participation between 2009 and 2015 was primarily due to an increase in female educational attainment in recent decades (UNESCO 2018).

► **Figure 10.** Labour force participation rate, by sex, ages 15-64

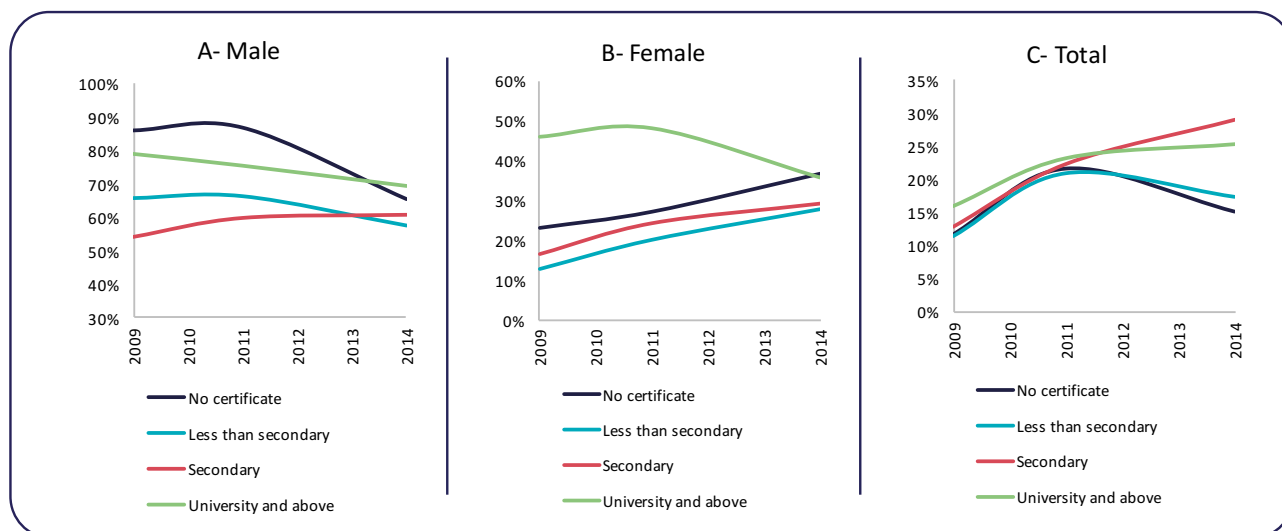


Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

In the realm of education, the LFPR in Sudan is highest among individuals with a university degree and above, who had a participation rate of 79 per cent in 2009, 75 per cent in 2011 and 69 per cent in 2014/15. Meanwhile, workers with a secondary education and workers with less

than secondary education have LFPRs between 13 and 29 per cent over the same period. Figure 11 also shows that the labour force participation rates of males are higher compared to their female counterparts for all educational categories.

► **Figure 11.** Labour force participation rates by educational attainment and sex, ages 15-64

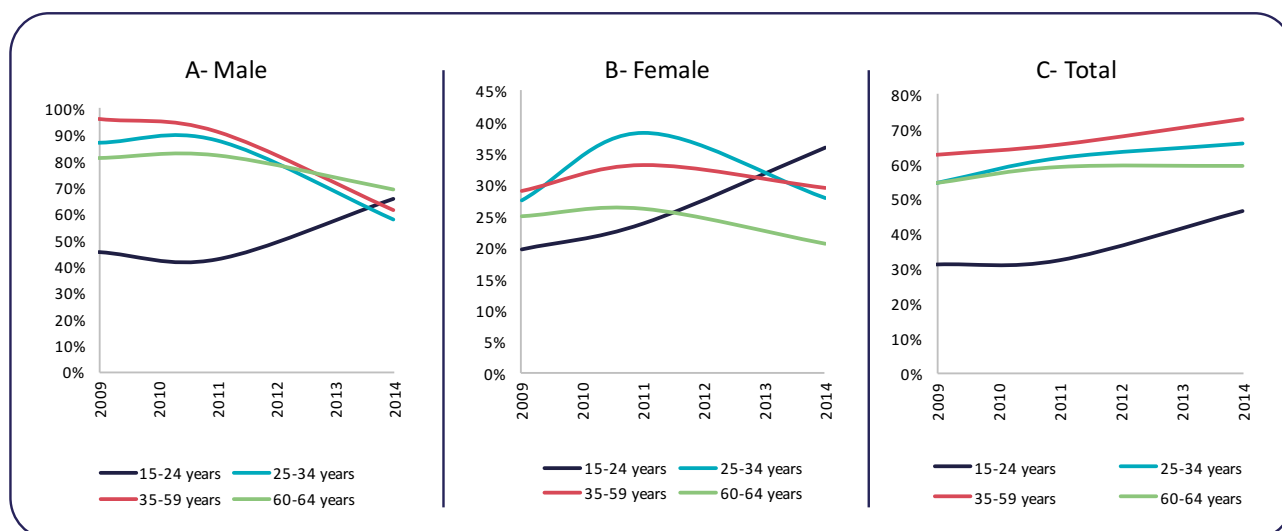


Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

The age breakdown of the LFPR by sex is shown in figure 12. The LFPR for the youngest age group (15–24) grew steadily, from 31 per cent in 2009 to 32 per cent in 2011 and reaching 47 per cent in 2014/15. The increase in youth LFPR is due to the growing young population in Sudan. Notably, among women the LFPR of the oldest age group (aged 60–64) also increased over time, from 55 per cent in 2009 to 59 per cent in 2011, then to 60 per cent in

2014/15. In all three surveys, the LFPRs of men are higher than that of women in all age groups. Except for the youth population, the male LFPR of all other age groups declined over time. Overall, the increase in labour force participation during the last decades is primarily driven by the increase in total population and the dramatic increase in education as well as the increase in Sudan’s youth population and its female LFPR (World Bank 2019).

► **Figure 12.** Labour force participation rates by age groups and sex, ages 15–64



Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

»»» 4.2.2 The evolution of unemployment in Sudan

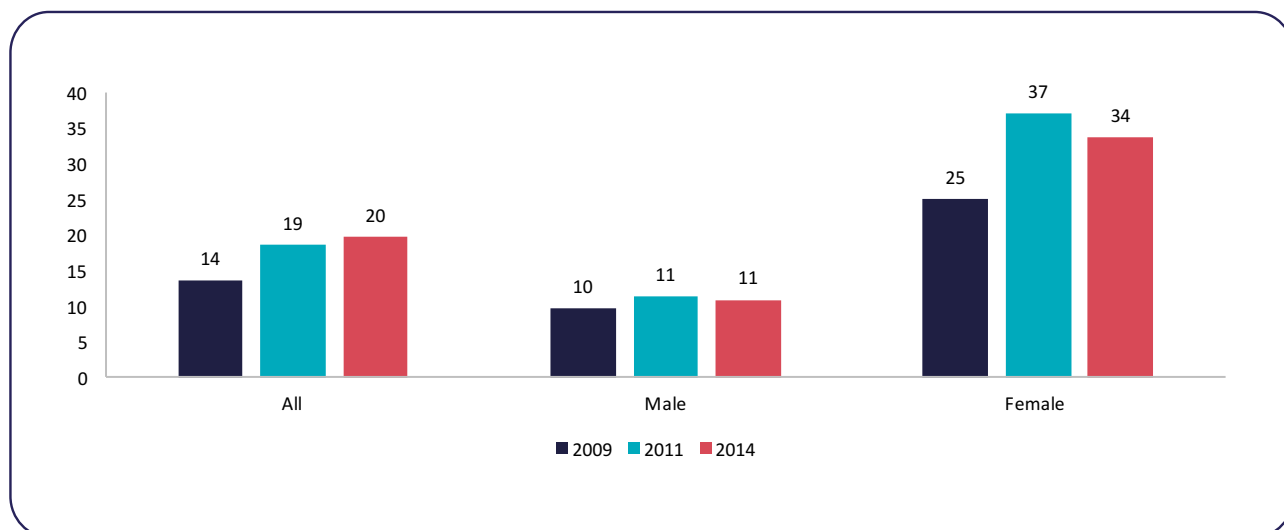
The unemployment rate (as a ratio of unemployed individuals to the size of the labour force) increased during the 2009–14 period (see figure 13). The rate increased from 14 per cent in 2009 to 19 per cent in 2011 and then to 20 per cent in 2014/15. The increase in unemployment during the last decade can be explained

by the contraction of Sudan’s economy following the secession of the South in 2011 (Alamir et al. 2014). Indeed, the separation of South Sudan reduced the pace of job creation in the country over the last decade, which is reflected in the increase in unemployment rates over the same period. Figure 13 shows that female unemployment

rates are considerably higher than male unemployment rates, which is consistent with the situation in many other countries, such as in the Caribbean (Seguino 2003), China (Du and Dong 2009) and Egypt (Assaad and Kraft 2013).

The figure shows that Sudan's female unemployment rate increased from 25 to 37 per cent and then decreased to 34 per cent in 2014.

► **Figure 13.** Unemployment rate, by sex, ages 15-64

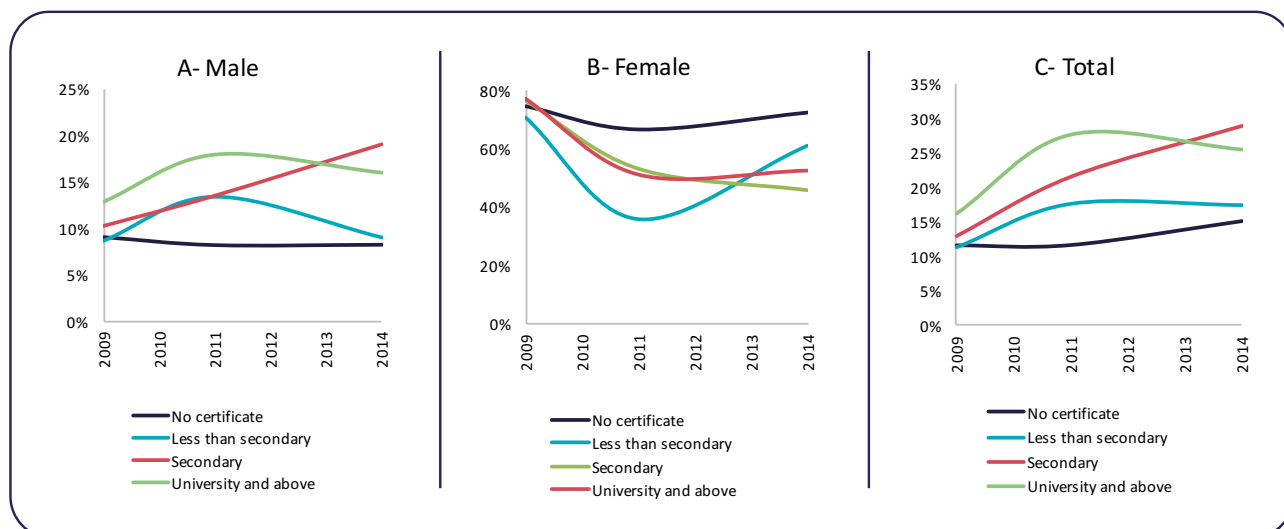


Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

Figure 14 illustrates the unemployment rate by educational attainment, revealing that individuals with secondary and university education are those most affected by unemployment. Over the three surveys, individuals with no educational certificate have the lowest rate of unemployment. Interestingly, while women without a certificate have the highest unemployment rate,

their male counterparts have the lowest unemployment rate over the three surveys. The divergence in these rates can be explained by the fact that many women without formal education engage in home activities. The trend in unemployment for most educational categories also increased over time.

► **Figure 14.** Unemployment rate by educational attainment and sex, ages 15-64

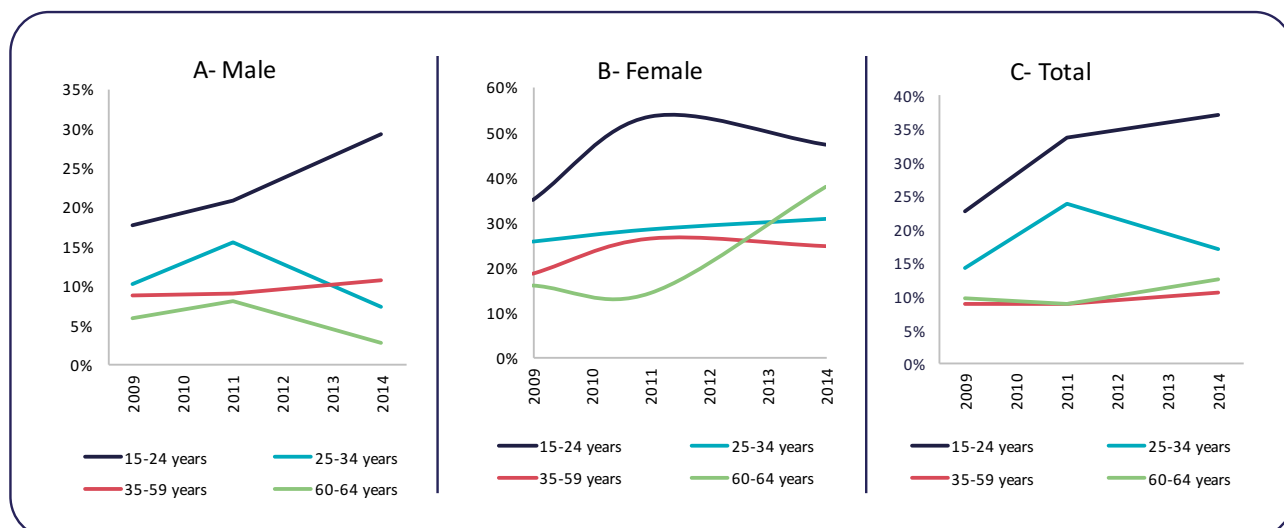


Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

In accordance with the unemployment rate by age, figure 15 shows that for all (male and female) youth, individuals aged 15-24 years exhibited the highest rate of unemployment over the 2009-14/15 period. For other age groups, there is a persistent trend across all surveys,

as the unemployment rate generally appears to decrease with age. However, the unemployment rate for the eldest age group (60-64) is higher than that of the 35-59 age group.

► **Figure 15.** Unemployment rate by age groups and sex (ages 15–64)



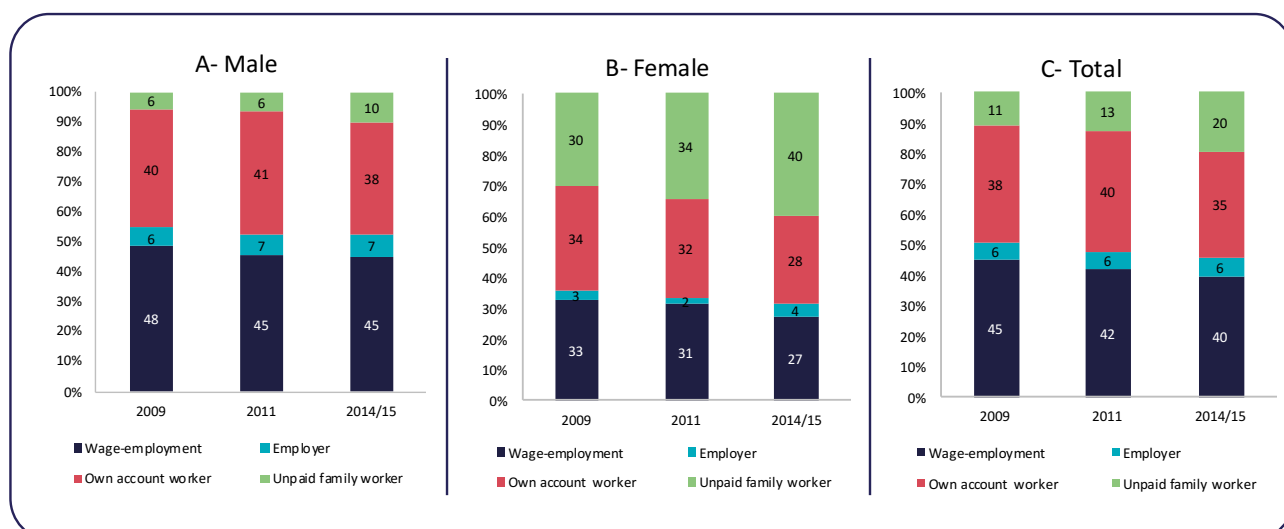
Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

4.2.3 Type of employment

To understand the structure of employment in Sudan, figure 16 depicts the distribution of employment by employment status. Over the 2009–2014/15 period, the share of wage workers has been declining, from 45 per cent in 2009 to 40 per cent in 2014/15. Despite the lack of national statistics about informality, a huge segment of

wage-employed people are working in informal sectors (e.g. agriculture in rural areas) without any form of social security.¹ Also, the share of self-employed workers in the labour force shrank slightly, from 38 per cent in 2009 to 35 per cent in 2014/15. The ‘employers’ in the labour force seem to occupy the lowest share in all three surveys.

► **Figure 16.** Distribution of employment by status, percentage currently employed, ages 15–64



Source: Adapted from CBS (SHBS 2009, SHBS 2014/15).

¹ For instance, ILO Statistics (2019a) data indicate the predominance of informal employment in non-agricultural sectors, which constitutes 77.3 per cent of total employment in non-agricultural sectors (ILO, 2019a. ILOSTAT database. www.ilo.org/ilostat. Accessed 17 June 2019). Also see Nour 2020.

Figure 16 also shows that unpaid family labour is increasing over time, confirming the declining trend of wage employment due to the contraction of Sudan's economy after the secession of South Sudan. These trends are also consistent across genders. Notably for women, the bulk of the labour force was made up of unpaid family workers in 2011 and 2014/2015 – representing 34 and 40 per cent, respectively. This is consistent with the situation in developing countries, as subsistence agriculture

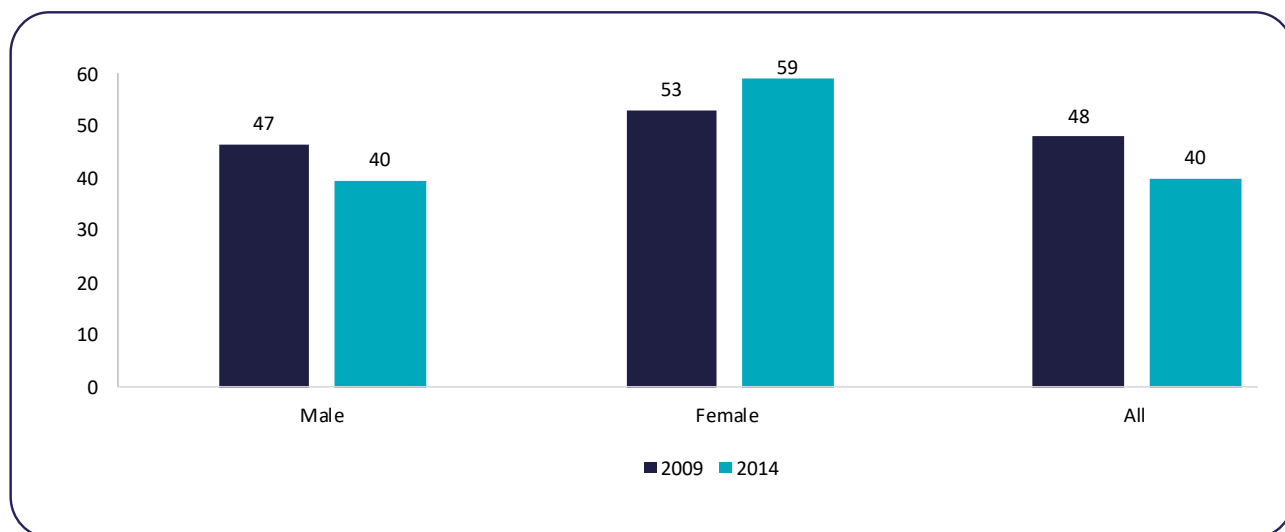
absorbs a huge number of unpaid female workers (ILO 2016). Moreover, women face many obstacles in other types of employment (Becker 1986). The expansion of the unpaid family sector also reflects the contraction in the labour absorption capacity of Sudan's economy over time. Overall, despite the macroeconomic transformations over the last 20 years, the composition of employment has seen very little change over time.

>>> 4.2.4 Trends in the working poor

Trends in Sudan's working poor are calculated using the poverty lines from the 2009 and 2014/15 SHBS.² Figure 17 highlights the share of the working poor in Sudan's labour force in both surveys. Nearly half of all employed individuals are considered 'working poor' in both survey rounds, based on the established national poverty lines. The working poverty rate reached around 48 per cent in 2009, rate consistent with the SHBS 2009, which found that about 46.5 per cent of Sudan's population was poor (CBS 2009). For the 2014/15 survey, the working poverty rate was 40 per cent, which was higher than the poverty

rate in the 2014/15 budget survey, of 36.1 per cent (CBS 2015). The share of working poor women is higher than that of men in both survey rounds. While the share of working poor men declined from about 47 per cent in 2009 to 40 per cent in 2014/15, the share of working poor women increased from 53 per cent in 2009 to 59 per cent in 2014/15 (figure 17). These results also are consistent with the observations from the SHBS 2009 and 2014/15. The high rate of working poor implies that nearly half of Sudan's workers are in poverty, which can be attributed to low earnings and poor employment benefits.

► **Figure 17.** Percentage share of the working poor in total employment, 2009 and 2014 (total, male and female), ages 15–64



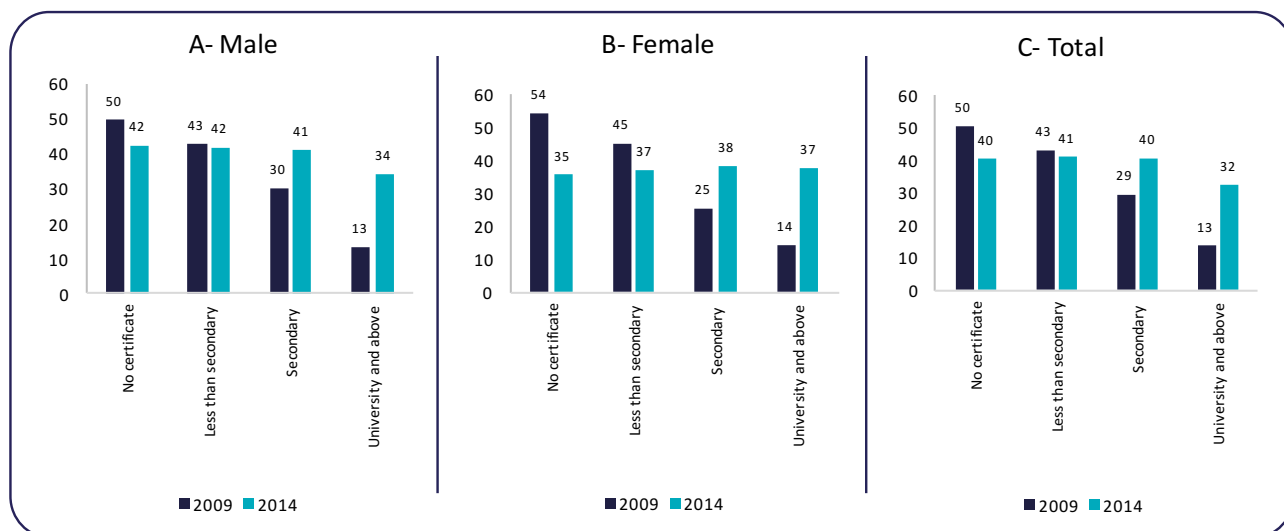
Source: Adapted from CBS (SHBS 2009, SHBS 2014/15). Authors used the poverty measure lines from both surveys.

In Sudan, higher educational attainment is associated with lower likelihood to be in working poverty, as evidenced in both SHBS survey rounds. Figure 18 indicates that about half of all uneducated workers were in poverty in 2009. In contrast, only 13 per cent of workers with higher education were considered working poor. However, the share of poor workers with higher education in 2014/15 was more than double the share in 2009. This is an alarming finding, as nearly one third of all highly educated

workers are below the poverty line, signalling potentially low returns to higher education in Sudan's labour market. Also, this may be attributable to poor working conditions or poor labour market outcomes. Unfortunately, there is no clear evidence as to what causes such high poverty rates for highly educated workers, due to poor data quality and data scarcity. These trends in the share of working poor are also consistent across male and female groups (figure 18).

² In the Sudan Household Budget Survey 2009 and 2014/15, the poverty lines were 114 and 208 Sudanese pounds per individual per month, respectively (CBOS 2019 & 2014/15). The surveys already identified those who are considered 'poor'.

► **Figure 18.** Percentage of working poor in total employment by education attainment, ages 15–64

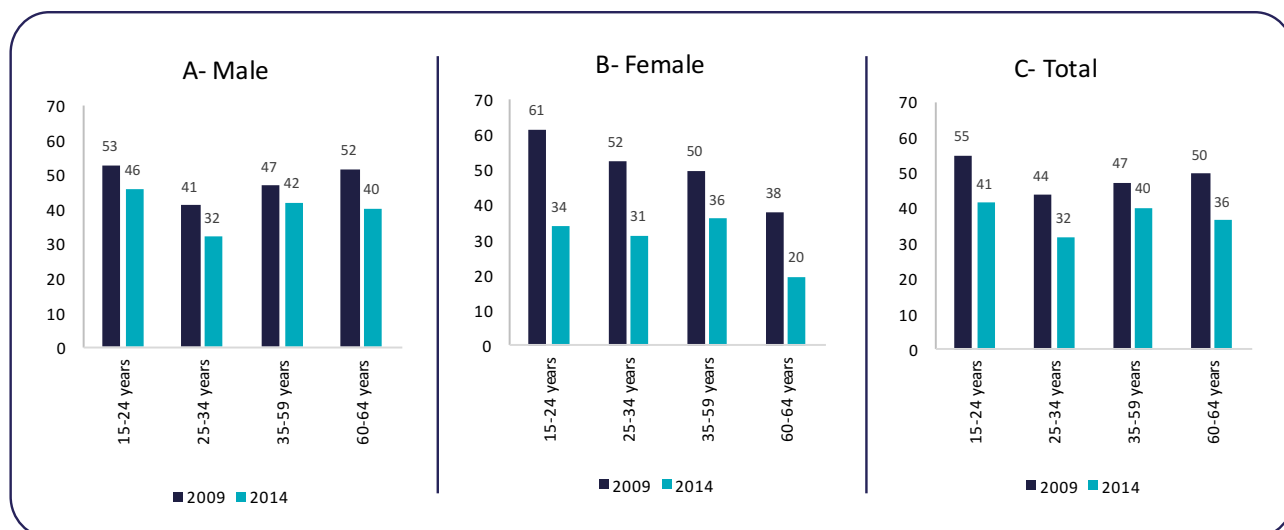


Source: Adapted from CBS (SHBS 2009, SHBS 2014/15).

Regarding the share of the working poor by age group, figure 19 shows that in all groups (male and female), the youngest age cohort (15–24) is the most impacted category in 2009 and 2014/15, respectively. This age group mainly consists of irregular young workers in informal activity and new entrants to the labour market. Young new entrants with secondary and higher education

may also suffer from poor skills-matching and low returns on education. This result is consistent with international statistics, as youth are the group most vulnerable to working poverty (ILO 2019b). The figures also show that the percentage of working poor declined between 2009 and 2014/15 for all age groups, confirming the declining trend in general poverty over the same period.

► **Figure 19.** Percentage of working poor in total employment by age group, ages 15–64



Source: Adapted from CBS (SHBS 2009, SHBS 2014/15).

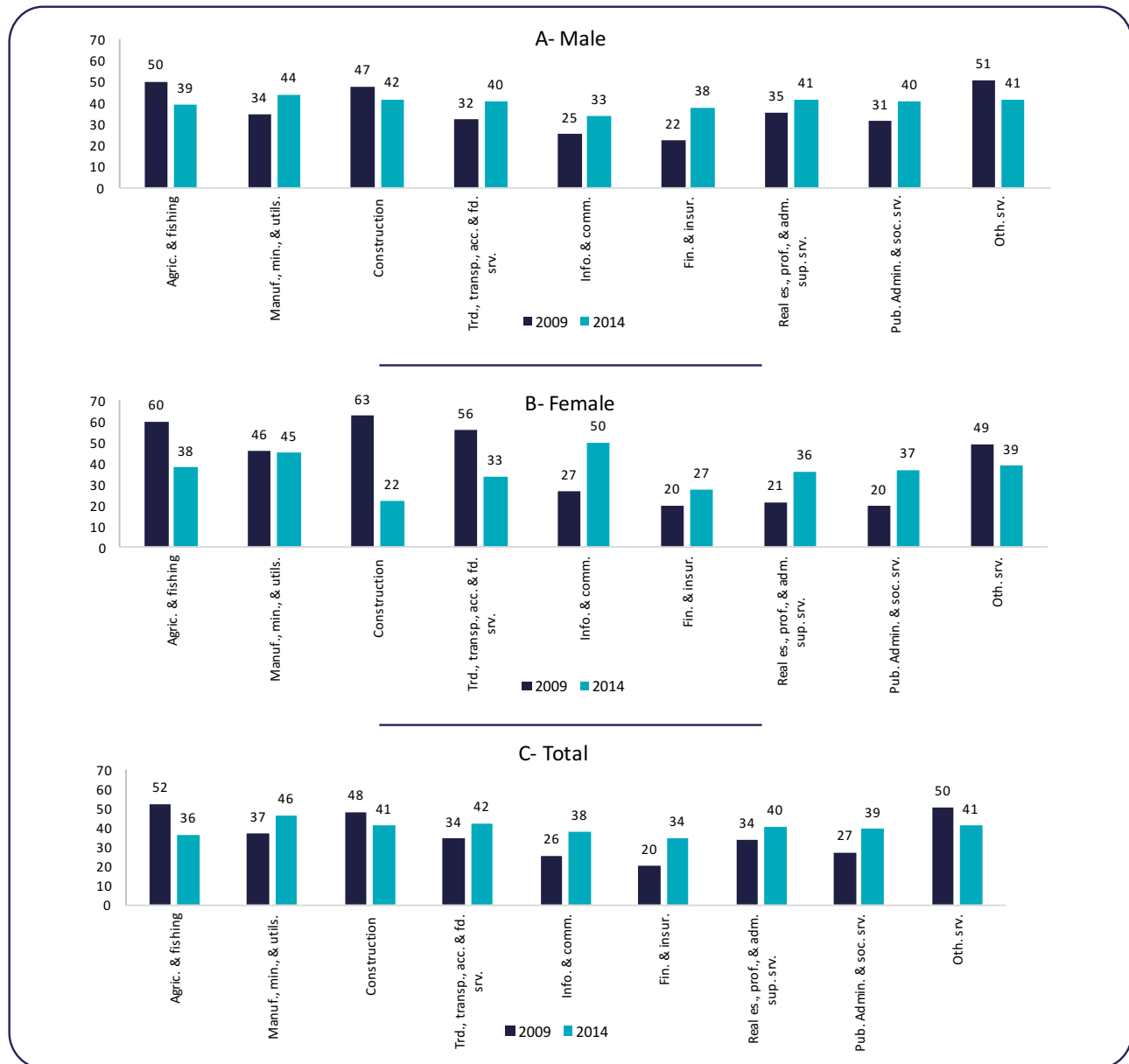
In analysing the working poverty rate by broad industry sector, figure 20 shows that the majority of workers in the agricultural sector are poor – the working poverty rate is about 52 and 36 per cent of employment in 2009 and 2014/15, respectively. This applies for both the male and female population. This suggests that the agricultural sector in Sudan exhibits low productivity. It also implies that the agricultural sector – the backbone of Sudan’s economy in the past – has had a marginal contribution

in poverty reduction. This can be due to several factors – including poor working conditions, lack of access to markets, low small-holder agricultural productivity, lack of extension services, climate shocks, natural disasters and swarms of desert locusts. Services sectors, such as ‘information and communication’ and ‘finance and insurance’, had the lowest working poverty rates over the 2009–14 period (figure 20). Overall, there is remarkable fluctuation in working poor poverty over time by broad

industry sector. While some sectors saw a reduction in the poverty rate in 2014 (e.g. agriculture, construction and other services), other sectors witnessed an increasing poverty rate (e.g. manufacturing, trade, finance and insurance and real estate). Overall, the structure of

employment, in terms of working poverty, exhibits a pattern common to developing countries, with a large share of the working poor in agriculture, but relatively little employment in manufacturing and services sectors (ILO 2019b).

► **Figure 20.** Share of working poor in employment, by industry and sex

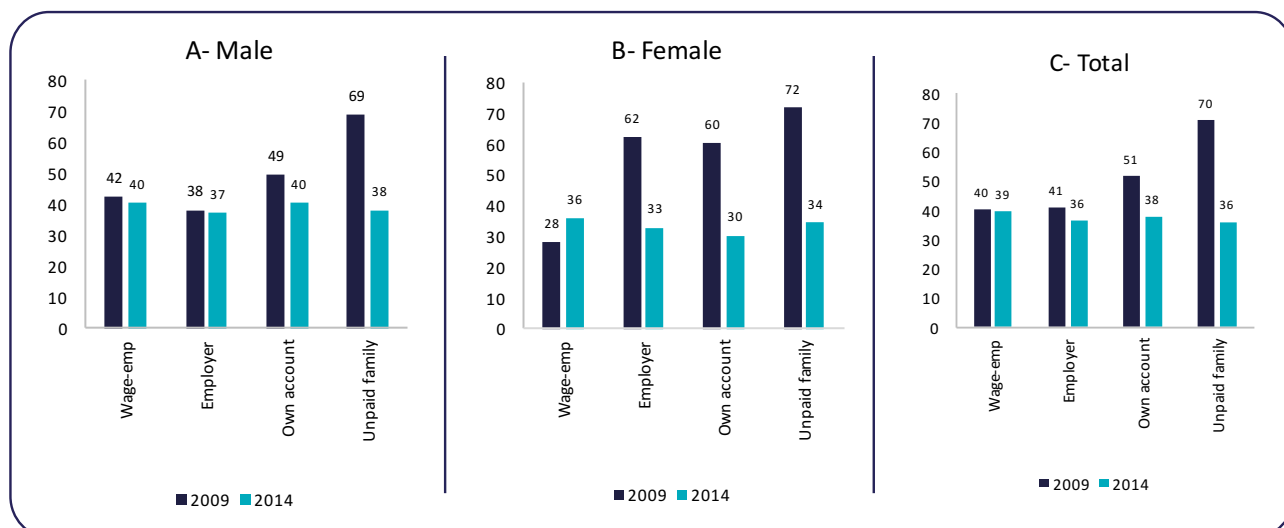


Source: Adapted from CBS (SHBS 2009, SHBS 2014/15).

Deconstructing the working poor by type of employment indicates that unpaid family and self-employed workers are the most affected group by poverty, followed by wage employment, in both the 2009 and 2014/15 surveys (figure 21). This can be explained by the fact that most own-account workers are informal employees who suffer

from inadequate working conditions. However, this group of employees registered the lowest rate of poverty in both 2009 and 2014/15. The poverty rate among unpaid family workers is higher among women workers compared to men.

► **Figure 21.** Percentage of currently employed working poor, by employment status and sex, ages 15–64



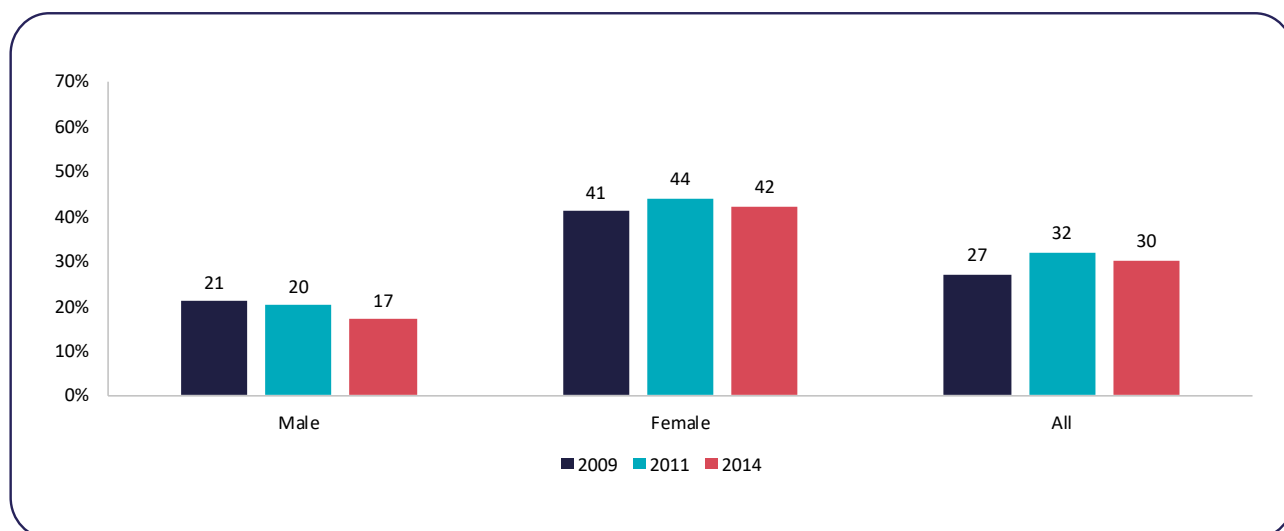
Source: Adapted from CBS (SHBS 2009, SHBS 2014/15).

»»» 4.2.5 Proportion of youth (15–24 years) not in education, employment or training

To comprehend the pattern of labour underutilization, it is important to calculate the proportion of youth (15–24 years) not in education, employment or training (NEET)³. Figure 22 shows that the percentage of youth NEET is higher for women than men in the three years analysed (2009, 2011 and 2014). The figure also shows that the proportion of youth NEET increased from 27 per cent

in 2009 to 32 per cent in 2011 and then decreased to 30 per cent in 2014/15, implying a high degree of human resources underutilized among youth in Sudan. This might explain the observed contraction of labour productivity growth and the unfavourable structural transformation in Sudan.

► **Figure 22.** Proportion of youth (aged 15–24) not in education, employment or training (NEET)



Source: Adapted from CBS (SHBS 2009 and SHBS 2014/15).

³ Scarcity of data prevented the authors from computing other labour underutilization indicators, such as 'discouraged job-seekers'.

Finally, table 5 presents the education-occupation mismatch in 2014.⁴ The table reveals that there is a high overeducation mismatch in most occupational categories.⁵ The incidence of overeducation varies across occupations, ranging from about 12.4 per cent for the 'professionals' category to about 71 per cent for the 'skilled

agriculture and fishing' category. This overeducation reflects a structural mismatch between the job market and educational institutions. This also suggests the need for an urgent revision of Sudan's educational policy, to be consistent with its labour market requirements.

► **Table 5.** The incidence of education-occupation mismatch 2014/2015

Occupation	Adequate	Overeducation	Undereducation
Professionals	62.01	12.42	25.57
Technicians, associate professionals	9.84	38.41	51.75
Clerks	40.06	34.58	25.36
Service worker and shop and market sales	13.43	50.52	36.04
Skilled agriculture and fishery workers	4.08	70.70	25.22
Craft and related trades workers	16.15	42.66	41.18
Plant and machine operators & assembly	16.34	46.83	36.83
Elementary occupations	31.62	68.38	-

Source: Constructed by the authors, based on the ILO (2004)- ISCO88 ILO documentation and Mapping of Sudan Education by ISCED (see Appendix 2b).



⁴ Data on occupational categories for the other two surveys (i.e. 2011 and 2014) are incomplete, hence preventing the authors from examining trends in overeducation over time.

⁵ The construction of the education-occupation mismatch index is detailed in Appendix 2b.



4.3 The link between the pattern of growth and the trend in labour market outcomes in Sudan

Based on the facts presented in sections 1 and 2, this section analyses the link between growth and labour market outcomes in Sudan. It investigates the sectoral contributions to labour productivity growth in order to assess to what extent the recent economic transformation has played a role in boosting aggregate

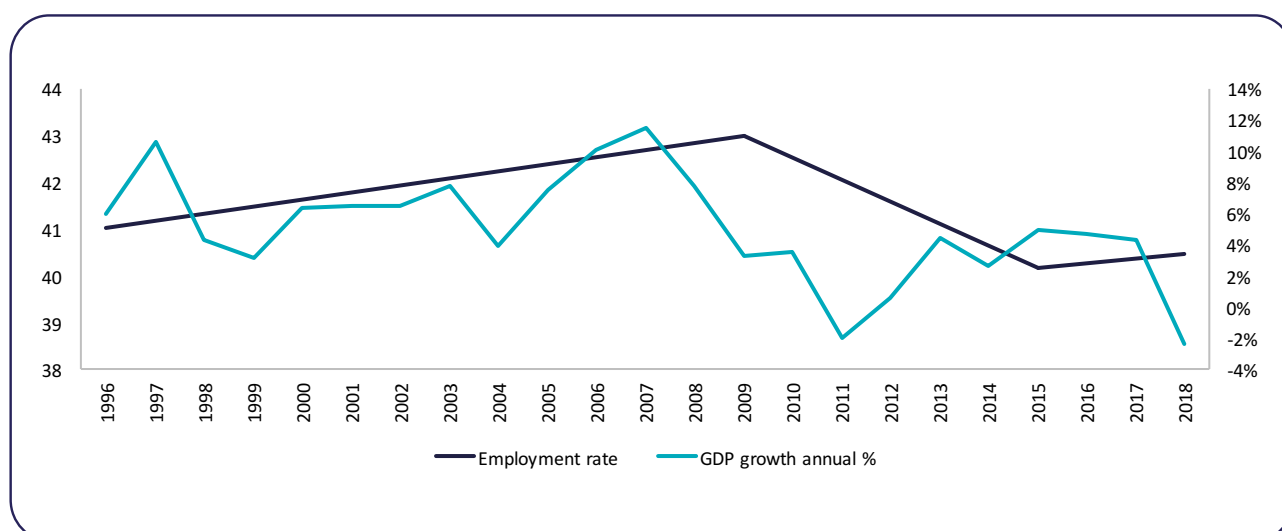
labour productivity growth in Sudan. This section also decomposes the contributions to productivity growth and skills upgrading into within-sector productivity gains and reallocation effects. Moreover, the section examines the links between the increase in the share of high-skilled workers in employment and productivity.

4.3.1 The link between economic growth and employment in Sudan

Despite the remarkable improvement in Sudan's growth performance during the oil boom, the secession of South Sudan in 2011 has led to a significant reversal in economic performance (figure 23). Consequently, employment has undergone remarkable deterioration in most sectors, particularly in manufacturing and construction as seen earlier, in figure 3. As can be seen in figure 23, there was

an obvious correlation between economic growth and employment. During the period of high economic growth (i.e. 1996–2009), the trend of employment shows a slight increase. However, after the separation of South Sudan in 2011 the country has seen an increase in unemployment. This confirms the fact that the contraction of the economy has reduced its ability to create new jobs.

► **Figure 23.** GDP growth and employment rate, 1996–2018



Source: GDP growth adapted from the World Bank 2020, CBS (SHBS 2009, SHBS 2014/15, SLFS 1996 & SLFS 2011), as well as employment data for 2018 adapted from the World Bank 2020.

As discussed in section 1, the secession of South Sudan has resulted in the loss of about 75 per cent of oil resources, leading to negative economic consequences (Alamir et al. 2014). Although the oil sector does not employ a large portion of the labour force (Nour 2011, 2014), its spillover effects to other sectors were an important factor in increasing employment in services and construction.

It is worth noting that during the oil exportation era, many sectors have grown, particularly services and construction, hence absorbing a huge number of workers. While labour productivity growth during the first period (2009–11) was negative, the second period (2011–14/15) witnessed positive labour productivity growth (see figure 24).

► **Figure 24.** Aggregate labour productivity growth, 2009–11 & 2011–14



Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

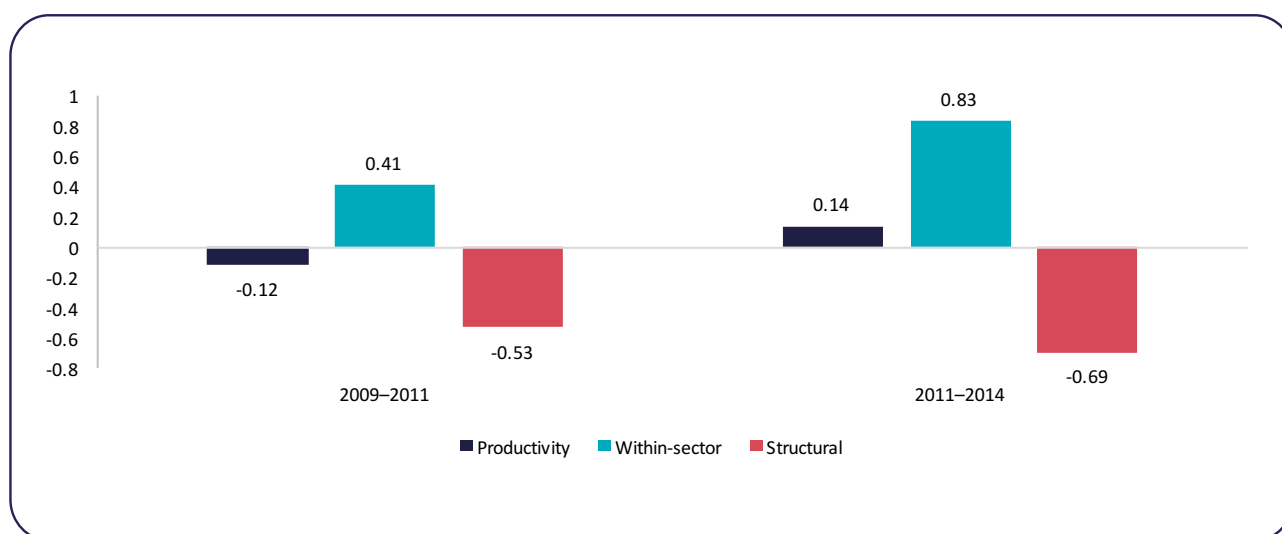
»»» 4.3.2 Decomposition of aggregate labour productivity growth

To better understand the link between growth and employment, the contributions to productivity growth can be decomposed into within-sector productivity gains and reallocation effects. This also allows for an analysis of the contribution of structural transformation to labour productivity growth between 2009 and 2014/15 in Sudan. Based on decomposition analysis, the sectors that have driven aggregate labour productivity growth over time can be identified. In addition, the decomposition

technique helps to pinpoint the sectors that drive labour productivity growth and to identify the effects of structural change and within-sector increases on growth (Roncolato and Kucera 2014; De Vries et al. 2015; Marouani and Mouelhi 2015). To this end, the two-fold decomposition approach used by McMillan and Rodrik (2011) and McMillan et al. (2017) has been adopted (see Appendix 3a). The results of decomposition are presented in figure 25.



► **Figure 25.** Within-sector and employment reallocation effects on aggregate labour productivity change, 2009–11& 2011–14/15



Note: Calculated based on the methodology detailed in Appendix 3a.

Source: Adapted from CBS (SHBS 2009, SHBS 2014/15, SLFS 2011).

While the change in labour productivity is negative (-0.12 percentage points) during the 2009–11 period, the productivity is positive (+0.14 percentage points) during the 2011–14/15 period (figure 25).

Decomposing productivity into within-sector and structural components, the results indicate that while within-sector is positive in both periods, the between-sector change, or structural shift is negative in both periods (figure 25). This result means that within-sector increases in productivity, but between-sector reduces aggregate labour productivity growth. During 2011–14/15, the within-sector component contributed positively to aggregate growth, but the negative structural change component outweighed the positive within-sector component, leading to overall negative aggregate productivity growth. On the other hand, while the contribution of within-sector productivity growth was positive (0.83 percentage points) in 2011–14/15, the structural change component made a -0.69 percentage point contribution to aggregate growth, leading to a small positive percentage point increase (0.14) in the aggregate productivity growth. This result is in line with the evidence of Roncolato and Kucera (2014), which suggests that within-sector effects are more important drivers of aggregate labour productivity growth than reallocation effects. The negative structural change (between-sector) component indicates that workers in Sudan move to sectors that have both below average productivity levels and below average productivity growth. Reallocation effects account for a huge reduction in aggregate labour productivity growth in the both periods. These findings corroborate those of Roncolato and Kucera (2014), who documented that in MENA countries the reallocation

effect is negative, implying that workers move towards lower productivity sectors. This result also mirrors the reversal of structural economic transformation in the last decade in Sudan. Indeed, after the secession of South Sudan, agriculture became the main employer again and an important destination for a huge segment of the labour force in Sudan (see figure 3).

At the sectoral level, within- and between-sector productivity both vary by sector and over time (See table 6). The contributions of both within- and between-sector productivity are negative in most sectors in the first period, confirming the contraction in overall productivity (figure 25). Notably, the contribution of within- and between-sector productivity is negative for agriculture in both periods. However, in the second period, the manufacturing and public services sectors started to receive positive contributions from within- and between-sector effects. While the financial and insurance sector gained positive within- and between-sector contributions in the first period, during the second period it was negatively impacted by both within- and between-sector contributions. Overall, there is no clear association between the components of within- and between-sector productivity over time for Sudan.



Productivity decomposition analysis indicates that within-sector has been the main driver of aggregate productivity growth over the last two decades, while the between-sectors component has a negative contribution to overall productivity.



► **Table 6.** Within-sector and employment reallocation effects on aggregate labour productivity change, by sector (2009–11 & 2011–14)

Sector	2009–11		2011–14	
	Within	Between	Within	Between
Agriculture, forestry and fishing	-54.1	-42.6	-27.1	-29.0
Manufacturing	-74.4	-22.8	43.7	44.4
Construction	3.1	0.7	-2.3	6.0
Wholesale, retail, transport, accommodation, food	-47.4	-53.0	91.8	102.6
Financial, insurance and real estate activities	265.3	200.8	-26.0	-29.9
Public admin., defense, education, health, social work	-33.8	-13.2	20.6	12.4
Other service activities	41.4	30.1	-0.7	-6.4
Elementary occupations	31.62	68.38	-	

Source: CBS (SHBS 2009 and 2014/15, and SLFS 2011).

Table 7 presents the contribution of sectors to aggregate labour productivity growth. Except for the manufacturing and public administrative sectors, all sectors during the 2009–11 period have positively contributed to labour productivity. However, the negative contribution of manufacturing and public administrative sectors (-157 and -57, respectively) counteracts the positive share of other sectors, making overall productivity growth negative. It is worth noting that the construction sector was also negatively affected by the secession of South Sudan. In 2011–14/15, the contributions of the manufacturing and public administrative sectors turned out to be positive and were the main drivers of labour productivity growth. Despite the fact that the agricultural sector is the biggest

absorber of the labour force in Sudan, its contribution to productivity growth is low and has fluctuated over time (table 7 and figure 4). Specifically, during 2009–11 the agricultural sector's share in labour productivity growth was very low (3 per cent), while in 2011–14/15 its contribution was negative (-18 per cent). However, 'wholesale' and 'other services' were the only two sectors that experienced positive productivity in both periods. In 2009–11, the services sector made a considerable contribution to labour productivity growth. Therefore, labour productivity growth has primarily been driven by the services sector over the past ten years. This result confirms the fact that the services sector is the main contributor to GDP in Sudan (see table 1).

► **Table 7.** Sectoral contributions to aggregate labour productivity growth (percentage)

Sector	2009–11	2011–14
Agriculture, forestry and fishing	3	-18
Manufacturing	-154	40
Construction	7	-43
Wholesale, retail, transport, accommodation, food	72	38
Financial, insurance and real estate activities	20	-7
Public admin., defense, education, health, social work	-57	61
Other service activities	9	27

Source: Adapted from CBS (SBHS 2009 and 2014/15 and SLFS 2011).

»»» 4.3.3 Decomposition of skills upgrading

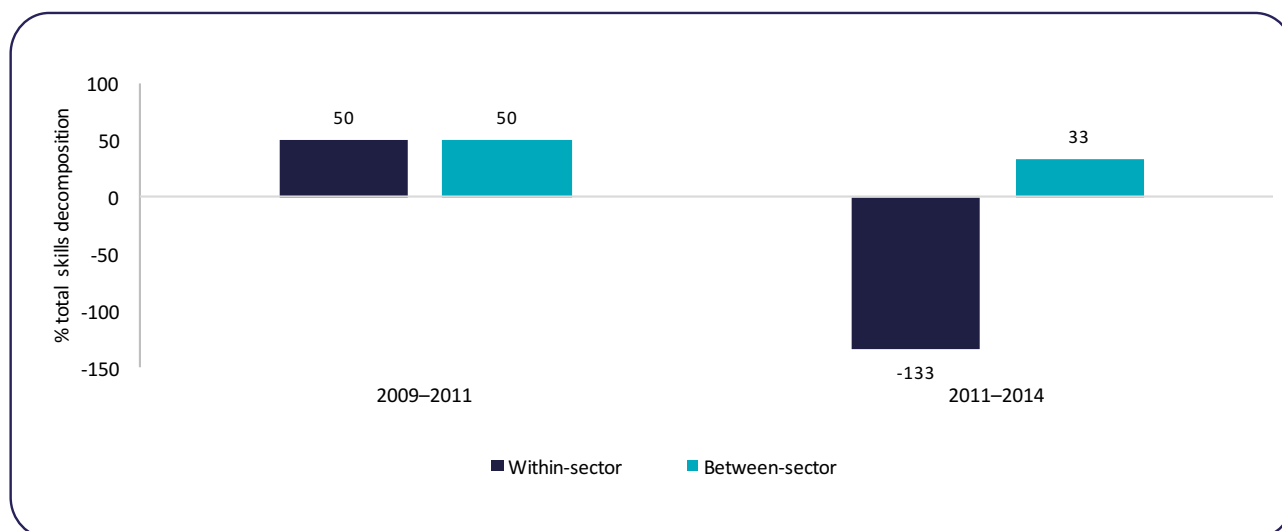
The above analysis shows some fluctuations in labour productivity growth in Sudan. In addition, the country saw remarkable fluctuations in the share of the high-skilled category of labour in total employment over

the 2009–14/15 period (see figure 26). It is important to examine the role of high-skilled workers in labour productivity growth, since Sudan has undergone a remarkable expansion in education over the last three

decades, particularly in tertiary education (UNESCO 2018). Therefore, the decomposition approach suggested by Berman et al. (1998) is used to calculate the within-sector

and structural change components to skills upgrading (see Appendix 3a).

► **Figure 26.** Decomposition of aggregate skills, proportion, 2009–11 & 2011–14/15



Note: Calculated based on Appendix 3a. High-skilled refers to those with a university degree and above.

Source: Adapted from CBS (SHBS 2009 and 2014/15, SLFS 2011).

Table 8 shows the within- and between-sector contributions to skills upgrading in Sudan during the 2009–11 and 2011–14/15 periods, for the whole economy and for each sector. While skills upgrading was positive during 2009–11, the 2011–14/15 period witnessed a negative change in the overall share of high-skilled employment (table 8). In the first period, both the within- and between-sector contributions to skills upgrading were positive and equal, accounting for 50 per cent each.

During the second period, the contribution of within-sector was negative and very high (-133.3 per cent) and the structural component was positive (33.3 per cent). Therefore, the negative overall skills upgrading during the 2011–14/15 period was mainly driven by a reallocation of high-skilled workers to different sectors. The significant negative contribution of the within-sector component of skills upgrading in 2011–14/15 suggests a reduction in the educational levels of workers within sectors.

► **Table 8.** Decomposition of skills, by broad sector (percentage), 2009–11 & 2011–14

Sector	2009–11		2011–14	
	Within	Between	Within	Between
Agriculture, forestry and fishing	83.5	59.4	131.0	437.3
Manufacturing	1.3	1.0	1.3	-10.6
Construction	2.4	-0.2	-1.5	-23.0
Wholesale, retail, transport, accommodation, food	36.9	32.9	7.0	-318.7
Financial, insurance and real estate activities	-1.7	-3.9	0.6	10.7
Public admin., defense, education, health, social work	-1.9	13.3	1.5	-99.4
Other service activities	-19.9	-1.8	-39.9	103.8
Elementary occupations	31.62	68.38	-	

Source: Adapted from CBS (SBHS 2009 and 2014/15 and SLFS 2011).

Investigating the contribution of within- and between-sector to skills upgrading by sector, table 8 indicates that except for agriculture, all other sectors exhibited remarkable fluctuations in their within- and between-sector contributions over time.



The contradiction between labour productivity and educational attainment implies that there is no relationship between productivity and higher education at both overall and sectoral levels, raising concerns about the quality of education in Sudan.



The positive overall skills upgrading in the agricultural sector over the two periods suggests that the agricultural sector absorbed a considerable number of high-skilled workers in the last few decades. This may be due to limited employment opportunities in the government sector in recent years, which pushed a great part of educated youth to work in agriculture. However, the service sectors – which have been important contributors to labour productivity growth in recent years – have witnessed low and negative within- and between-sector contributions to skills upgrading over time.

4.3.4 The link between high-skilled employment and labour productivity growth

Furthermore, to investigate the contribution of high-skilled labour in productivity, the link between skills upgrading and labour productivity growth is examined. The results show that labour productivity contracted and then expanded during 2009–11 and 2011–14/15, respectively (figure 24). In contrast, skills upgrading has seen an expansion followed by a contraction during 2009–11 and 2011–14/15, respectively (figure 26).



There is an obvious link between growth performance and labour market outcomes in Sudan over the past two decades – with positive, stable growth and low unemployment before the secession, followed by negative growth and high unemployment.



Looking at the sectoral level of this correlation, for both the first and second periods, there is no association between skills reallocation and resource reallocation, as well as between the within-sector component of productivity and the within-sector component of skills. This contradiction between labour productivity and skills upgrading implies that there is no relationship between productivity and higher education at both overall and sectoral levels. The above analysis confirms that the expansion in higher education during the last decades has no significant role in enhancing labour productivity in recent decades, raising concerns about the quality of education in Sudan.





4.4 Conclusion and policy recommendations

This study has examined the link between growth performance and labour market outcomes in Sudan over the period from 2000–18. After outlining the trends in macroeconomic performance and the labour force participation rate, unemployment and aggregate labour productivity growth were then decomposed into its sectoral components to identify which sectors contributed most to productivity growth. Aggregate labour productivity and skills upgrading were also decomposed into within-sector and structural change components. Finally, the study examined the link between high-skilled employment and labour productivity growth at both sectoral and overall levels.

The analysis reveals that there is an obvious link between growth performance and labour market outcomes in Sudan, during the last two decades. While during the period of positive and stable growth (i.e. before the secession of South Sudan) the country reported low unemployment rates, during the period of contraction associated with the loss of oil resources, the country saw high unemployment.

This analysis suggests the need for targeted measures to enhance job-creation and private and foreign investment, revise education policies and diversify economic activities.

The results also show that the agricultural sector continued to be the main labour-force absorber for nearly 50 per cent of the country's poor workers. Moreover, the analysis shows that labour productivity growth is driven primarily by the services sector, while the contribution of the agricultural sector is very negligible, despite its significant contribution to employment.

The results of productivity decomposition indicate that within-sector has been the main driver of aggregate productivity growth over the past two decades, while the between-sector component has made a negative contribution to overall productivity. On the other hand, the skills decomposition reveals that the contributions of within- and between-sector components to skills upgrading fluctuate over time. In the first period, both the within and between-sector contributions to skills upgrading are positive, while during the second period the within-sector contribution is negative, but the structural component is positive. The decomposition at a sectoral

level indicates that there is no association between skills reallocation and resource reallocation, as well as between the within-sector component of productivity and the within-sector component of skills upgrading. This contradiction suggests that the expansion in education during the last decades has no significant role in enhancing labour productivity in Sudan.

In light of the above findings, serious measures are necessary to enhance the creation of jobs in Sudan's economy. In particular, more attention should be given to factors that improve labour market outcomes and economic performance. Specifically, measures that boost economic growth and improve macroeconomic performance, such as enhancing private and foreign investment, should be at the top of policy agendas. Moreover, a serious revision of the country's education policy is needed to offer the labour market high-skilled workers. Furthermore, diversifying economic activities should be prioritized to create more employment opportunities, particularly for youth.

This study had some limitations. First, efforts to analyse labour market indicators such as labour underutilization, informality and education-occupation mismatch, were constrained by the scarcity of labour force surveys. Second, most of the analysis is based on data that were drawn from the budget surveys besides the sole labour survey after 2000 (i.e., SLFS 2011); hence, the absence of many labour surveys prevented the investigation of longer trends in labour market outcomes. Third, the analysis was limited to covering the period from 2000 to 2014/15 and the authors could not cover the recent and potentially important changes in labour market indicators during the last years, mainly, due to the scarcity of relevant, reliable and consistent data for this period. Fourth, Sudanese data suffer from some discrepancies, as the data drawn from national statistical offices like CBS do not align with the definitions and standards of international labour statistics (ILCS – ILO) and UN growth accounting standards.

Therefore, it is hoped that the issue of labour force surveys will receive special attention from the Government and regional and international organizations as well as the private sector. Moreover, it is hoped that new data collection practices will be matched with international standards and conventions. It is also hoped that the collaboration between the Ministry of Labour and CBS will facilitate the training of specialists and experts to

ensure consistency between national and international data collection and standards. Finally, in the midst of the current COVID-19 pandemic and its devastating impact on labour markets, the country's recovery plans should take into account the long-term challenges to jobs and growth

while exerting extra efforts to mitigate the social and economic impacts on vulnerable groups, including youth, informal workers and the poor.





Growth and employment patterns in pre-and post-uprising in Tunisia

By

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Introduction

Tunisia was hit hard by the COVID-19 pandemic. Beyond the health consequences, this pandemic has revealed the vulnerability of a large portion of the population to economic shocks, and the poor quality and precariousness of the jobs created by the Tunisian economy.

Unemployment has increased by 3 percentage points during the second quarter of 2020 and long-lasting structural problems in the labour market have been accentuated. Even before the pandemic, several sectors of the economy were in crisis (World Bank 2014) and are now facing a further decline in demand and the disruption of supply chains. Tunisia's 78th place in the World Bank Doing Business ranking (2020d) reflects the business climate in which companies operate, which has a considerable influence on the attractiveness of the country to national and foreign investment, and therefore its capacity to create jobs. Over the last decade, Tunisia's ranking has steadily declined in comparison with comparable countries and some neighbours, such as Morocco.

The current health crisis in a country that is also undergoing a political transition has highlighted even further the challenge of job creation. Indeed, the creation of good and sufficient jobs is the cornerstone of any country's development, as is improving the well-being of the population and strengthening the resilience of households to unexpected shocks. Good jobs generate sufficient income, reduce poverty and improve overall productivity in the short- and long-term through improved access to education and health, thus facilitating the accumulation of human capital. The recent pandemic has also revealed the need to adapt to the changing nature of work and the digital skills required for telework. This challenge concerns both firms and workers.

Prior to the political change in 2011, Tunisia recorded solid growth, averaging about 4.3 per cent between 2000 and 2010. Poverty fell from 25.4 to 20.5 per cent over the same period. However, between 2011 and 2019, average annual growth did not exceed 1.7 per cent. The year 2020 is expected to be a difficult one, with a projected growth of -8.6 per cent, as a result of COVID-19 effects. The latest poverty estimate for 2015 shows that 15.2 per cent of the Tunisian population (1.6 million people) lives below the national poverty line (INS 2018).

In this context, several questions emerge concerning the link between the growth achieved and the economy's capacity to create enough high-productivity jobs. Has the Tunisian economy succeeded in transforming itself and reallocating the labour force from the least productive sectors, namely agriculture, to the most productive sectors that are the main source of good jobs? International experience suggests that economic development implies a sustained transformation of productive activities from agriculture to industry and then to services. What about the structural transformation of the Tunisian economy? What is the quality of the jobs created in recent decades?

The objective of this chapter is to analyse the general macroeconomic context and its effect on job creation. Based mainly on data from labour force surveys, and macroeconomic and sectoral data, the trends over the last 15 years of growth are analysed, as well as the dynamics and quality of the jobs created. Specifically, this chapter attempts to shed light on the characteristics of the labour force and the distribution of workers across industries, to contribute to a better understanding of the constraints on job creation.



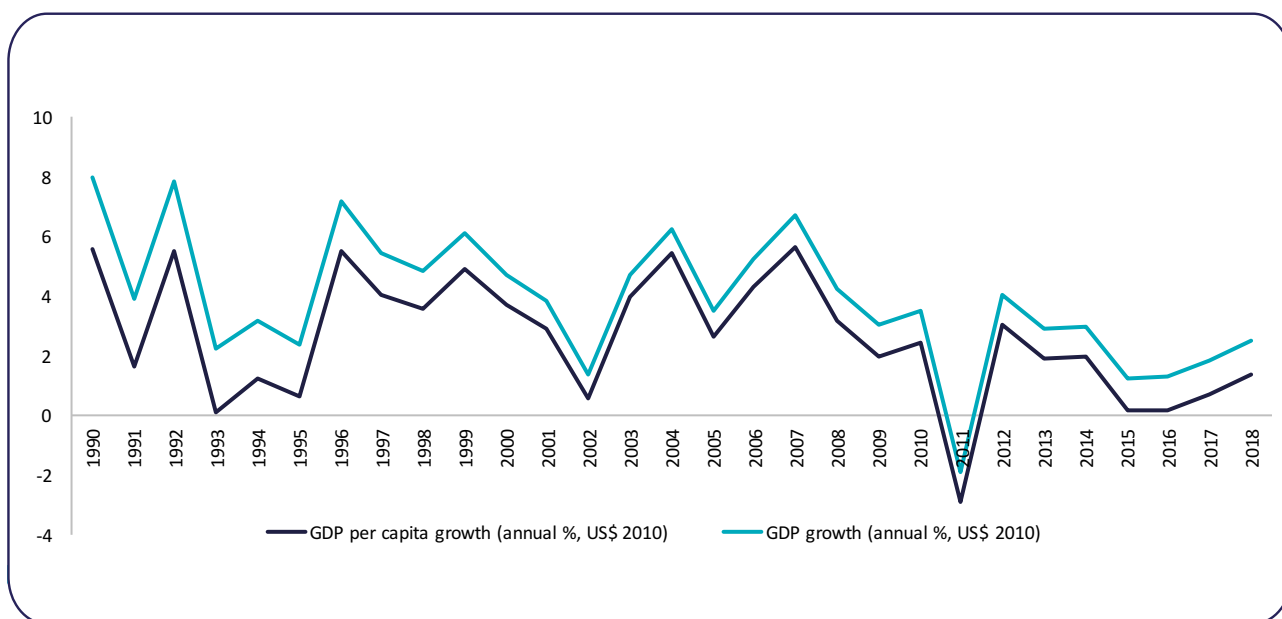
5.1 The pace and pattern of growth

5.1.1 Real GDP and per capita GDP growth

Throughout the last two decades, Tunisia's real GDP growth has followed a saw-tooth pattern, undergoing external and internal shocks. The economic and financial crisis of 2008–09 was one of the sparks that ignited the

popular uprising of 2011. Despite a slight improvement in 2012, the economy has never recovered due to the absence of a stable political and macroeconomic environment.

► **Figure 1.** Real GDP growth and real GDP per capita growth (annual %, 2000–18, constant 2010 US\$)



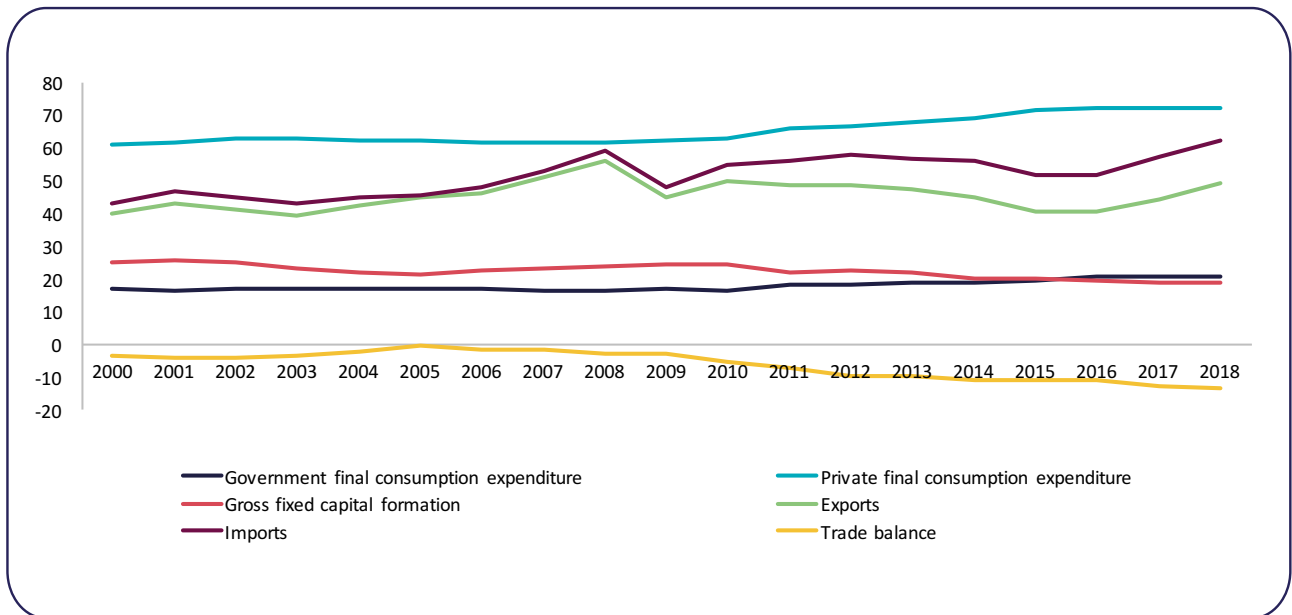
Source: World Bank. 2020a; 2020c.

5.1.2 Composition of GDP

GDP composition shows an increasing public expenditure trend between 2000 and 2018, going from 16.7 to 21 per cent (figure 2). Private final consumption expenditure has increased at the expense of investment since 2010. The contribution of investment to GDP showed a decreasing trend since 2011, reflecting the consequences of political and social turmoil. On the other hand, the trade balance showed remarkable improvement between 2000 and

2007 but a deterioration starting from 2008 that was dramatically accentuated beginning in 2008 under the combined effects of the 2008–09 financial crisis and the political upheavals starting in 2011. The deficit of the external balance increased more than six-fold between 2007 and 2018, due mainly to disruptions in oil and mining, following international market prices and worker unrest.

► **Figure 2.** Composition of GDP (% , 2000–18)



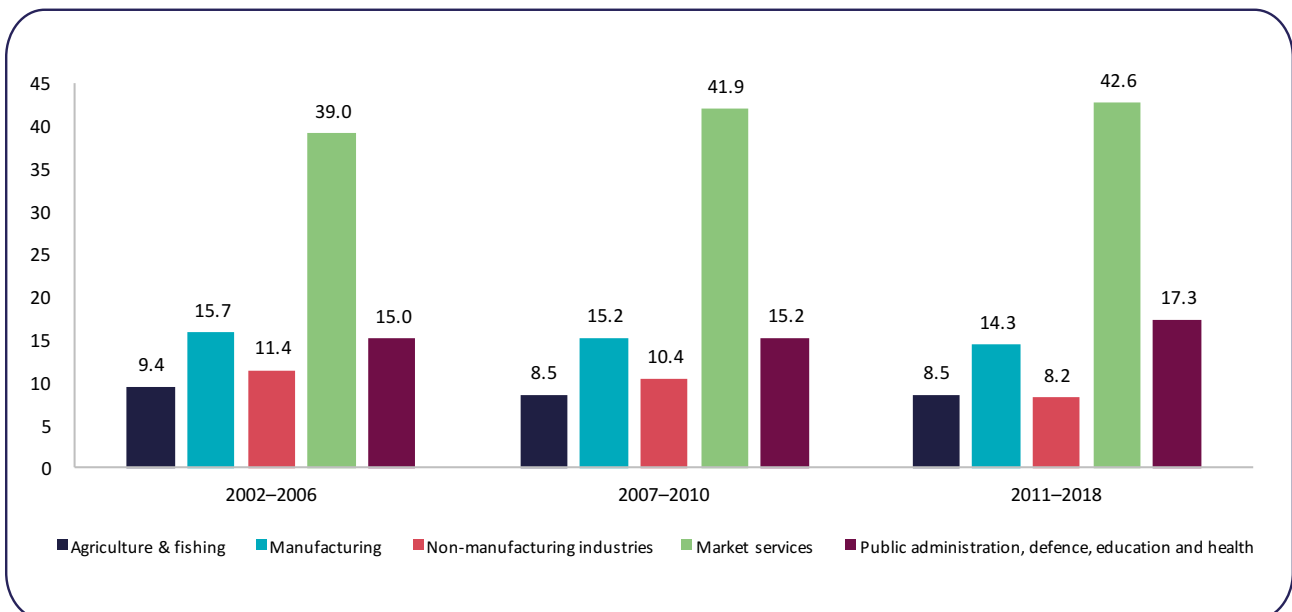
Source: World Bank. 2020c.

»»» 5.1.3 Distribution of value added and employment by broad industry sectors

The distribution of value added by sector (figure 3) shows that the service sector (market and non-market) accounted for about 60 per cent of GDP during the last decade. On the other hand, there has been a significant decrease in the share of non-manufacturing industries,

due to social unrest in the phosphate industry and the slowdown of oil drilling projects. Agriculture and fishing maintained a stable growth rate, of about 9 per cent over the last three decades.

► **Figure 3.** Distribution of value added, by broad sector, % of GDP, 2005 prices

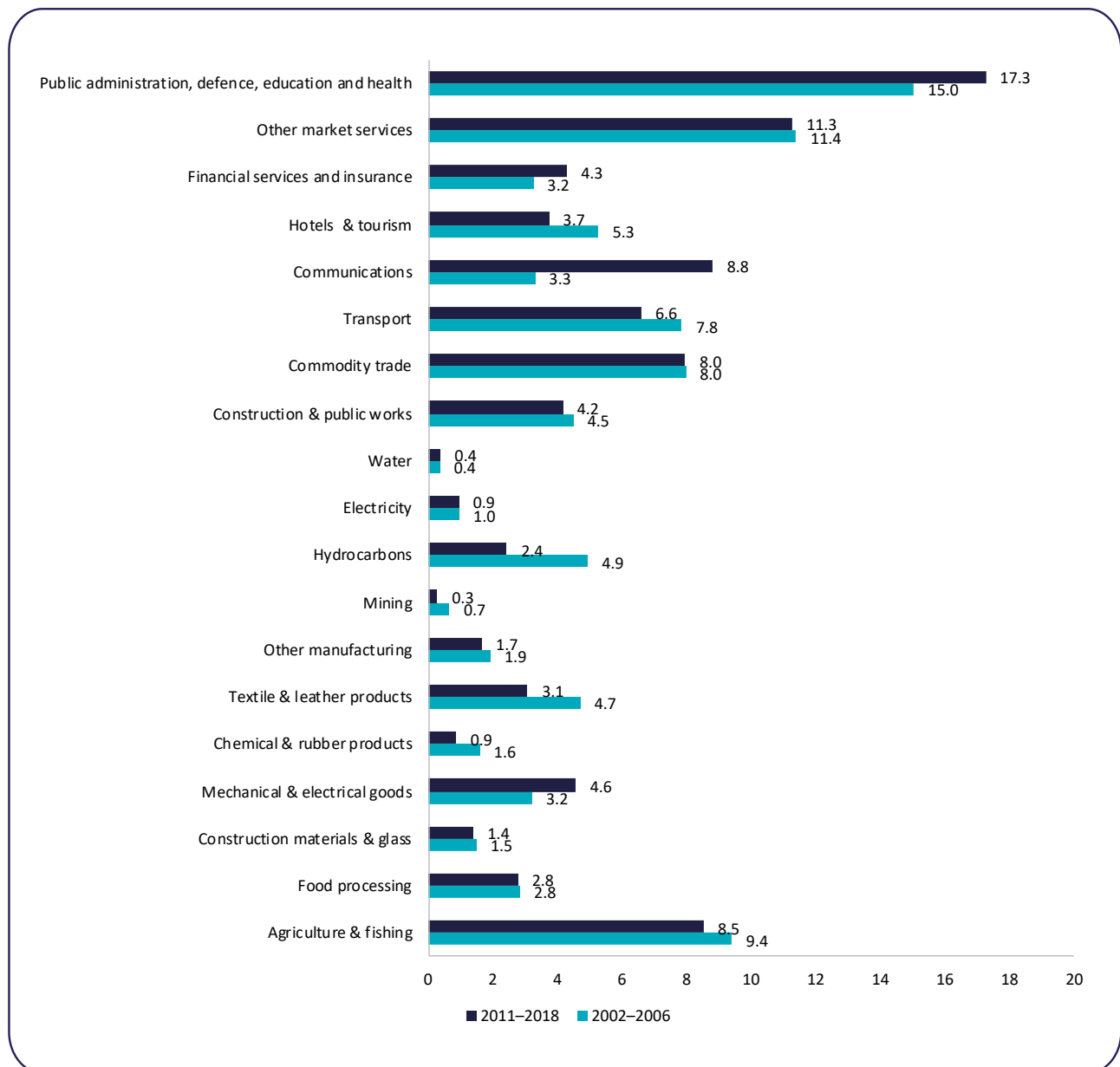


Source: Authors' calculation, based on data from the National Statistical Institute's Labour Force Surveys (INS 2019) and the Tunisian Institute of Competitiveness and Quantitative Studies (ITCEQ 2020a; 2020b).

Analysis at a more detailed level shows a halving in the weight of hydrocarbons between 2002–06 and 2011–18 (from 4.9 to 2.4 per cent), and a decrease of more than half for the mining industries (from 0.7 to 0.3 per cent). The problems experienced by these two sectors have dramatically impacted the chemical and rubber products sector, which has seen its share decline by almost half (from 1.6 to 0.9 per cent). For its part, the textile and leather products sector has suffered from very intense

competition from China and other countries, such as Turkey, despite having been one of the main beneficiaries of the industrial upgrading programme. On the other hand, increases were seen for communications (rising from 3.3 to 8.8 per cent) and financial services and insurance (from 3.2 to 4.3 per cent), which were the main drivers of 'market services' during the last decade (figure 4).

► **Figure 4.** Distribution of value added by industry sector, % GDP, 2005 prices

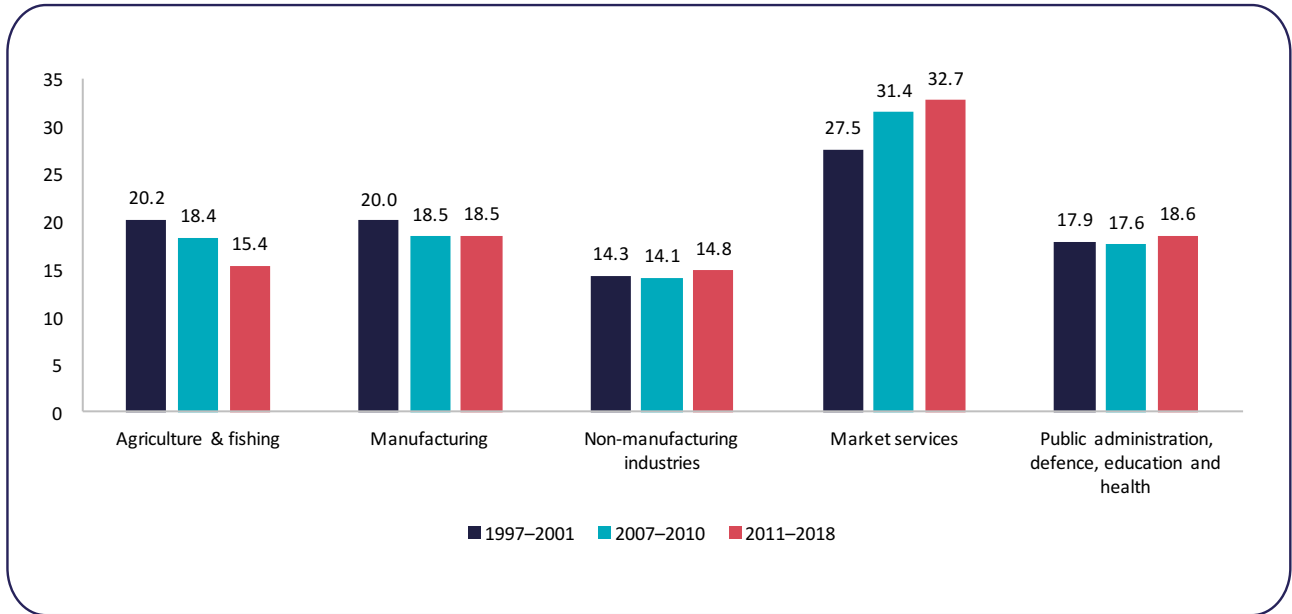


Source: Authors' calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

Regarding the distribution of the labour force, figure 5 shows a gradual decrease in the agricultural sector's share. In contrast, the service sector's share becomes increasingly important, reflecting its increasing contribution to GDP. It can be seen that over the period 2000–19, the share of the agricultural sector dropped from 19.8 to 13.9 per cent (-6 percentage points) while at

the same time, the share of the services sector (market and non-market) grew from about 46 to 52 per cent (6 percentage points). It is also important to note the decline in the share of employment in the manufacturing sector from 20 to 18 per cent in favour of the market services sector, contrary to the trend observed in middle-income countries.

► **Figure 5.** Distribution of total labour, by broad industry sector



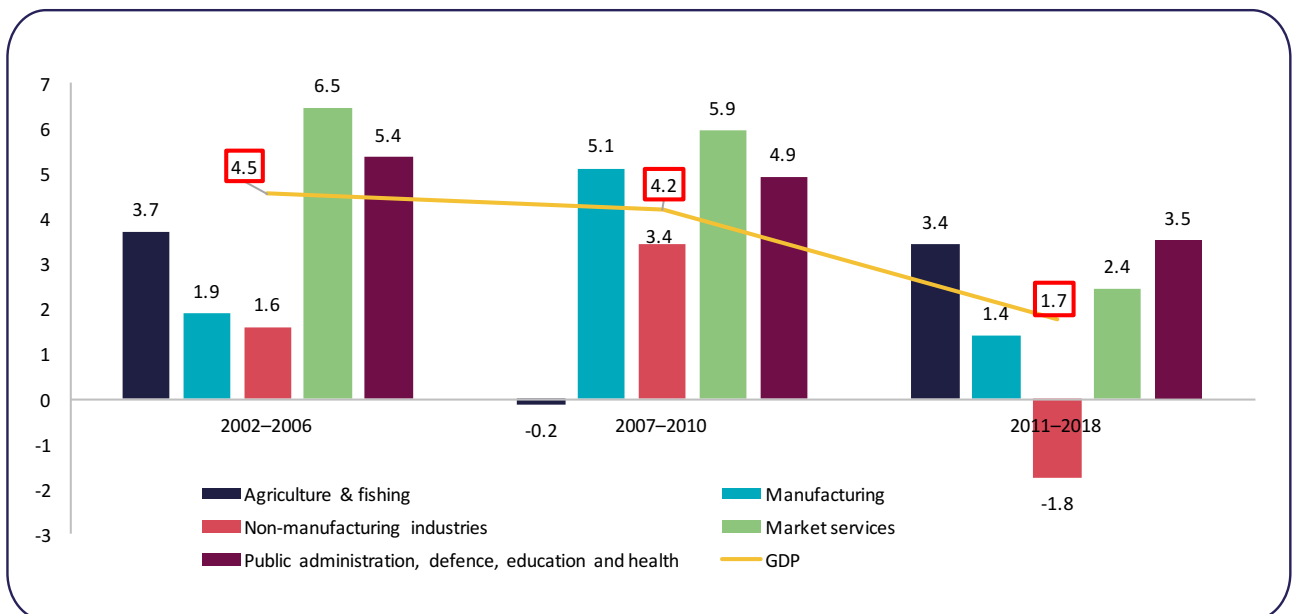
Source: Authors' calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

»»» 5.1.4 Growth of value added and employment by broad industry sector

As shown in figure 6, there was a deterioration in the average annual growth in the value added for all sectors (barring agriculture and fishing) during the last decade (2011-18). The most impacted sector has been the non-manufacturing sector, which witnessed a negative average of about -1.8 per cent over that period. The second most impacted sector has been the manufacturing sector,

which experienced a loss of four points between 2007-10 and 2011-18. By contrast, the only sector that witnessed an improvement between the last two decades has been agriculture and fishing, owing to exceptional olive oil and date harvests. Following the 2011 uprising increases in public sector recruitments and wages have artificially increased the added value of non-market activities.

► **Figure 6.** Average annual growth of the value added, by sectors and by sub periods, %, 2005 prices



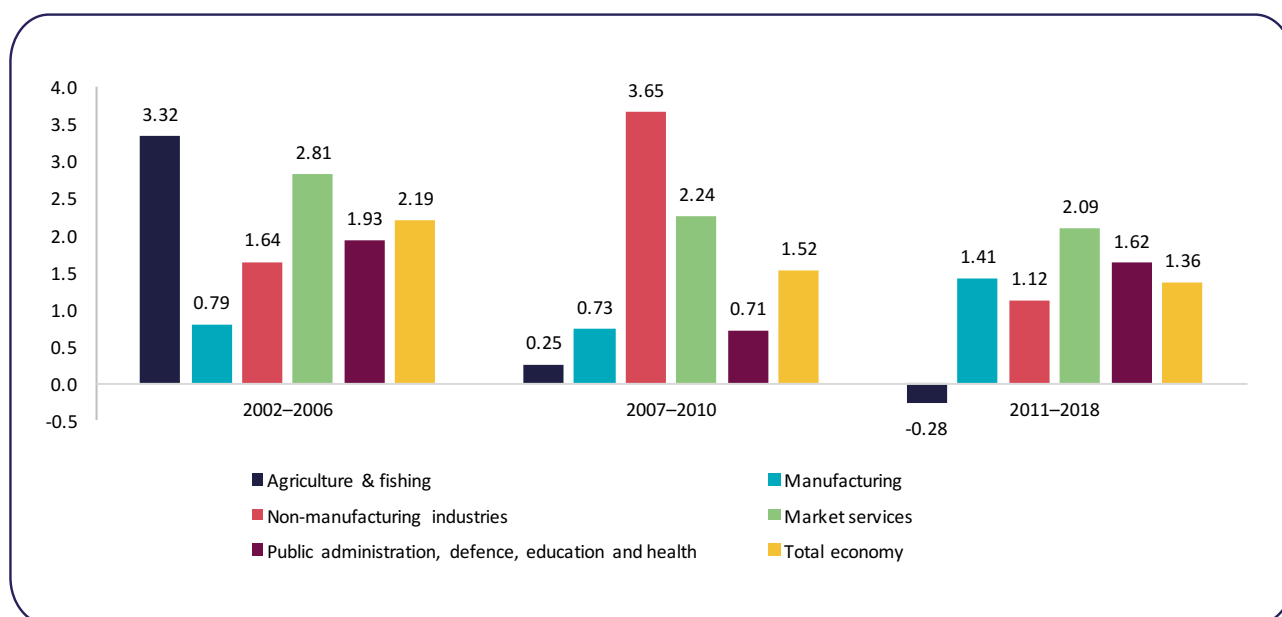
Source: Authors' calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

As shown in figures 7 and 8, the Tunisian economy's sectoral transformation was accompanied by a weak reallocation of labour across sectors. Hence, employment in services (market and non-market) has seen a positive growth of total employment share. In contrast, the other sectors have seen stagnant progress in their share (manufacturing) or a decline in their employment share of growth (agriculture and non-manufacturing).

Services accounted for more than half of total employment during the last decade (compared to 45 per cent during

the 1997–2001 period), the largest part accruing to market services with 32.7 per cent (compared to 27.5 per cent in 1997–2001) (figure 5). Regarding non-market services (public administration, defence, education, health), as of 2011, they have been used as an adjustment variable to absorb in particular workers with tertiary education (Ghali and Zitouna 2018). Thus, market services and non-market services experienced the highest average annual growth in employment during the last decade, 2011–18 (figure 7).

► **Figure 7.** Average annual growth in employment, by sectors, %



Source: Authors' calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

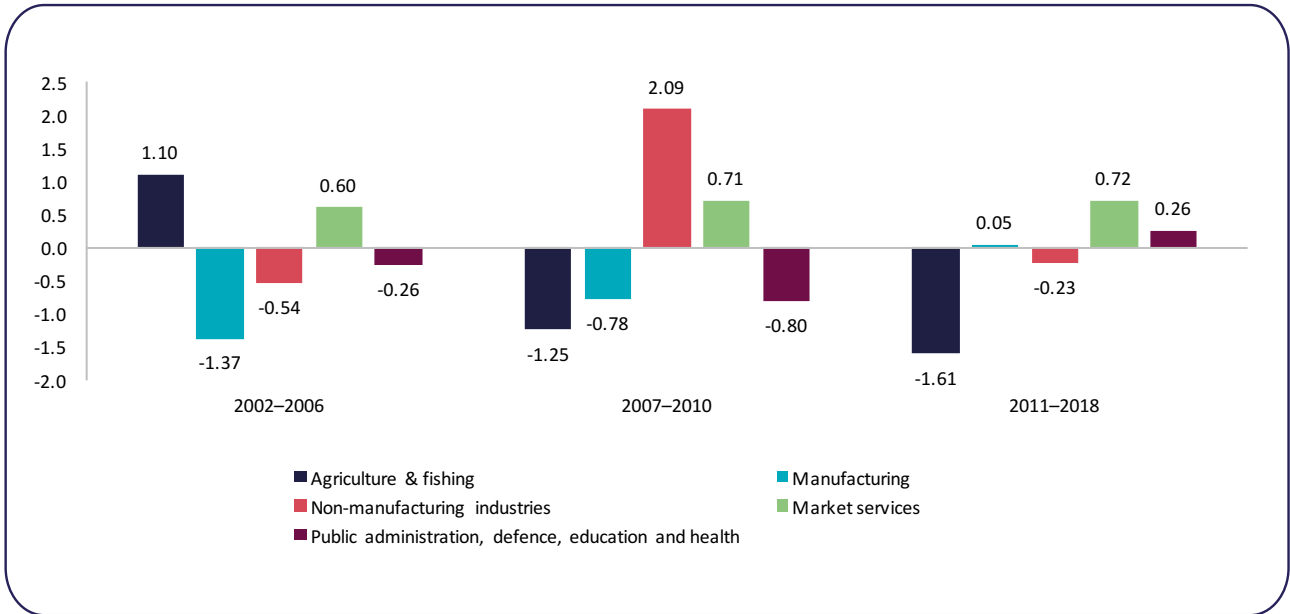
According to the National Institute of Statistics (INS 2010–17), the number of public sector employees rose from 435,487 in 2010 to 642,918 in 2017, an increase of 47 per cent with an average annual growth rate of 5.87 per cent. It is important to note that the number of civil

servants jumped by 19.8 per cent between 2011 and 2012 alone. Some 7,616 agents were recruited under the general amnesty, 2,991 from the Families of Martyrs and Wounded of the Revolution¹, and about 54,000 under 'Mechanism 16'² (construction workers).

¹ Post-2011 governments have established a programme to recruit one person from each family whose members were killed or injured during the demonstrations in December 2010 and January 2011.

² This mechanism, created in 2000, and coming under the National Employment Fund, consists of an internship contract in a public administration, lasting nine months. The objective is to train the graduate in a trade, pick up a skill, or a profession to access the job market. A salary of 120 Tunisian dinars (US\$43) was initially paid to the beneficiary. Then, it was revised upwards, to reach 200 dinars (US\$72). However, this mechanism has been distorted; some beneficiaries have renewed their contracts for up to ten years sometimes, contrary to the spirit of a nine-month internship.

► **Figure 8.** Average annual growth in the employment share, by sector, %



Source: Authors' calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

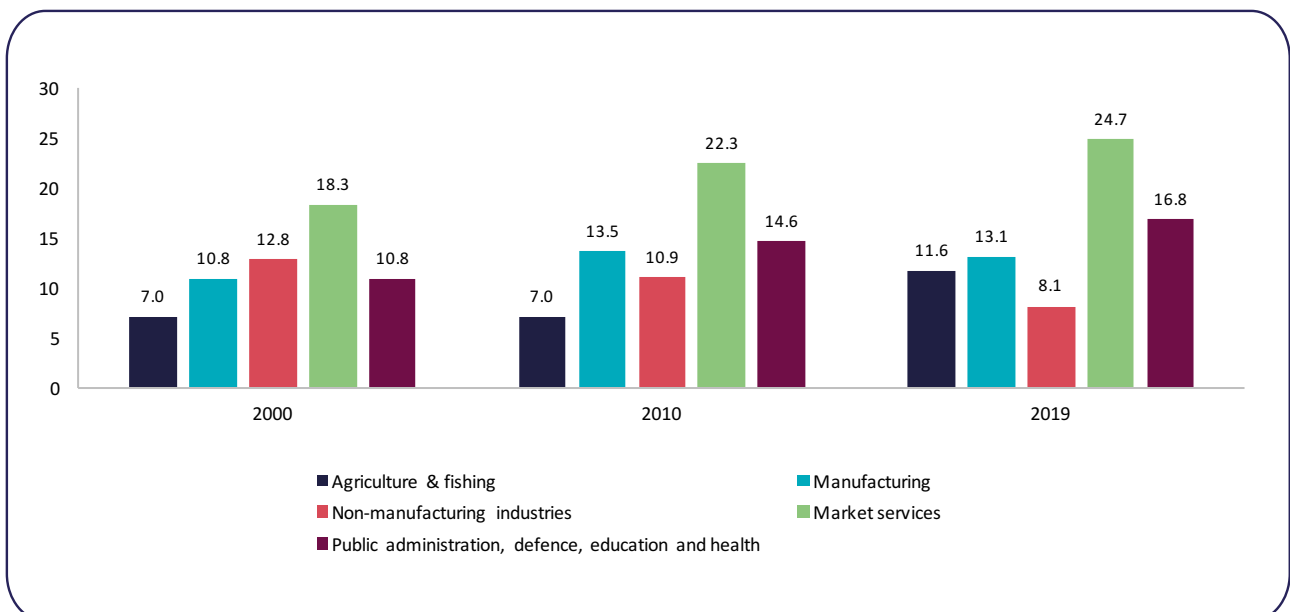
»»» 5.1.5 Value added per worker (labour productivity), by broad industry sector

Figure 9 shows that market services produced the highest labour productivity in 2019, followed by non-market services (public administration, defence, education and health; manufacturing; agriculture and fishing; and non-manufacturing). Between 2000 and 2019, the service sector (market and non-market) observed a rising trend, while the non-manufacturing sector observed a decreasing trend.

2.1 times higher than in agriculture and fishing, and 1.9 times higher than in manufacturing. These productivity gaps are an indicator of the misallocation of resources. At the same time, there are large productivity gaps across sectors, which suggest that the reallocation of workers could be an important driver of economy-wide labour productivity.

Labour productivity in market services is three times higher than productivity in the non-manufacturing sector,

► **Figure 9.** Labour productivity by sector, million Tunisian dinars, 2005 prices

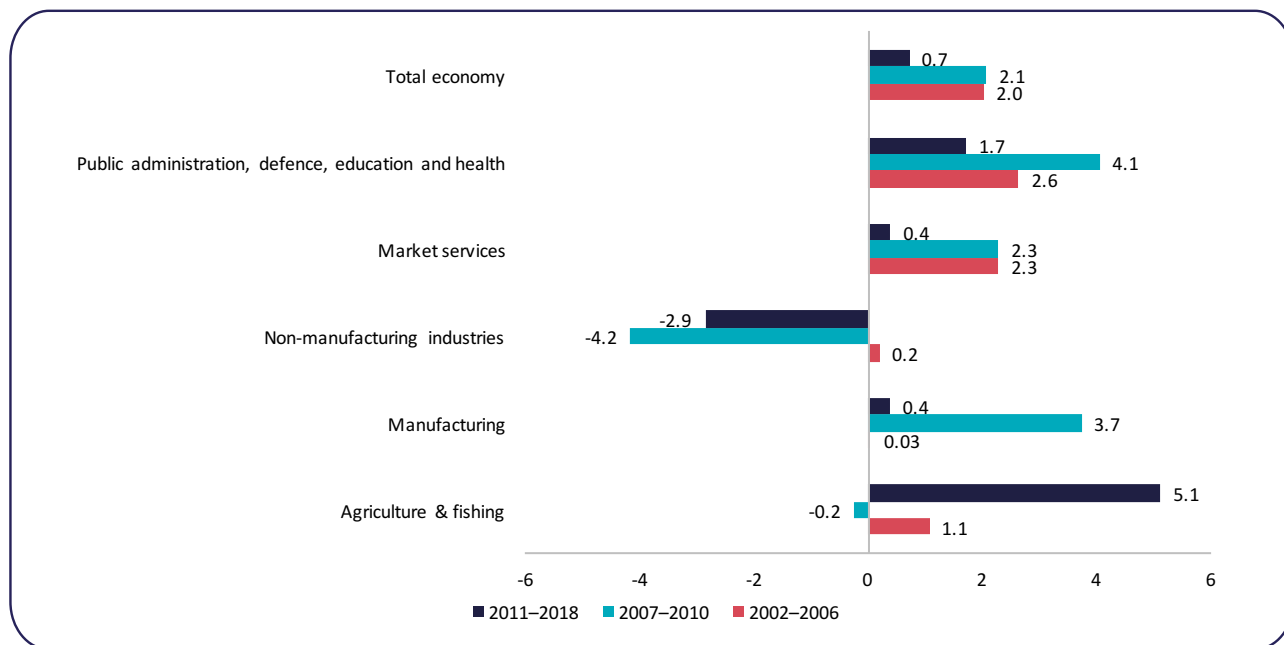


Source: Authors' calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

Figure 10 indicates a sharp decrease in average labour productivity growth between 2007–10 and 2011–18. The worst performance occurred in the non-manufacturing sector, while agriculture and fishing was the only sector that saw an increase. It is noteworthy that during the 2011–18 period, only 15 per cent of Tunisia’s workforce was employed in agriculture and fishing. Since 2011,

Tunisia witnessed a lack of investment in physical and intangible assets, skills shortages and mismatches, inadequate infrastructure, poor public management and a weak macroeconomic environment, which are the main factors contributing to low or stagnant productivity growth (World Bank 2014; 2020a; 2020b).

► **Figure 10.** Evolution of labour productivity (%), 2005 prices



Source: Authors’ calculations, based on INS (2019) and ITCEQ (2020a; 2020b).

››› 5.1.6 Sectoral employment/growth elasticity

An analysis of tables 1–3 yields some interesting findings. First, the public sector (public administration, defence, education, health) moved from being a “moderate employment generation” sector during the 2000–11 period to a “high employment generation” sector during the last decade, particularly for graduates and women. Second, agriculture and fishing experienced “jobless growth” during the 2011–18 period, since average annual growth in its value added occurred alongside a reduction in employment. Third, manufacturing experienced a switch between 2000–11 and 2011–18, from being one of “moderate employment generation” during the first period to one of “unproductive employment growth” during the latter period, meaning that this sector has to improve its productivity to make the employment that it generates sustainable and of higher quality in the long-term. Fourth, the non-manufacturing sector experienced “unproductive employment growth” during

both periods, with a dramatic decrease in the value-added average annual growth during the last period. Finally, the market services sector maintained the same trend as a “high employment generation” sector over the past two decades, with a remarkable decrease during the 2011–18 period compared to the previous period, in both the average annual growth in total employment and the average annual growth in the value added.

Based on table 3, it can be observed that the Tunisian economy experienced employment-led growth between 2000 and 2018. During 2011–18, Tunisia performed better on its employment elasticity than during the 2000–11 period. On average, a 1 per cent increase in GDP resulted in a 0.5 per cent increase in employment per year during 2000–11, while it resulted in a 0.72 per cent increase during the 2011–18 period.

► **Table 1.** Average annual growth in the total employment, by sector, %

	2000–2011	2011–2018
Agriculture & fishing	0,23	-0,24
Manufacturing	0,90	1,24
Non-manufacturing industries	2,46	1,00
Market services	2,82	1,85
Public administration., defence., education., health	1,80	1,44
Total economy	1,74	1,21

Source: INS (2019); ITCEQ (2020a; 2020b), authors' calculations.

► **Table 2.** Average annual growth in the value added, by sector, %

	2000–2011	2011–2018
Agriculture & fishing	2,09	2,32
Manufacturing	2,92	0,74
Non-manufacturing industries	0,60	-1,13
Market services	4,76	2,67
Public administration., defence., education., health	4,89	2,25
Total economy	3,51	1,69

Source: INS (2019); ITCEQ (2020a; 2020b), authors' calculations.

► **Table 3.** Sectoral employment elasticities, by sector, %

	2000–2011	2011–2018
Agriculture & fishing	0,11	-0,10
Manufacturing	0,31	1,68
Non-manufacturing industries	4,10	-0,88
Market services	0,59	0,69
Public administration., defence., education., health	0,37	0,64
Total economy	0,50	0,72

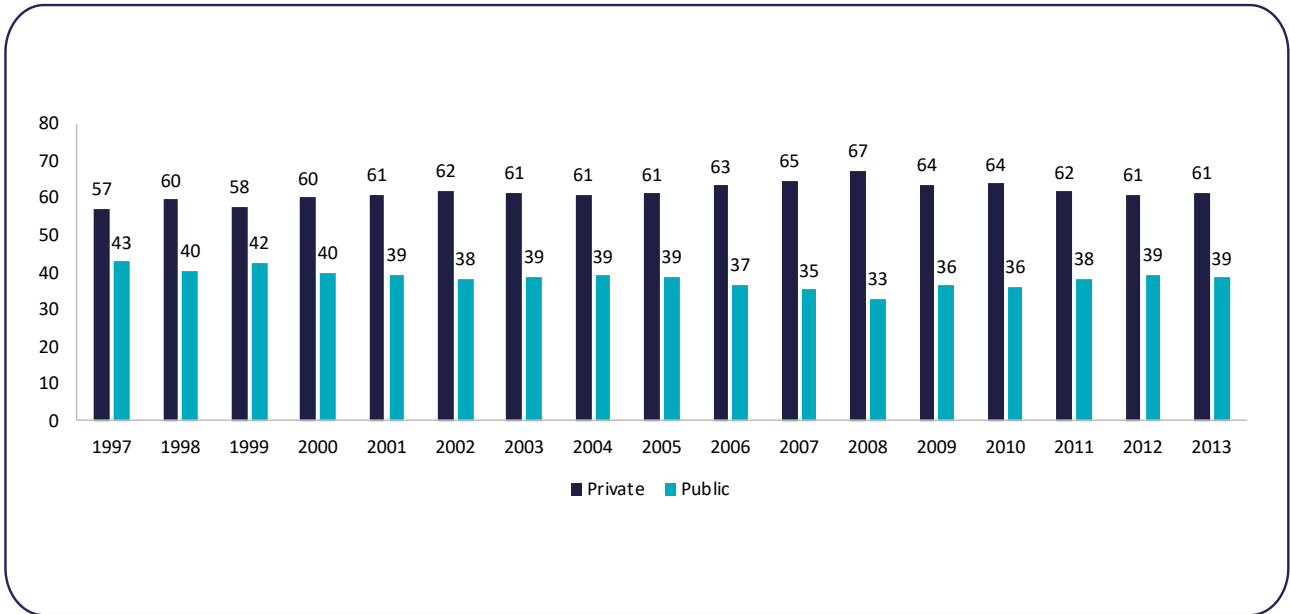
Source: INS (2019); ITCEQ (2020a; 2020b), authors' calculations.

»»» 5.1.7 Pattern of public and private investment by broad industry sector

Figure 11, which shows the pattern of public and private investment, indicates a constant trend in the share of private investment. Apart from a few exceptions due to

the privatization of state-owned enterprises, the share of private investment did not exceed 67 per cent of total investment.

► **Figure 11.** Distribution of investment, public-private, %



Source: INS (2019).

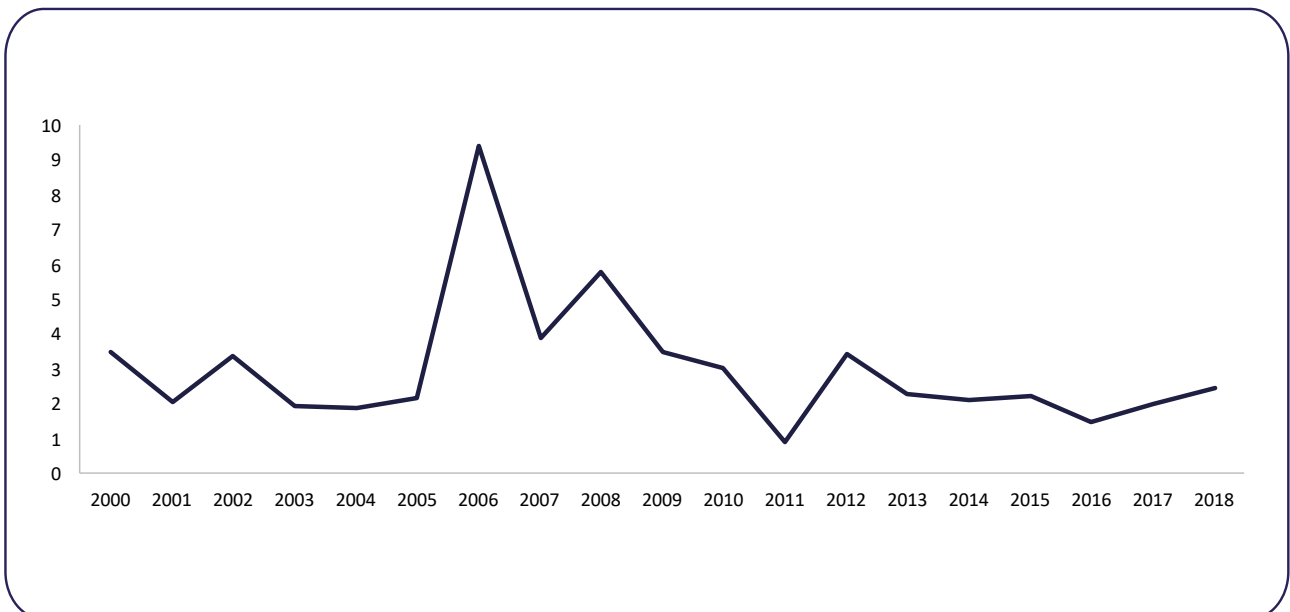
»»» 5.1.8 Domestic credit and Foreign Direct Investment (FDI) to GDP

FDI has experienced a downward trend during the last decade. Relative to GDP, the FDI rate was 3.3 per cent on average during the 2000–10 period; but it fell to an average of 2.0 per cent over the 2011–18 period. The average value of Tunisia’s FDI to GDP during the 2000–18 period was 2.7 per cent, with a minimum of 0.9 per cent in 2011 and a maximum of 9.4 per cent in 2006. According to the OECD (2020), in 2018, FDI flows in Tunisia accounted for 5 per cent of total FDI flows received in the MENA region as a whole, compared to 4.5 per cent in 2017, 2.8 per cent in 2016, and 6.7 per cent in 2015. In 2018, Tunisia ranked sixth among the largest recipients of FDI flows in the MENA region, after Egypt, Oman, Morocco,

Saudi Arabia and Lebanon. However, FDI flows in Tunisia represented 2.5 per cent of its GDP in 2018, which was greater than for the region as a whole (FDI flows to the region were 1.2 per cent of the region’s GDP in 2018).

The performance over the 2000–10 period is particularly due to the privatization programme of state-owned enterprises launched in the early 2000s, which mainly concerned cement factories and Tunisie Telecom, which was at the origin of the peak of 2006. Energy absorbed just over 60 per cent of total FDI inflows during the 2006–10 period.

► **Figure 12.** Foreign direct investment, net inflows (% of GDP)

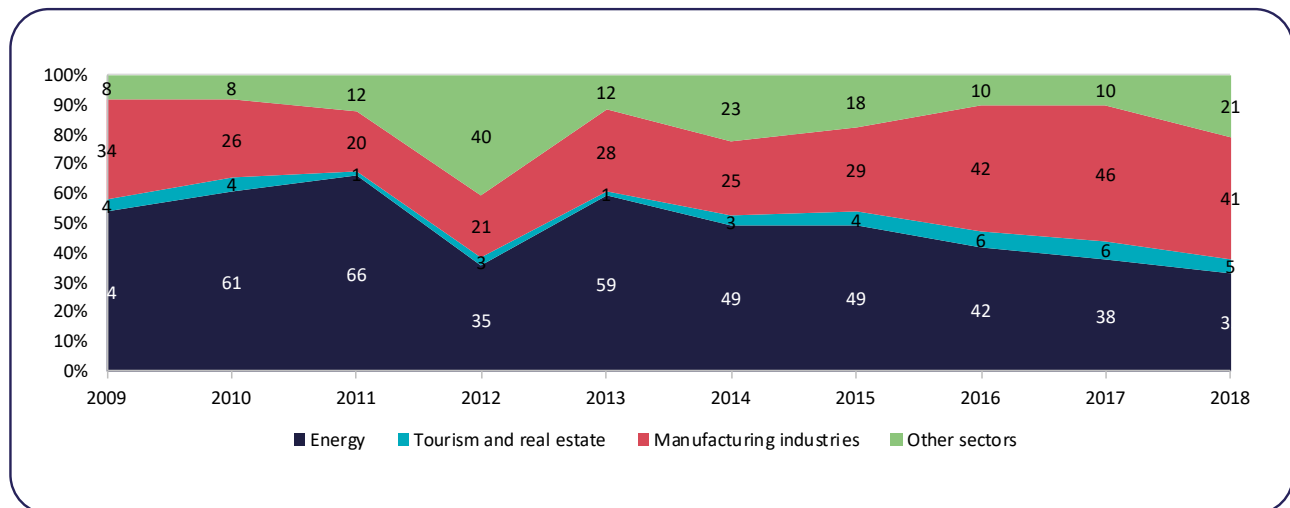


Source: World Bank. 2020c.

The latest data indicate that the leading foreign investors in Tunisia are France (34.2 per cent), Qatar (26.2 per cent), Italy (8.4 per cent) and Germany (7.4 per cent). The main sectors that attract investment are energy (33.2 per cent), electricity and electronics (17.9 per cent), the financial sector (14.1 per cent), and mechanical, metal and metallurgic manufacturing (6.7 per cent). In 2011,

the petroleum industry alone accounted for over 66 per cent of total inflows – an industry that generates little employment compared with investment in manufacturing and services, which accounted respectively for 21 and 13 per cent of FDI (figure 13).

► **Figure 13.** FDI by sector, %, 2009–18,



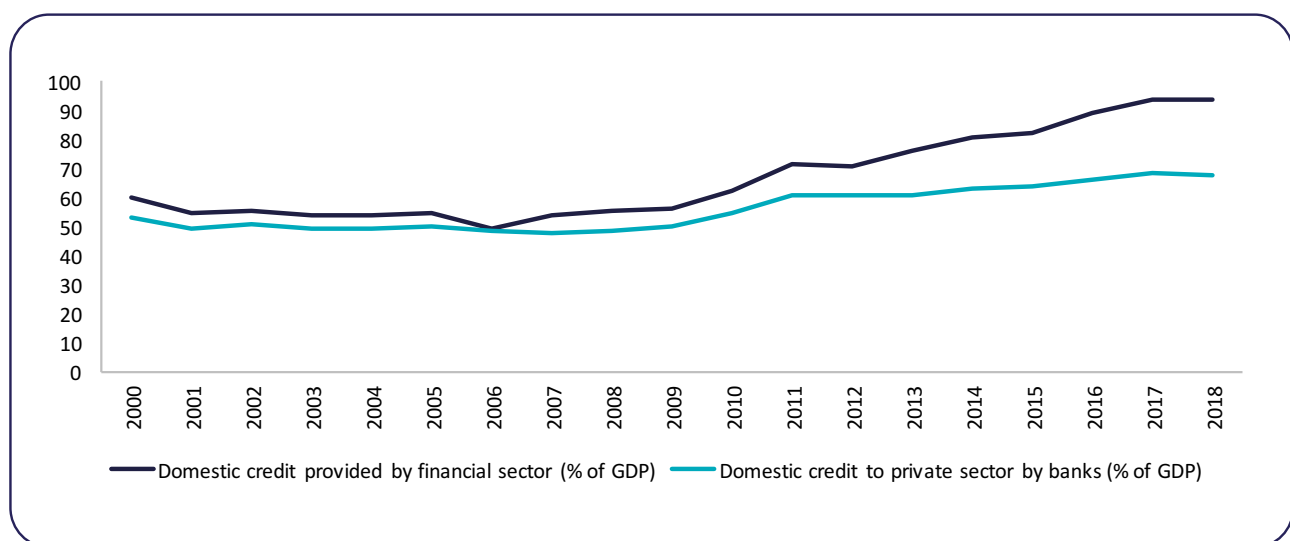
Source: Banque Centrale de Tunisie (Evolution des investissements étrangers, 2020).

Domestic credit provided by the financial sector (percentage of GDP) followed the same pace as domestic credit to the private sector by banks (percentage of GDP) until 2006 (figure 14).

Starting from 2007, the financial sector’s domestic credit followed an increasing trend that reached 93.9 per cent of GDP in 2018, diverging from that of domestic credit to the private sector by banks, which remained stable during the last two years at a level of 68 per cent of GDP.

Labour force participation is strongly determined by age and level of education for both men and women.

► **Figure 14.** Domestic credit (% of GDP), 2000–18



Source: World Bank. 2020.



5.2. Trends in labour market outcomes

This section discusses the main features of the labour market in Tunisia during the period from 2005–19. In particular, it analyses labour market participation, the

distribution and quality of employment, and the main characteristics of unemployment.

5.2.1. Labour force participation, employment rate and unemployment rate

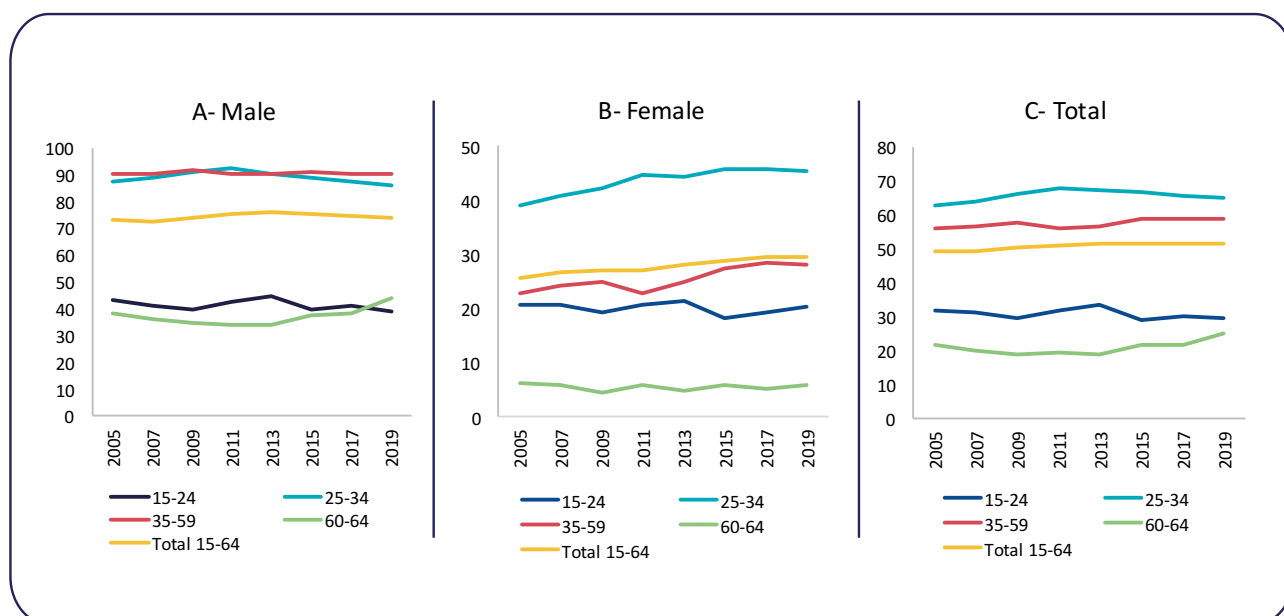
5.2.1.1. Labour force participation

Human resources are significantly underutilized in Tunisia. The results in figure 15 show that despite improvement in recent years, the labour market participation rate will not exceed 51 per cent in 2019, up only marginally from 49 per cent in 2005. This low participation rate is mainly due to persistently low female participation, despite a slight increase in the past two decades. In 2019, only 29 per cent of women participated, compared to 74 per cent of men, far below the world average, estimated at more than 51 per cent (ILO 2015).

Participation is strongly determined by age and level of education for both men and women. As shown in figure 15, men aged 25–59 participate the most in the labour

market, with a rate close to 90 per cent, compared to an average of 39 per cent for youth aged 15–24 years and 44 per cent for those aged 60–64. Interestingly enough, the female participation rate for women aged 25–34 increased by 5 percentage points, from 39 to 46 per cent, a rate that is significantly higher than the participation rate of the other female age groups. However, it is important to note that these women withdraw significantly from the market after the age of 35, as evidenced by this participation rate of 29 per cent among those aged 35–59 in 2019. Marital status and the presence of children explain the low participation rate after age 35.

► **Figure 15:** Labour force participation rate, by age group and gender



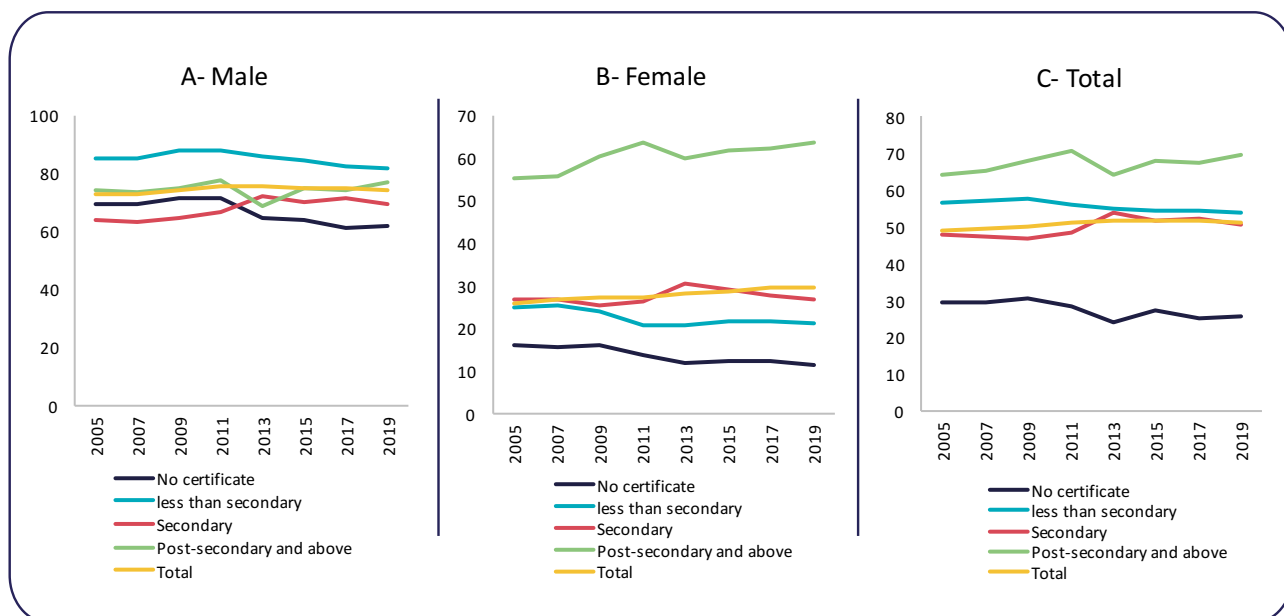
Source: Based on INS. 2005 and 2019. Tunisia Labour Force Survey.

Level of education strongly determines women’s participation. Women with a university level participated at a rate of 63 per cent in 2019 – more than twice as high as the average for all women. This participation rate is significantly higher than the rate for women with other levels of education, particularly those with no education, whose participation rate does not exceed 11.4 per cent. (See figure 16).

high reservation wages – linked to the cost of substitutes for the domestic work that women typically perform in the region, and the quality of the jobs available. Other factors, namely marital status, the presence of children in the household, and their region or area of residence (which reflects local labour market conditions and job opportunities) significantly shape women’s participation rate.

Several factors could explain the low participation of women with lower levels of education including fairly

► **Figure 16.** Labour force participation rate, by education



Source: Based on INS. 2005 and 2019. Tunisia Labour Force Survey.

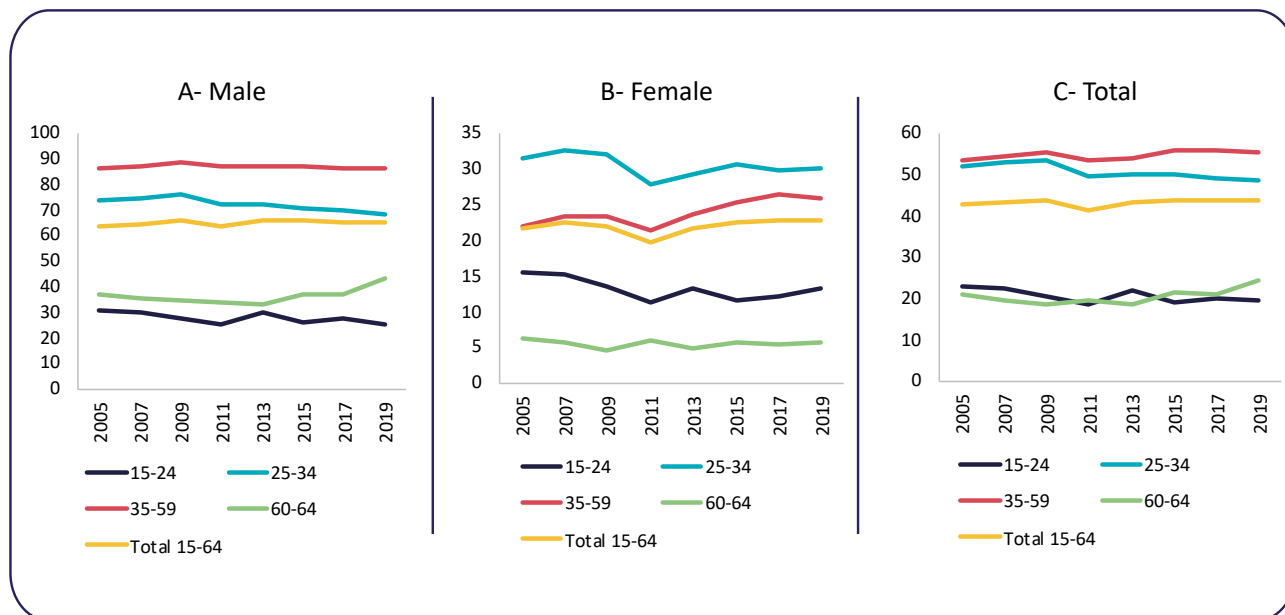
Men’s labour market participation has not changed radically over the last 15 years, with the exception of those with low levels of education and especially those without any education. The latter group has seen its participation rate drop from 69 to 61 per cent. This decline, which became more pronounced after 2015 is mostly among

those aged 50 and above. A possible explanation is the significant extension of the social transfer programme after 2011, which targeted the elderly in particular. Eligibility for social programmes would increase the reservation wage for low-skilled workers.



» 5.2.1.2 Employment rate

► **Figure 17.** Employment rate, by age group and gender



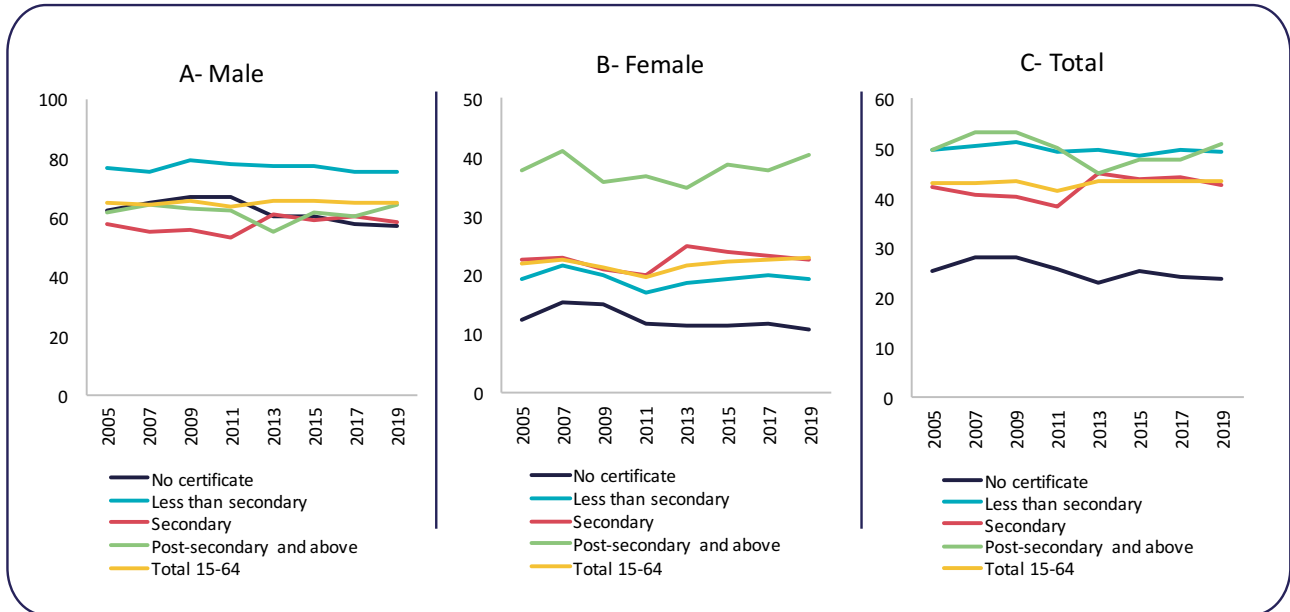
Source: Based on INS. 2005–19. Tunisia Labour Force Surveys.

Similar disparities in terms of gender and age group are also reflected in the employment rate (see figures 17 and 18), which was around 44 per cent in 2019, following the relatively stable trend observed since 2005. In 2009, 65 and 23 per cent of men and women, respectively, were in employment. For men, the highest employment rates are observed in the 35–59 age group, far above the employment rate of the youngest age group. This result reflects two facts: the difficulty of insertion among the youngest, and also the acceptance of any job, regardless of its quality, by men who reach the age of 35. This will be discussed further when the quality of employment is analysed. The work potential of women also remains underexploited, with only young women between 25 and 34 years of age with a university education having a significantly higher employment rate than other age groups. The employment rate has not improved

significantly over the past two decades, and its trend has remained stable, despite a slight fluctuation just after the political change in the 2011–13 period. This naturally leads to questions about the effectiveness of active labour market policies and their success in inserting more job seekers. Looking at the employment rate by gender, the trend for men is more stable than that for women, except for the category of those with ‘no certificate’, who saw their employment rate drop significantly, from 62 to 57 per cent. This is an immediate consequence of the decline in their participation rate in the labour market. The same applies to women in the same category. In recent years, the employment rate for women at the university level has improved, but it still remains below the level reached in 2007, which was estimated at 41 per cent.



► **Figure 18.** Employment rate, by gender and education



Source: Based on INS. 2005–19. Tunisia Labour Force Survey.

» 5.2.1.3. Unemployment rate

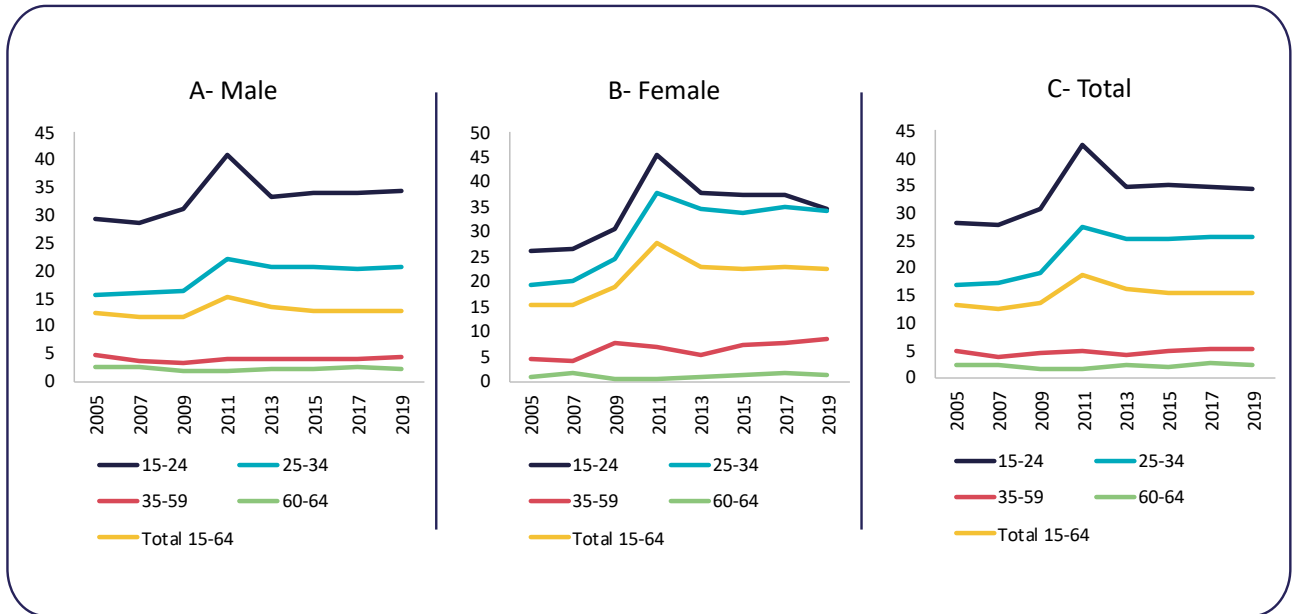
One of the most striking indicators of labour market dysfunction in Tunisia is the high rate of unemployment. Figures 19 and 20 present the unemployment rate by gender, age group, and level of education for the period 2005–19. The 2011 uprising was associated with a sharp increase in unemployment, regardless of age, gender or level of education. Tunisia recorded negative growth of -1.8 per cent in 2011, following the uprisings that continued throughout the year. The overall unemployment rate reached 18.6 per cent for the first time.

After 2011, the unemployment rate returned rapidly to its historic levels, including on account of important public sector hires. From 2005–19, Tunisia’s total rate has remained stubbornly high, at around 15 per cent. With the onset of COVID-19 Tunisia’s unemployment rate has jumped to 18 per cent in the second quarter of 2020 (INS 2020). Overall, Tunisia has not succeeded in reducing its unemployment rate to levels that are sustainable or comparable to other countries in the region. For example, the regional average rate of unemployment in 2020 stood at 9.6 per cent (ILO 2020). Figure 19 examines the unemployment rate by gender and age, revealing that the rate for women was 22.5 per cent, while the unemployment rate for men was around 12.6 per cent in 2019.

High unemployment among both women and youth reflects the difficult transition between school and work and the low quality of existing jobs (with high rates of informality).



► **Figure 19.** Standard unemployment rate, by gender and age

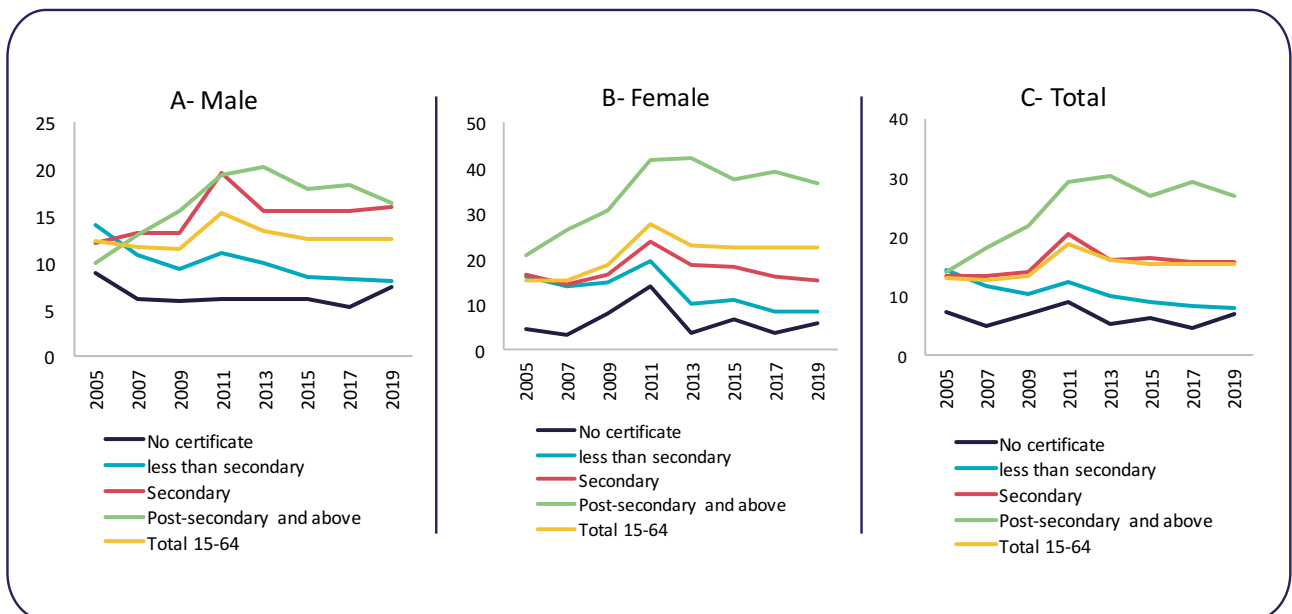


Source: Based on INS. 2005 and 2019. Tunisia Labour Force Survey.

In Tunisia, irrespective of gender disparities, the younger one is, the lower their probability of finding a job. Figure 19 shows that 34.4 per cent of young people aged 15–24 are unemployed, compared to 5 per cent for the 35–59 age group. The gap in terms of the unemployment rate between young women and men aged 15–24 is insignificant (35.4 vs. 34.2 per cent), in contrast with the 25–34 age group, where the unemployment rate

for women far exceeds that of men, with rates of 34.0 and 20.7 per cent, respectively. These results confirm the problem of school-to-work transition, in particular for women. Unemployment rates by level of education are indicative of the inability of the Tunisian economy to absorb job seekers with qualifications of secondary education or higher.

► **Figure 20.** Standard unemployment rate, by gender and education



Source: Based on INS. 2005–19. Tunisia Labour Force Surveys.

Irrespective of age and gender, the unemployment rate for those with a university degree has continued to rise until 2013.

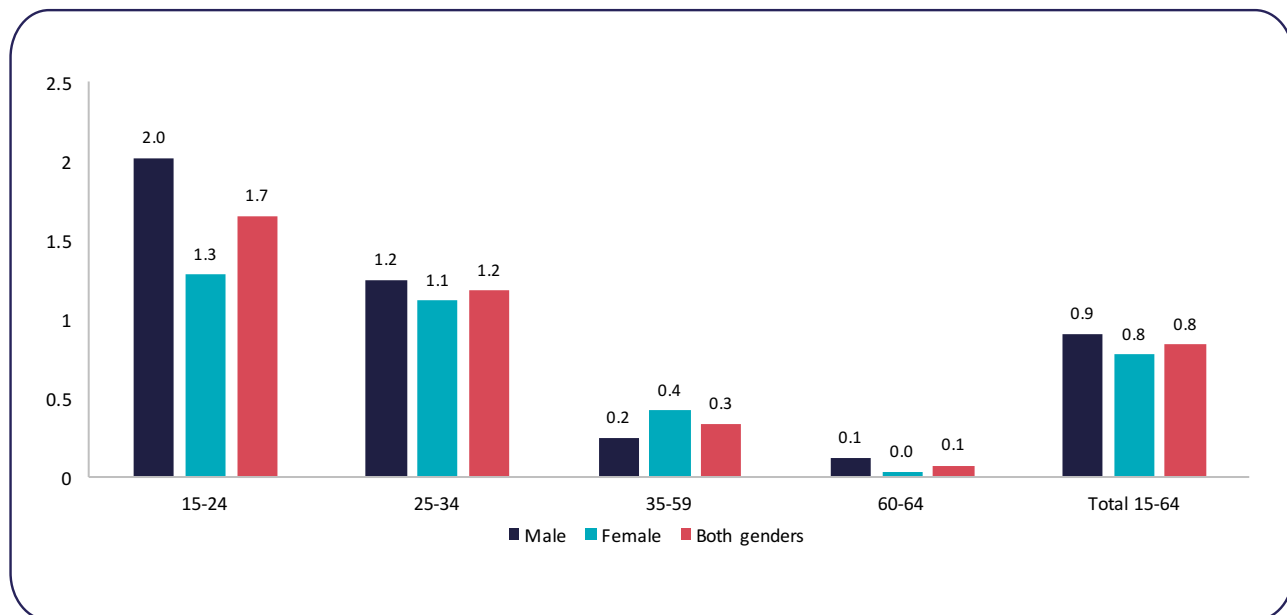
Human resources are significantly underutilized in Tunisia, as several sectors have been unable to absorb the increase in job-seekers with post-secondary education. The deficit of soft skills offered is also a significant factor.

This trend is explained by a demographic factor, given the increased number of higher education graduates, as well as the inability of economic sectors to absorb the additional supply of labour. Unemployment for post-secondary graduates peaked at 30 per cent in 2013, with 40 per cent unemployment for women and 20 per cent for men with a post-secondary degree. After 2013, an

improvement is recorded with the overall unemployment rate of university graduates declining to 27 per cent; however, this was still well above the 2005 rate. This decline is mainly due to recruitment in the public sector. More details on the composition of employment will be presented later.

Another important indicator that helps to better understand the functioning of the labour market is the rate of discouraged job-seekers. This category represents those who are not working and not looking for a job because they do not believe they can find one. They are willing to work but are not looking for a job and therefore are not counted as unemployed. The employment survey by the INS in Tunisia did not capture this indicator until 2019. Figures 21 and 22 present the rate of discouraged workers by age group, gender and level of education.

► **Figure 21.** Proportion of discouraged job-seekers, by age group and gender in 2019 (%)



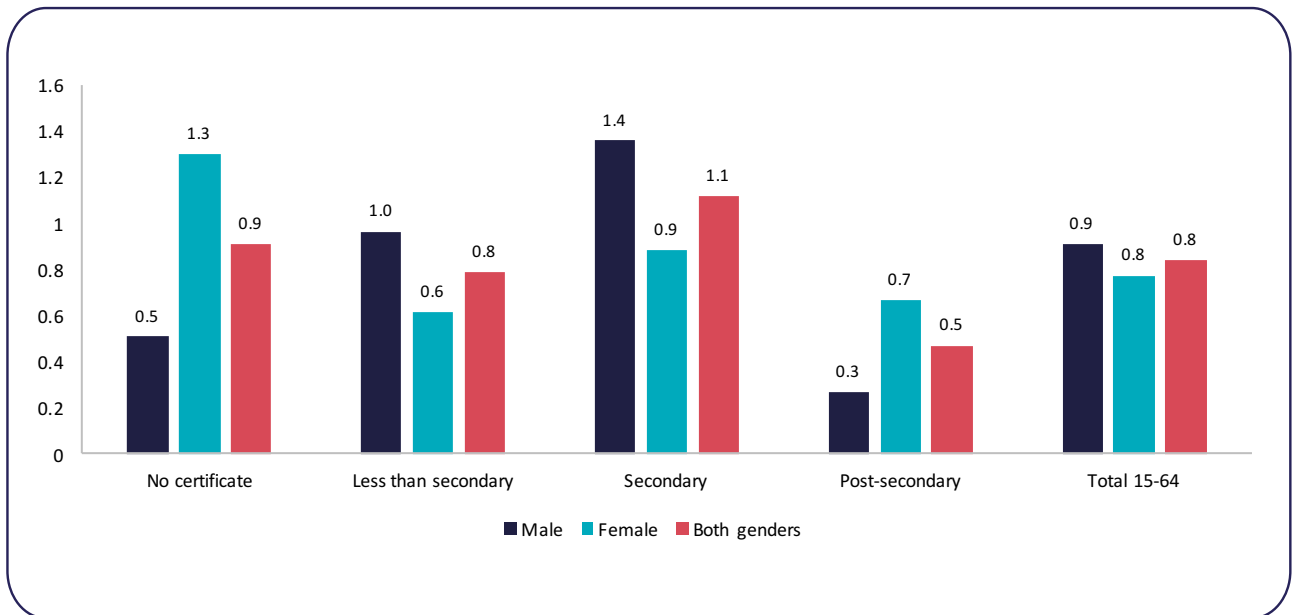
Source: Based on INS. 2019. Tunisia Labour Force Survey.

It is the youngest men who show the highest rate of discouragement – 2 per cent, twice the national average. The rate of discouragement decreases with age, reflecting a problem of confidence in the functioning of the market among youth aged 15–24.

When examining educational attainment, among women, it is the least educated who are the most discouraged

(figure 22). Among men, those with secondary education are the most discouraged. In general, with the exception of the uneducated, it is men who feel more discouraged than women.

► **Figure 22.** Percentage of discouraged job seekers, by education and gender in 2019



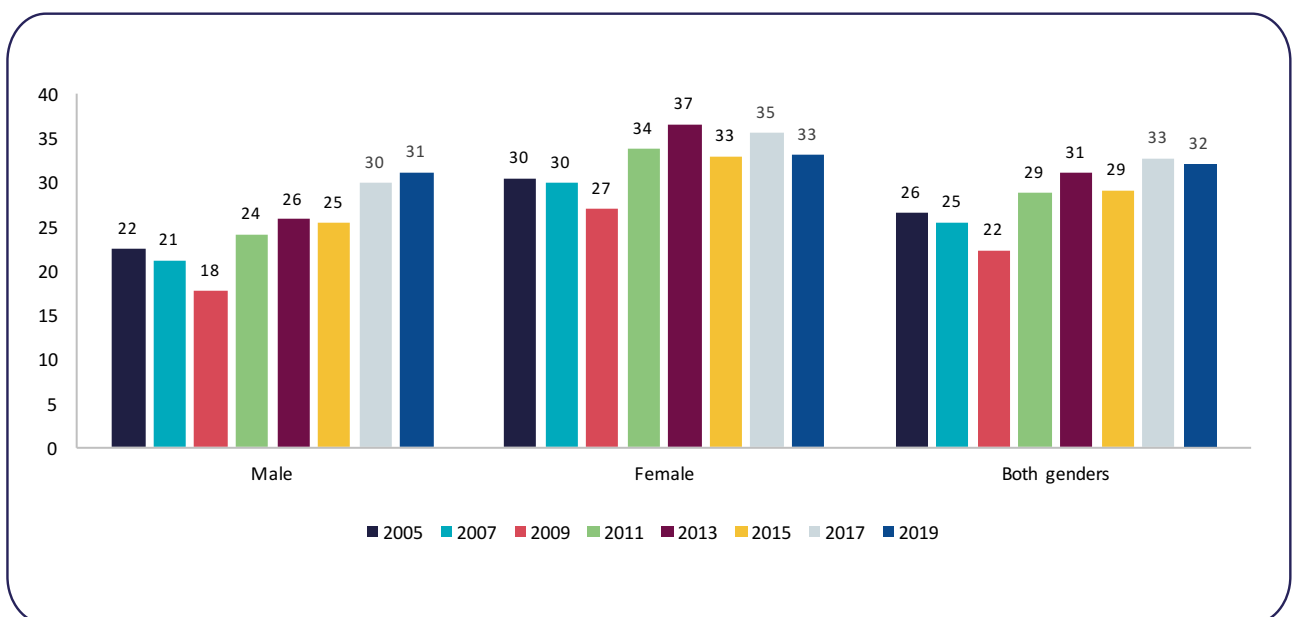
Source: Based on INS. 2019. Tunisia Labour Force Survey 2019.

»»» 5.2.2 Those not employed or in education or training

This chapter has so far demonstrated that young people aged 15–24 are those most affected by unemployment and low employment rates. As shown in figure 23, a large proportion of these young people (nearly 32 per cent) are not employed or in education or training (NEET) – one of the highest rates among neighbouring countries (ILO 2015). This proportion increased from 26 per cent in 2005 to 32 per cent in 2019. The increase in the NEET population was particularly marked from 2015–19. On the other

hand, the NEET proportion was higher among women than men (33 vs. 31 per cent), although the proportion for men is growing faster and will become comparable to the trend observed for women in 2005–19. This is also a consequence of discouragement and the difficult insertion of youth in the labour market.

► **Figure 23.** Proportion of youth NEET by gender, ages 15–24

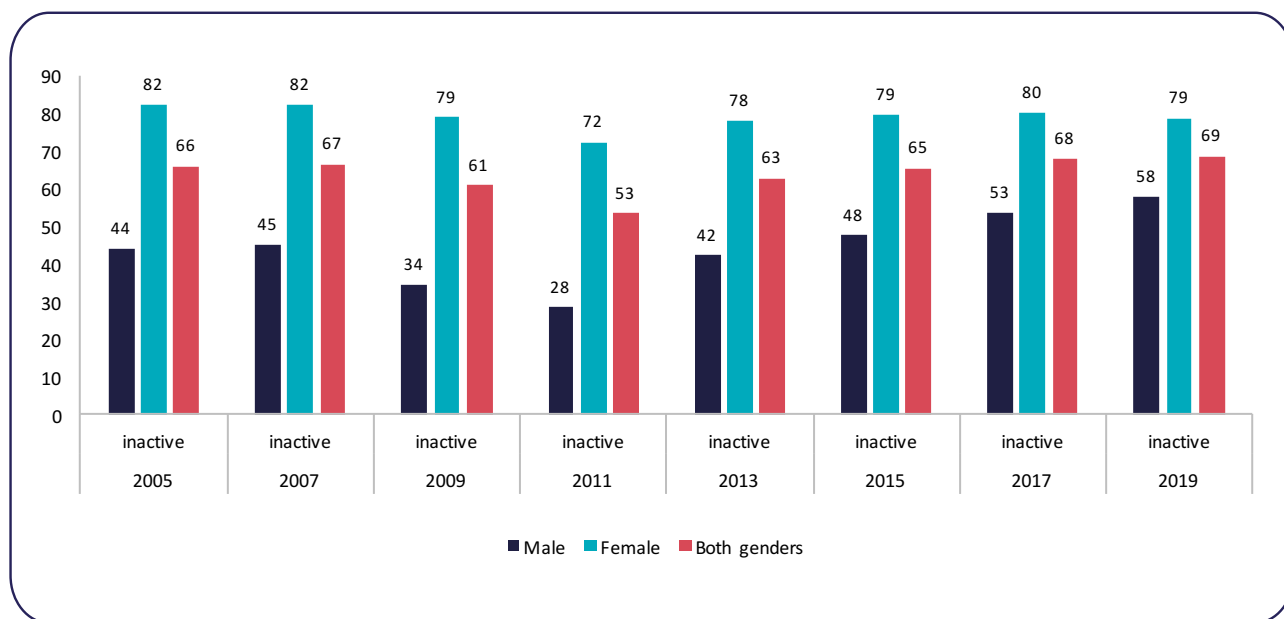


Source: Based on INS. 2005 and 2019. Tunisia Labour Force Survey.

The other problem with NEET, particularly among women, is the large proportion who are inactive. As shown in figure 24, in 2019 the share of NEET women who were out of the labour force was about 80 per cent, compared to 57 per cent for men. Nevertheless, in recent years the inactive male NEET population has been growing significantly, at a higher rate than for women. The NEET rate in Tunisia is of great concern because a large number of inactive and discouraged young people

leads to long-term unemployment and hampers their ability to acquire skills. The high proportion of NEET in Tunisia needs to be linked with a fairly high educational dropout rate, estimated at 100,000 students per year, which increases at the beginning of secondary education (Ministry of Education 2020). This large group of the population, which is excluded from the labour market, is arguably at the forefront of regular protests, particularly in the poorest areas of the country.

► **Figure 24.** Share of inactive NEET, by gender



Source: Based on INS. 2005–2019. Tunisia Labour Force Surveys.

»»» 5.2.3 The type of employment

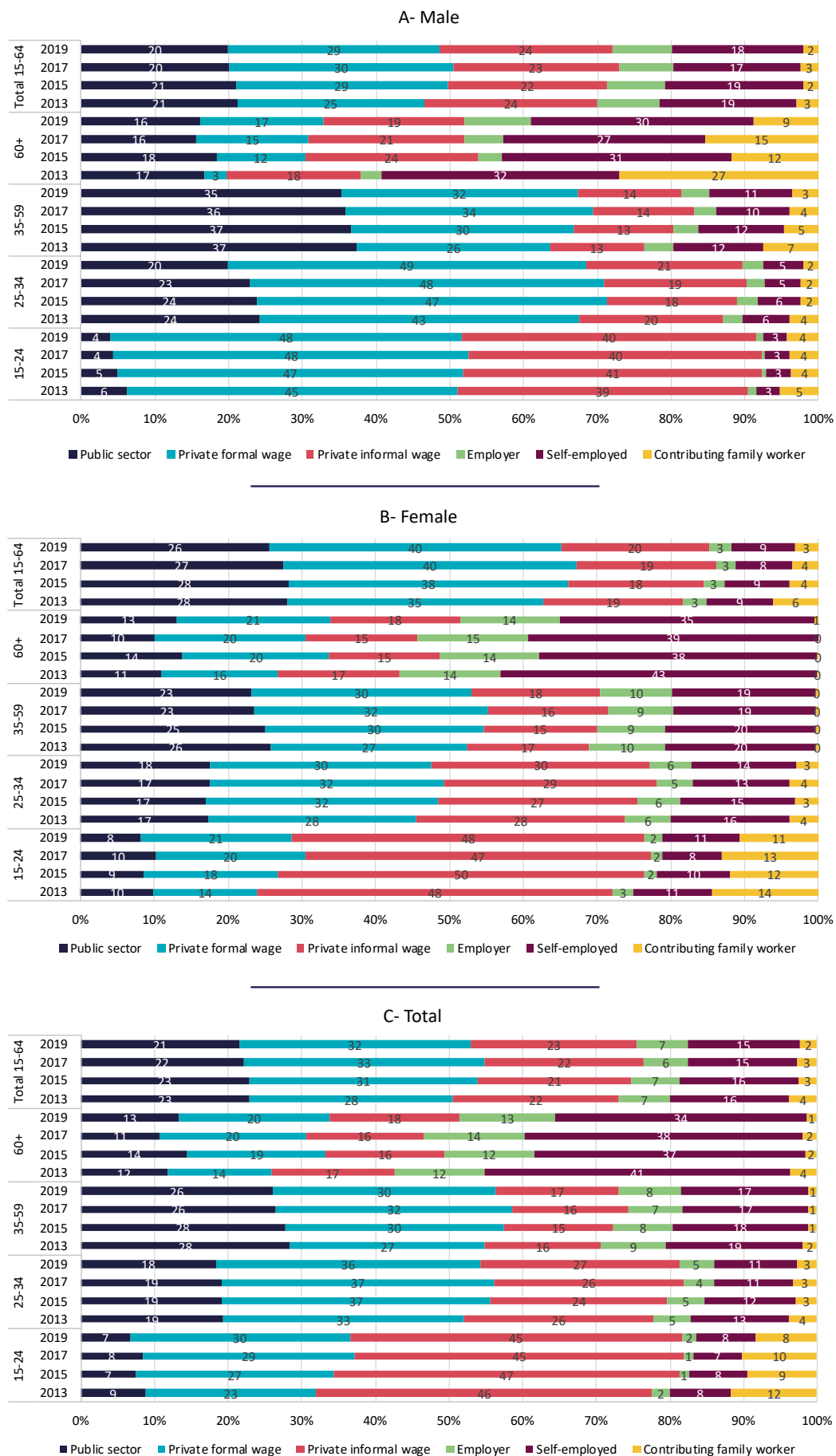
To analyse types of employment, six categories are distilled: public employment, formal employment in the private sector (jobs covered by social security), informal employment in private sector, employers, the self-employed and contributing family workers. The categories considered in our analysis also make it possible to assess the quality of jobs created by the Tunisian economy.

Overall, the distribution of employment by type did not change significantly between 2013 and 2019, the period for which social security coverage data are available. In 2019, nearly one-fifth of the employed population is in the public sector, 32 per cent in the formal private sector, 23 per cent in the informal private sector, 15 per cent in self-employment, 7 per cent are employers and 2 per cent contribute to family work. Note the increase of 4 percentage points in formal employment in the

private sector, from 28 to 32 per cent between 2013 and 2019. Despite the observed improvement in the share of informal work, a significant proportion of workers (23 per cent) remain in informality. It should also be noted that some of the self-employed may also work informally.

Looking at the distribution of employment type by gender, we note that it remains stable over the period under consideration. However, there are notable differences between men and women. Indeed, 26 per cent of employed women work in the public sector compared to 21 per cent of men. This reflects a certain preference among women for the public sector, which offers better working conditions than other sectors. Furthermore, the demographic composition of certain types of employment, notably public education and health, explains this result.

► **Figure 25:** Type of employment, by age group and gender



Source: Based on INS. 2013 and 2019. Tunisia Labour Force Surveys.

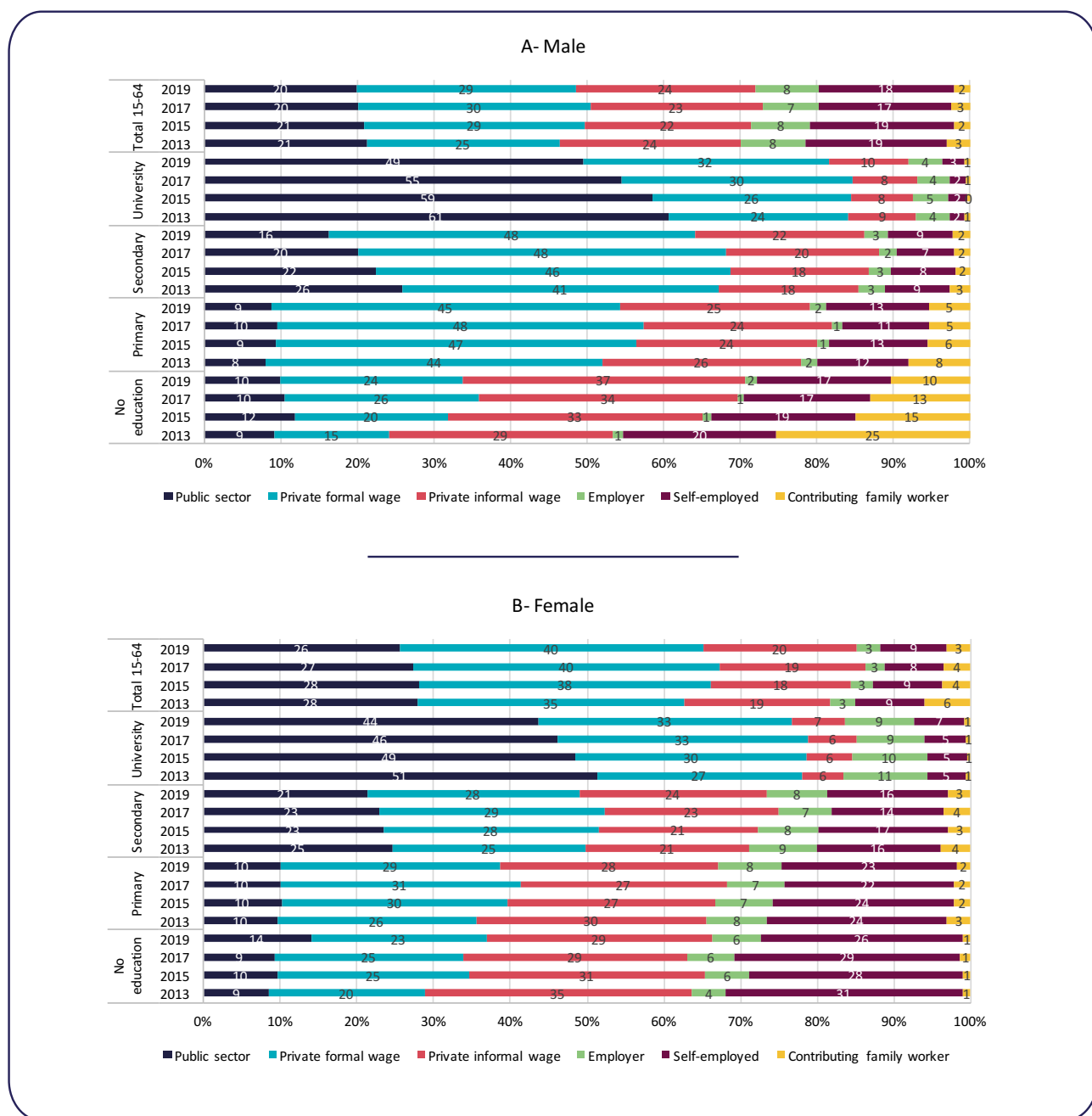
The analysis by level of education shows the inability of sectors other than the public sector to attract university graduates. Almost half of this group (men and women) are in the public sector. This result is not surprising when it should be analysing the industrial structure of the Tunisian economy, which is largely based on Small and Medium Enterprises (SMEs) that are unable to absorb graduates. One employee out of three of this same group is in the informal private sector. This rate has increased steadily in recent years for both types. It reflects in some ways a waste of qualified human resources who find themselves in bad jobs.

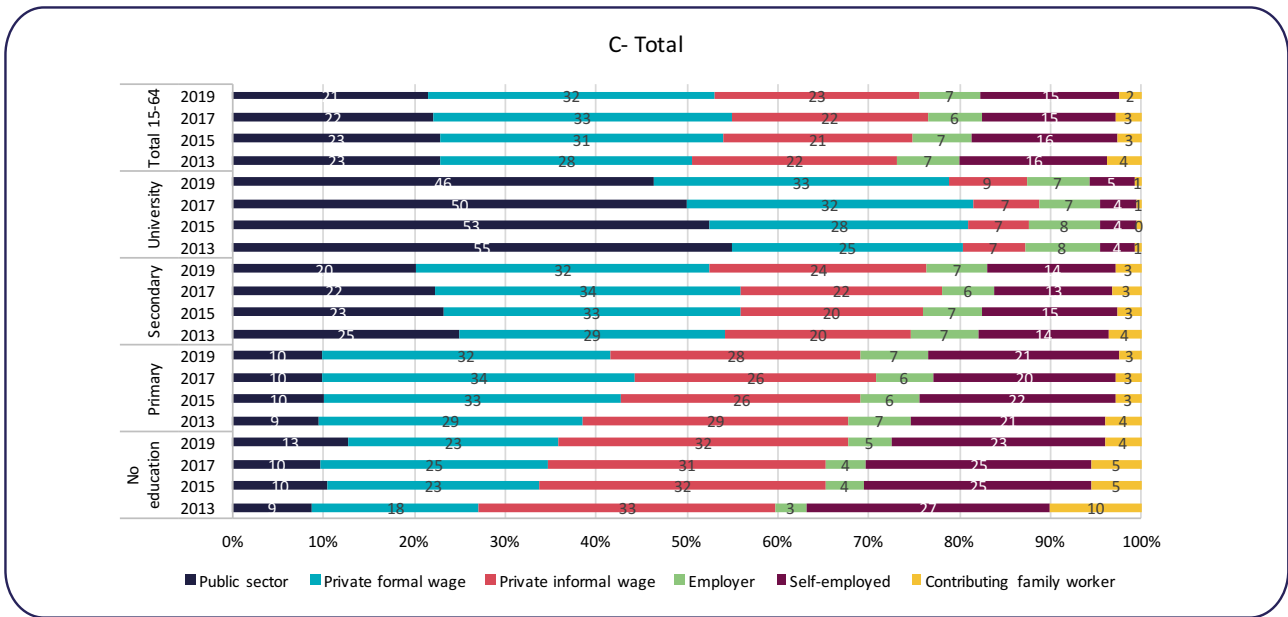
The capacity of the public and formal private sectors to absorb employees decreases with the level of education,

as evidenced by the declining share of these sectors in relation to the level of education (figure 26). The stability in the overall public sector share reflects the opposing effects of an increase in the share of graduates in employment and a decline in the public sector share among graduates. This underscores the limits of the public sector to employ the growing share of graduates. The private formal sector is not able to make up for this decline, resulting in a growing informalization of employment for graduates.

The significant decline in the share of women with no certificate who work for their families, from 25 to 10 per cent, requires further investigation, even though they are increasingly employed in the informal private sector.

► **Figure 26.** Type of employment, by educational attainment and gender





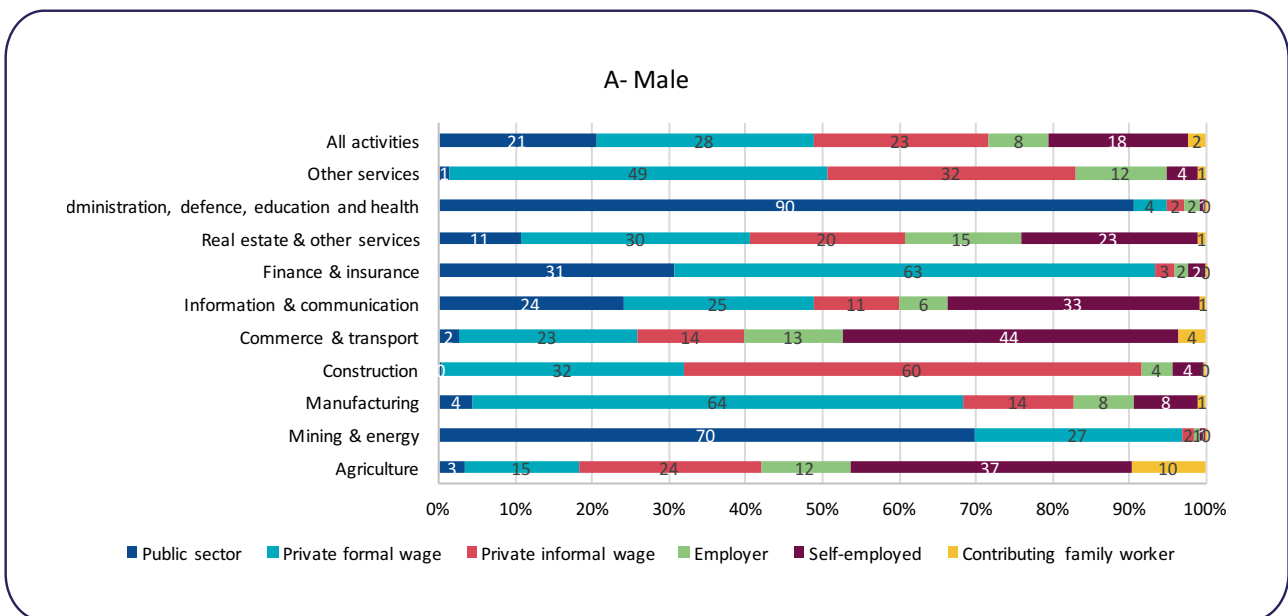
Source: Based on INS. 2013 and 2019. Tunisia Labour Force Survey.

Firstly, employment composition has not changed in recent years. Industries are highly segmented by type of employment, as shown in figure 27 below. The self-employed are overrepresented in agriculture and commerce, for both genders. The public sector categories of ‘administration, defence, education and health’ and the ‘information and communication’ sectors attract more women. In 2019, 51 per cent of women working in the information and communication sector will work in public companies. For the ‘administration, defence, education and health’ sector, the rate is 83 per cent. Regardless of gender, construction, the agriculture and fishing sector, and the manufacturing sectors have the highest shares of paid work in the private sector (figure 27). Women are less likely to be employers. Nearly 3 per cent are employed as an ‘employer’ compared to 8 per

cent for men. These figures confirm that in general, and for women in particular, lack of access to entrepreneurial opportunities can generally be explained by difficulties in accessing financing and excessive regulation of the Tunisian economy.

The types of jobs created vary considerably by sector. Agriculture tends to create informal, self-employment jobs. This same sector accounts for the majority of those who contribute to family work. Typically, the construction sector generates mostly informal work. As will be discussed later, these types of jobs and their quality have direct implications for the level of welfare and poverty among workers who have ‘precarious jobs’ (informal and low productivity jobs).

► **Figure 27.** Type of employment, by sector and gender (average 2013–19)





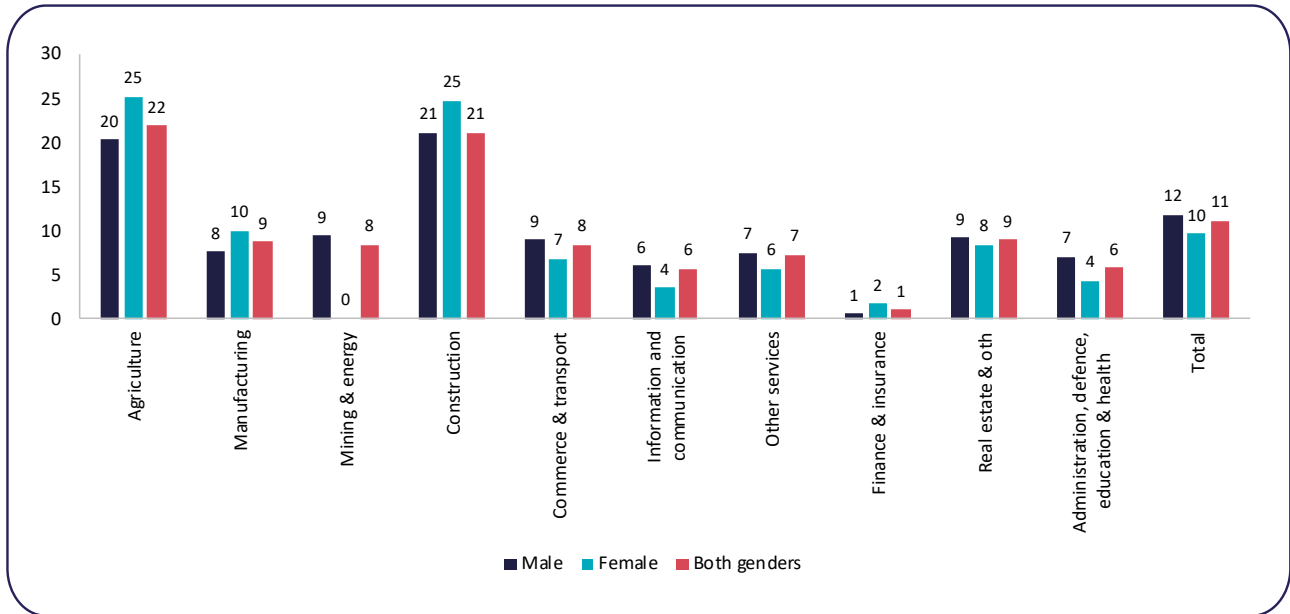
Source: Based on INS. 2005 and 2019. Tunisia Labour Force Survey.

>>> 5.2.4 Working poor

In 2015, the poverty rate in Tunisia for the entire population was estimated by the INS at 15.2 per cent (i.e. 1.6 million poor). This rate is calculated on the basis of the national poverty line. The various publications of the INS – the latest of which are dated 2020 and concern the poverty map – show that the strata most affected by poverty are the unemployed, and generally those living in rural areas.

When we look at poverty among the employed population, the results presented in figure 28 show that the overall poverty rate among the employed is 11.2 per cent. A difference of 2 percentage points is observed between women (9.6 per cent) and men (11.8 per cent), which is partly explained by the fact that poor women have lower participation rates.

► **Figure 28.** Working poor, by sector and gender in 2015



Source: Based on INS. 2015. Tunisia Household Budget Survey.

Unsurprisingly, the highest poverty rates among workers are recorded in agriculture (22 per cent) and construction (21 per cent), two sectors known for their poor job quality and low productivity, and consequently low wages. The poverty rate for women in these two sectors is higher

than for men. Unfortunately, the absence of reliable data in the old household consumption surveys on sectors of activity (due to the change in nomenclature) have not made it possible to analyse the evolution of poverty over the last two decades.

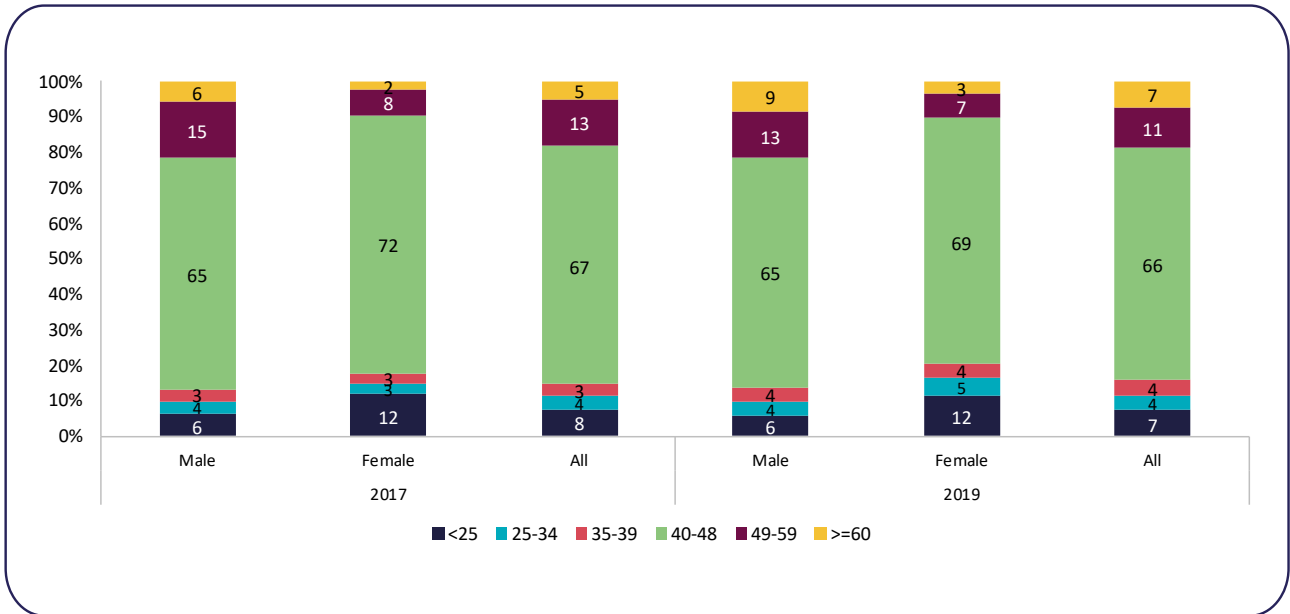
»»» 5.2.5 Working hours

For the analysis of hours worked, no long series of data are available. The number of hours worked indicator was not collected before 2017. The two years analysed, 2017 and 2019, the results of which are presented in figure 29, show that the typical number of hours worked by an employed person ranges from 40 to 48 hours per week, regardless of gender. Nearly 65 per cent of men and 72 per cent of women work full-time, i.e. between 40 and 48 hours per week. The higher proportion of women who work full-time is explained by the fact that they are less engaged

in self-employment than men, as well as the lack of jobs with flexible working hours. Overall, the typical number of working hours in Tunisia reveals the low flexibility of working hours in the employment opportunities offered by the economy. This does not encourage participation in the labour market, particularly among women. For those working more than full-time hours, 13 per cent of men work between 49 and 59 hours and 13 per cent work more than 60 hours per week, compared to 7 and 3 per cent, respectively, for women.



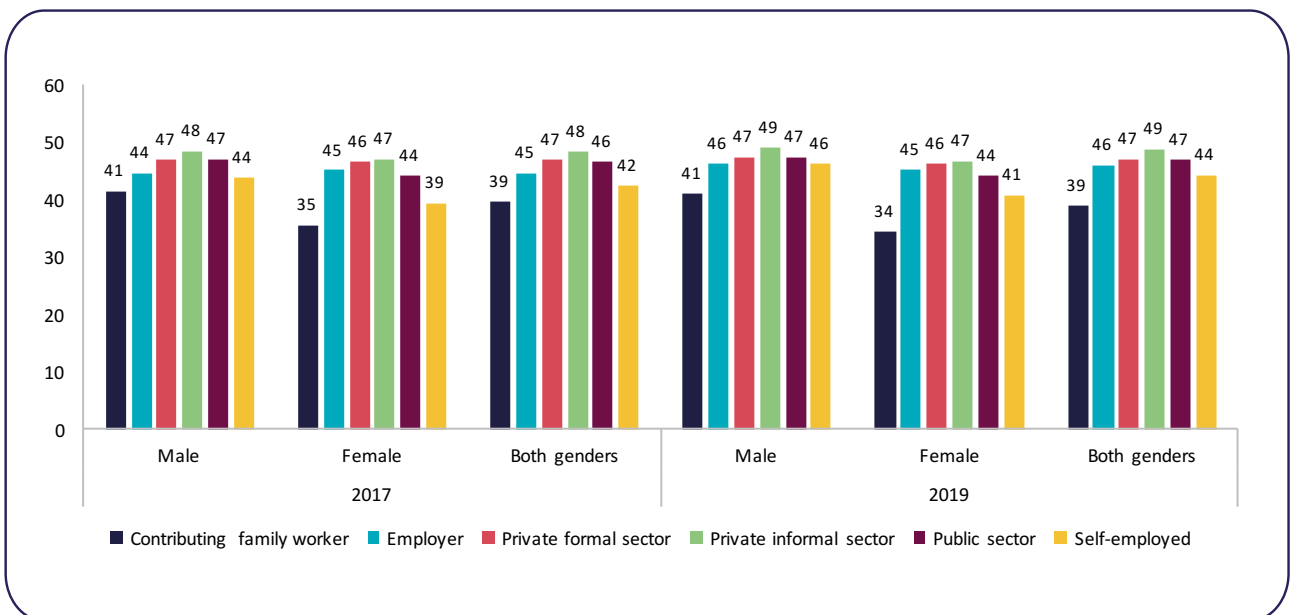
► **Figure 29.** Weekly hours, by gender



Source: Based on INS. 2017 and 2019. Tunisia Labour Force Survey.

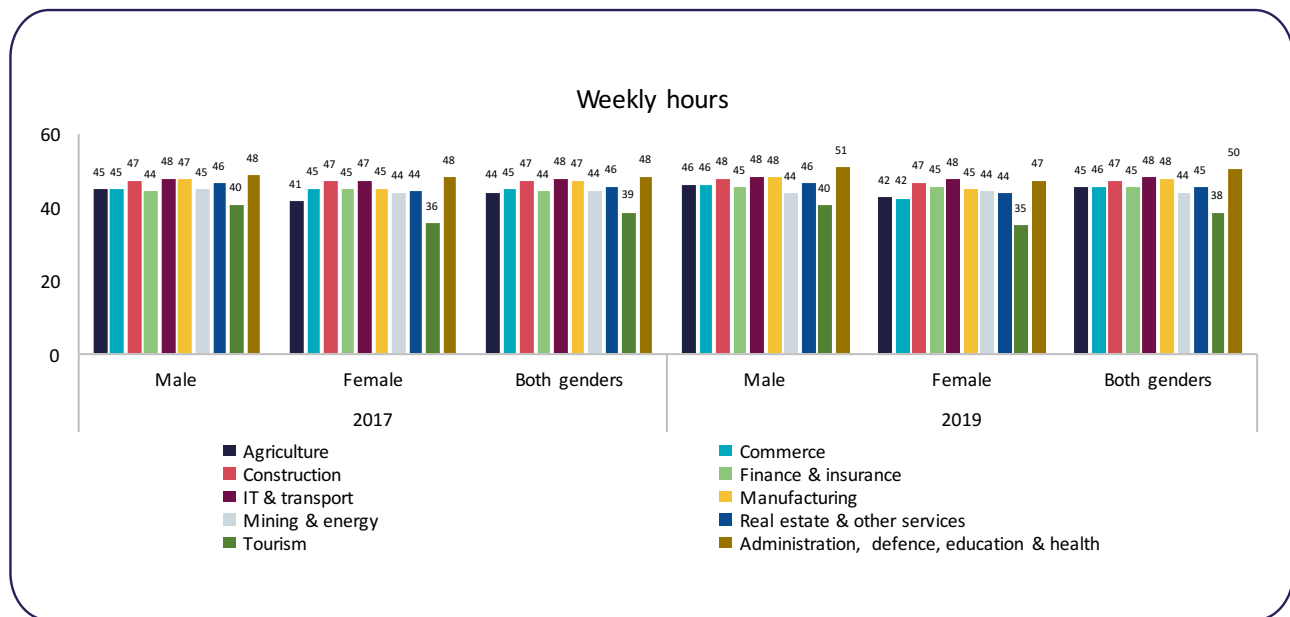
The results presented in figures 30 and 31 show that the number of hours worked varies slightly according to the different types of employment or sectors, except perhaps for those that contribute to family work.

► **Figure 30.** Average hours of work per week, by employment status and gender



Source: Based on INS. 2017 and 2019. Tunisia Labour Force Surveys.

► **Figure 31.** Average hours of work, by industry and gender



Source: Based on INS. 2017 and 2019. Tunisia Labour Force Survey.

»»» 5.2.6 Precarious employment

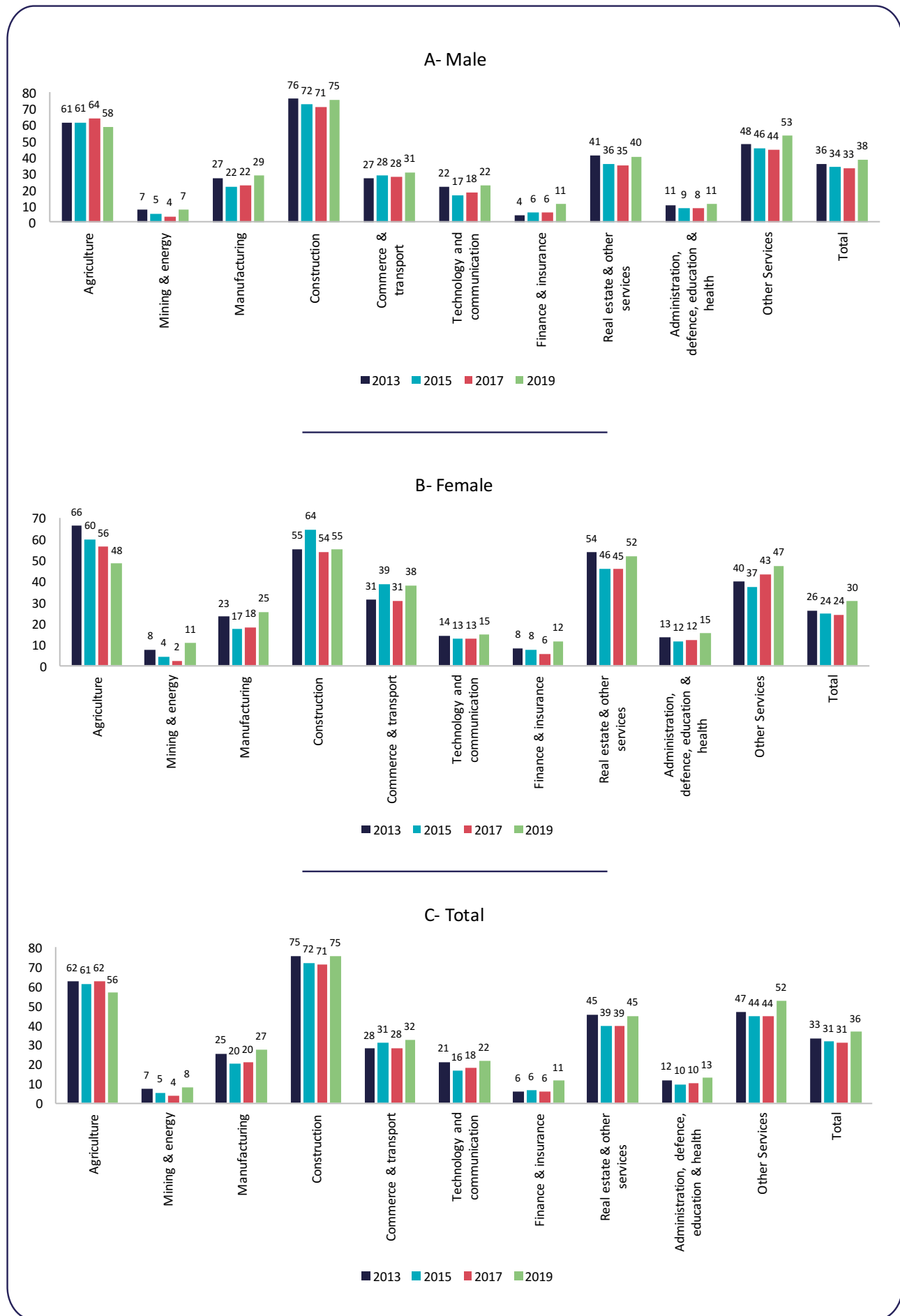
In this chapter, precarious employment is defined as any informal or irregular paid employment. Figures 32–34 present the rates of precariousness by industry, educational level, and age group over the period from 2013–19, during which it was possible to identify informal employment. In general, the precariousness rate did not change very significantly over the period under consideration, ranging between 33 and 36 per cent for the population as a whole. Despite various weaknesses in labour market performance and the dysfunction discussed in this paper, Tunisia has managed to preserve the level of formal employment, reflecting a willingness to implement public policy and an openness to social dialogue, coupled with a strong trade union impetus, to promote decent work. However, the rate of precariousness varies by sector of activity. The highest rates are in agriculture, construction and various services. The rates generally exceed 50 per cent and can reach 75 per cent in the construction sector. This result corroborates previous findings on the quality of employment in these sectors, and the level of productivity.

Human resources are significantly underutilized in Tunisia, as several sectors have been unable to absorb the increase in job-seekers with post-secondary education. The deficit of soft skills offered is also a significant factor.

In 2019, the rate of precariousness for women was around 30 per cent, versus 38 per cent for men. This finding may be explained by the fact that men do not hesitate to seize any job opportunity, even if only a temporary one. It is also worth noting the significant drop in women's precarious

employment in the agricultural sector, from 66 to 48 per cent between 2013 and 2019 (figure 32). In recent years, several voices have been raised, calling for improvements to the working conditions of women in the agricultural sector, following the increase in the number of work accidents and poor transportation conditions. To address this growing problem, Law No. 2019-51 of 11 June 2019, concerning the “transportation of agricultural workers”, was adopted. The precariousness of employment is strongly present in agriculture and construction sectors, known also as the lowest-productivity sectors. The precariousness rate in these sectors is 58 and 75 per cent respectively, compared to only 11 per cent in the finance sector (figure 32). The differences between the sectors have not changed over time. According to our previous analysis of type of employment by education and age groups, the job insecurity rate would increase with the level of education and decrease with age. This is related to the structure of employment according to level of education in the different sectors. In fact, the most structured sectors – namely finance, administration, education and health – are better able to absorb more stable jobs, and in particular those with a university level of education. When we look at age groups, it is the youngest (15–24-year-olds) and the oldest (60–64-year-olds) who are most affected by precariousness. Until 2017, the legal retirement age in Tunisia was 60 years before increasing to 62 years. Those who continue to work beyond the age of 60 are more exposed to precariousness than other groups. Moreover, young people who generally experience a difficult school-to-work transition are more likely to find themselves in precarious employment.

► **Figure 32.** Proportion of precarious jobs, by sector and gender



Source: Based on INS. 2013 and 2019. Tunisia Labour Force Surveys.

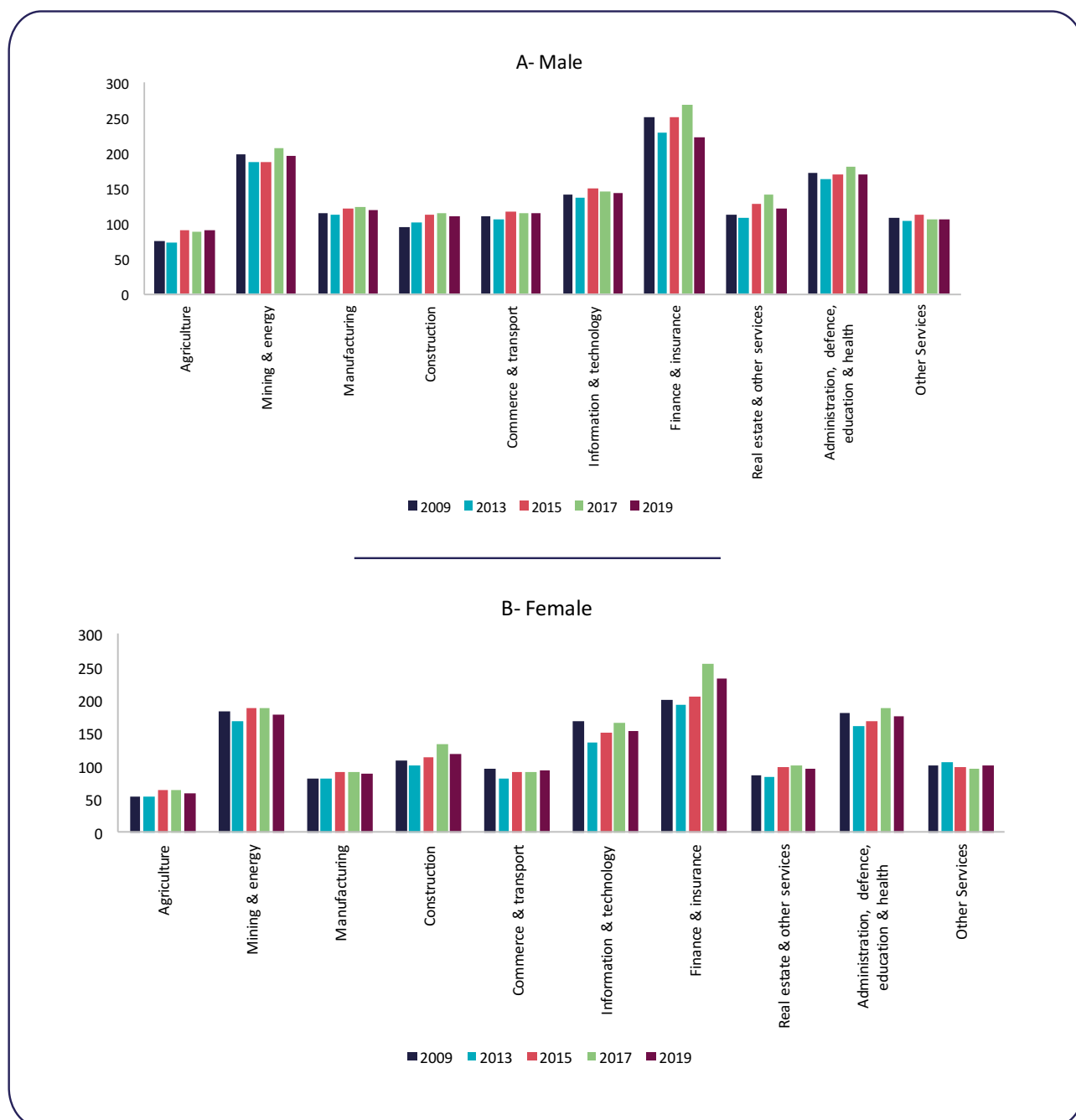
Wages

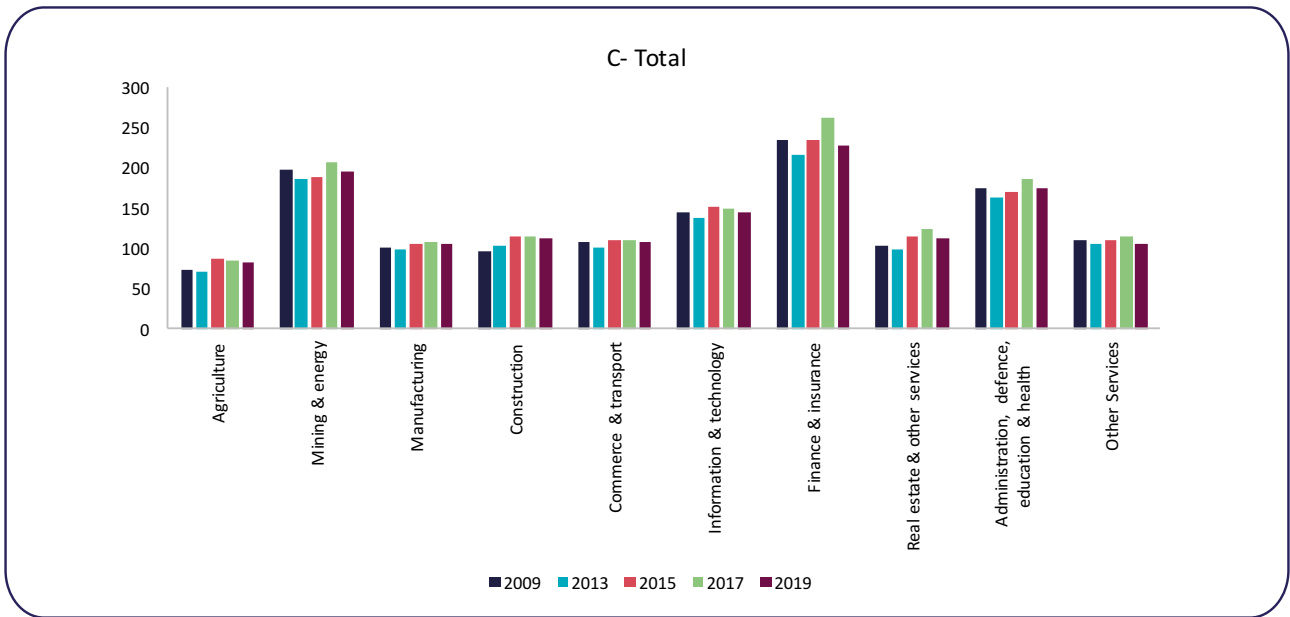
Figure 33 shows the actual weekly wages, at 2015 prices, of employees over the 2009–19 period. First, and regardless of gender, real wages have not improved significantly over the last decade. At the same time, it is important to note that the average wage has remained virtually constant in almost all sectors. The trend observed in the different sectors is also explained by the centralization of wage negotiations in Tunisia between a strong trade union, the Government and the employers' organization. Wages in the informal sector generally follow the evolution of wages in the formal sector. The lowest wages are observed in the sectors of agriculture, construction, trade and various services. These results are explained by the low productivity observed in the former sectors

and discussed earlier in this chapter. The highest wages are observed in IT and the energy and mining sectors.

In most sectors, the gender gap is quite significant, particularly in agricultural and fishing, where the average wage of women is 64 per cent of men – 58 vs. 90 Tunisians dinars (\$USD) in 2019. The observed gaps are unconditional, meaning they do not take into account differences in workers' characteristics. However, these differences are not all attributable to sociodemographic characteristics and probably reflect a form of discrimination against women.

► **Figure 33.** Weekly wage, by sector and gender





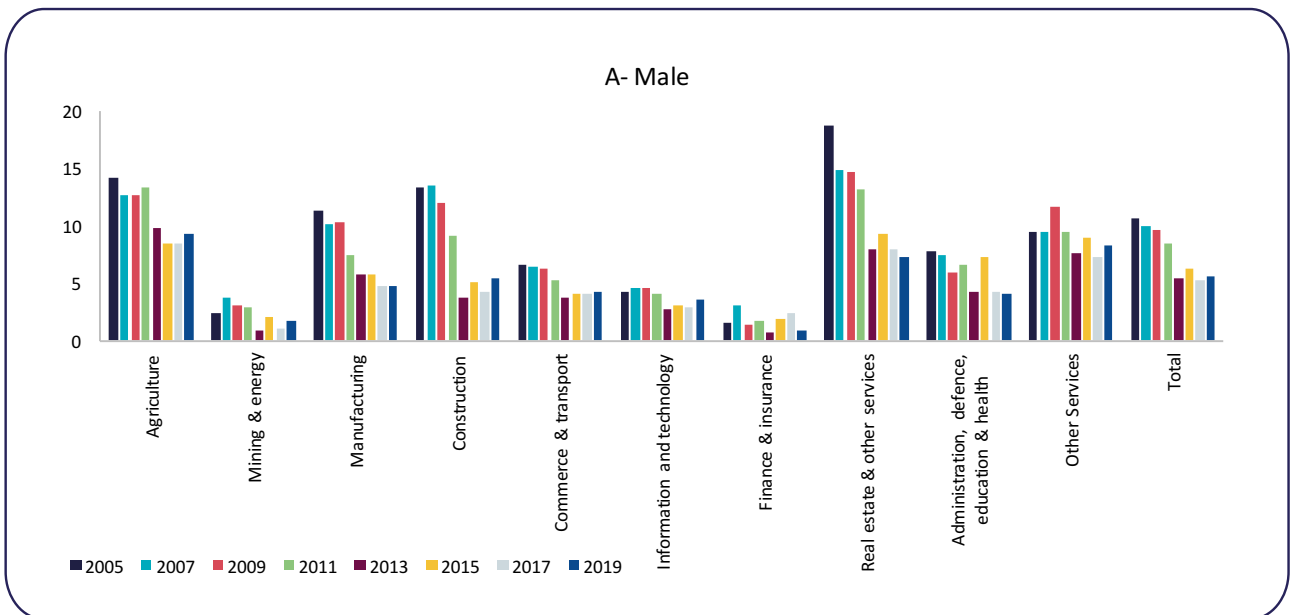
Source: Based on INS. 2009, 2013, 2015, 2017 and 2019. Tunisia Labour Force Survey.

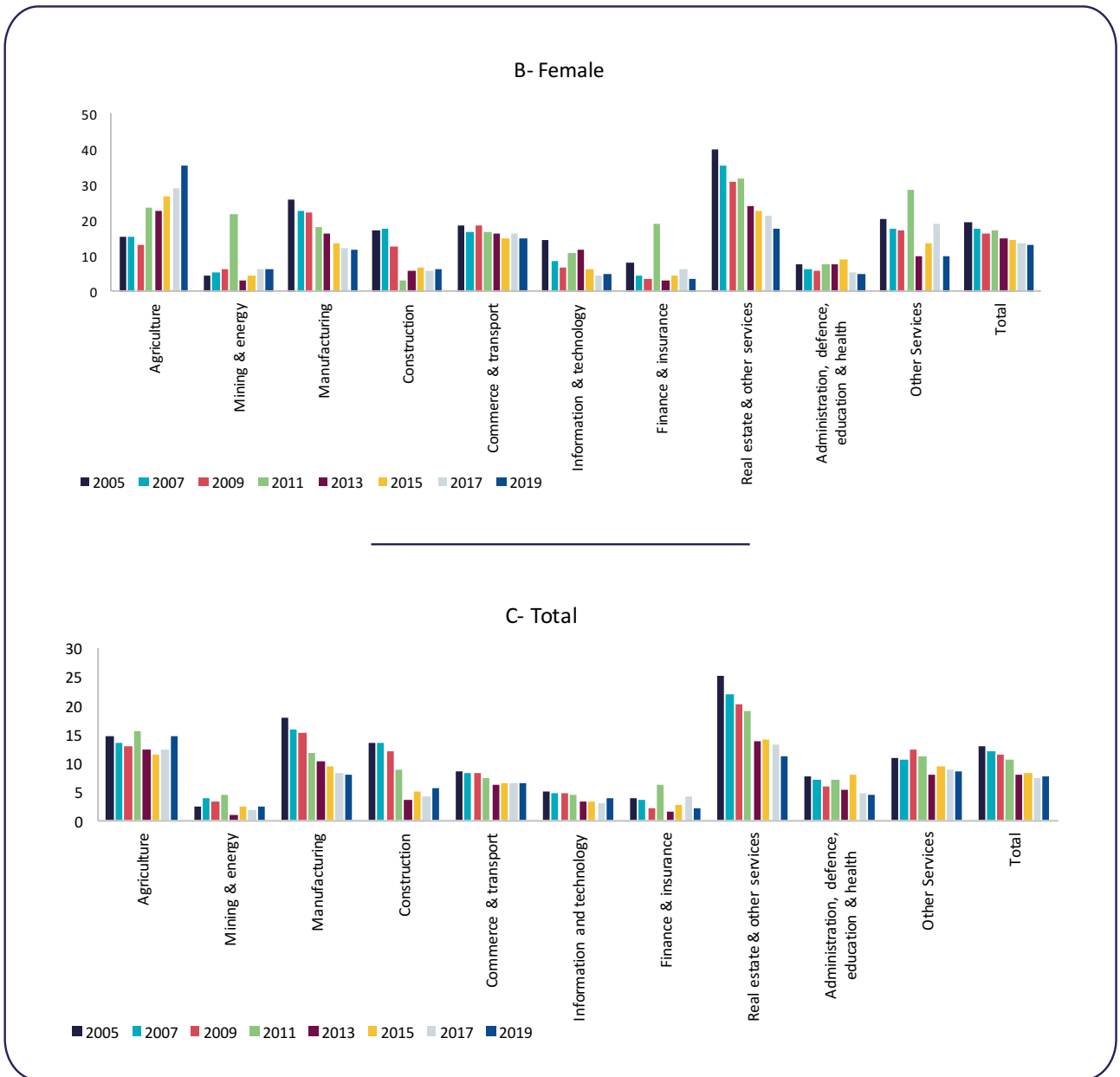
The Tunisian territory is divided into seven economic regions with a certain diversity of economic activity and level of remuneration in the private sector. This section assesses the proportion of those with the lowest wages, defined as those earning less than two-thirds of the median wage for their region. As shown in figure 34, the general trend shows a decline in those earning the lowest wages, falling from 13 per cent in 2005 to 7.5 per cent in 2019. This decline has particularly accelerated after 2011.

The decline in this proportion was more significant among men than women. Generally, women are in the most precarious sectors, earning the lowest wages. Opposite

to the trend for men, compared to 2005, women's proportion of low wage-earners increased from 15 to 35 per cent in the agricultural sector. However, apart from this increase, all other sectors except mining and energy saw a significant decrease in the proportion of low wages for women. After the political changes in 2011, the wage increases negotiated by the unions, particularly in the public sector, were generally in favour of the lowest wages. Generally speaking, there were flat-rate increases with little differentiation between different categories of workers. This approach helped to reduce relative wage differentials.

► **Figure 34.** Proportion of low wage employment, by sector





Source: Based on INS. 2009, 2013, 2015, 2017 and 2019. Tunisia Labour Force Survey.



► Box 1. What has been learned from the COVID-19 crisis?

First, it is difficult and somewhat early to draw definitive lessons from the impact of a pandemic that is still ongoing. Second, there is a lack of comprehensive data to assess the multidimensional impacts on incomes, job quality and type, and labour relations.

At the global level, the unemployment rate in the second quarter of 2020, in the midst of the containment period, reached 18 per cent, an increase of 3 percentage points more than the rate observed in the last few years before the pandemic (as estimated by INS). In the third quarter of 2020, unemployment dropped significantly, to 16.2 per cent, but remained above the recent trend. It is reasonable to attribute the bulk of the increase in the number of unemployed to the pandemic, without forgetting the structural problems of the Tunisian economy.

Beyond the impact on employment, the pandemic has certainly had a negative impact on household income, poverty and inequality. Kokas et al. (2020) show that poverty would increase by 7 percentage points by the year 2020. The main sectors losing jobs would be manufacturing, construction and tourism. Bibi et al. (2020) find similar effects using another microsimulation approach.

At another level, insights have been gleaned from telephone surveys – such as the COVID-19 Middle East and North Africa (MENA) Monitor Survey, or the INS-International Finance Corporation (IFC) telephone survey assessing the impact of COVID-19 on the private sector – which reveal that:

- nearly 16 per cent of employees in the Tunisia's private sector lost their jobs between February and November 2020, and 3 per cent left the market;
- during the same period, 8 per cent of employers and self-employed workers found themselves as wage-earners, 6 per cent became unemployed, and 3 per cent left the market;
- a significant proportion of farmers underwent a transition: 8 per cent of them left the market; 2 per cent became unemployed and 3 per cent started self-employment activities;
- unsurprisingly, public sector workers have not been largely affected by the pandemic, with only a small proportion (3 per cent) who left the market, due to retirements;
- with respect to workers' remuneration, the survey data show that the negative impact on earnings was conveyed through several channels. Nearly 32 per cent of respondents experienced episodes of temporary layoffs, and 13 per cent experienced permanent layoffs;
- as a result of the economic difficulties, 36 per cent of workers experienced delays in receiving their wages; and
- more than 30 per cent of workers have suffered either salary cuts or reduced working hours. The main losers were those engaged in precarious (informal or irregular) work.

The COVID-19 crisis has certainly aggravated and made labour market indicators deteriorate, but Tunisia's structural problems are much deeper and older. The crisis

has mainly highlighted the precariousness of jobs and the weak capacity to identify, reach and protect workers.





Conclusion

Tunisia's difficult political transition and the recent COVID-19 crisis, which has hit Tunisia as hard as any other country in the world, have not helped improve the. Tunisia has succeeded, on the one hand, in combating the deterioration of the overall quality of employment by stabilizing the rate of precariousness, reducing the number of poor workers, and the share of low wages, while reducing public sector employment. On the other hand, unemployment has remained at fairly high levels, particularly among young people and women.

The problems of the Tunisian economy have been aggravated over the last decade by the historically unprecedented slowdown of two strategic sectors, namely phosphates and oil, due to protests (also related to employment) in the south of the country. The downturn in these sectors has had a multidimensional impact on public financial balances, and the business climate in the economy as a whole. The general decline in growth has further aggravated a structural problem from which the Tunisian economy suffers, namely the low investment rate, which has been stagnating at low levels compared to neighbouring countries for at least two decades.

The strong regulation of Tunisia's economy and the prevalence of rents in the public and private sectors have hampered the growth of several sectors, including that of services. Successive governments since 2011 have all announced their intention to liberalize the economy in order to unleash its potential to create employment and wealth. However, no notable effort has since been observed.

In addition, the delay in tax reforms and the digitization of the economy has contributed to the persistence and even the increase in unemployment and informal activities. Indeed, the opportunities offered by tax evasion and weak control of the labour market have encouraged firms to remain in the informal sector.

The high unemployment rate among young people is believed to reflect the difficult transition between school and work, and the inefficiency of labour market intermediation mechanisms in shortening the time spent looking for work. The mismatch of skills offered, in terms of types of degrees or communication skills, teamwork, and demand for work is also another important factor explaining market dysfunction. In addition, several sectors of activity have shown a low capacity to absorb job seekers with post-secondary education. Apart from the public

administration and the finance and insurance sectors, few companies have the capacity to recruit this educated workforce, either because they operate in a weak value chain or because they are small family businesses that face serious difficulties in growing, because of a lack of financing or the barriers to entry mentioned above. These problems, coupled with low labour market participation and discouraged groups, leads to the underutilization of the labour force and wasted human resources.

Over the past two decades, supply pressure on the labour market, particularly from higher education graduates, has been steadily maintained. The share of the labour force with post-secondary education increased from 14 per cent in 2005 to 24 per cent in 2019. The decline in the growth rate of the labour force in recent years is due primarily to demographic factors. With such a decline in pressure, new opportunities are opening to alleviate youth unemployment.

In addition, the quality of jobs created by the Tunisian economy remains low, as evidenced by the fairly high rate of informality, particularly in the agriculture and construction sectors. This is immediately reflected in the high poverty rate, particularly in these sectors. Thus, the quality of employment and the level of productivity are determining factors in the way out of poverty in its various dimensions (monetary and non-monetary).

Resolving Tunisia's unemployment problem should be based on a multidimensional approach, with reforms to the education system to reduce the soft skills deficit, evaluation of the effectiveness of active labour market policies, review of the business climate and improved legal framework governing competition, and equitable access to economic opportunities with further investigation into identifying companies that create decent jobs.

On the demand side, the main result is that the different sectors of the economy have not created enough jobs to absorb the growing demand, particularly the country's increasingly educated youth cohort. The most productive sectors, particularly finance and transportation, have experienced weak job creation. It cannot be said that the Tunisian economy has succeeded in its structural change, as evidenced by the share of value added in the various

primary sectors. Also, the statistics of the evolution of employment show that the reallocation of jobs in Tunisia, particularly to the industrial sector, was weak compared to other countries with comparable incomes (for more detailed analysis, see El Lahga et al. 2016).

The weak dynamics of job reallocation hamper the improvement of productivity. Added to this is the fact that sectors of activity are dominated by SMEs that are often unable, for various reasons related to the business climate and uncompetitive practices, to create employment.

Resolving Tunisia's unemployment problem should be based on a multidimensional approach. Reforms must target the education system, which must better meet current and future market needs and reduce the skills

deficit. The effectiveness of active labour market policies should be evaluated in order to improve the speed of integration of young people.

The business climate and legal framework governing competition should be reviewed in order to remove any obstacles to the growth of enterprises and their access to economic opportunities (barriers to entry and access to finance).

Moreover, further investigation is needed to identify a solid industrial development strategy that creates decent jobs. Indeed, it would be appropriate to assess the strategy pursued, which focuses on the development of SMEs that are clearly struggling to grow and create enough good quality jobs.



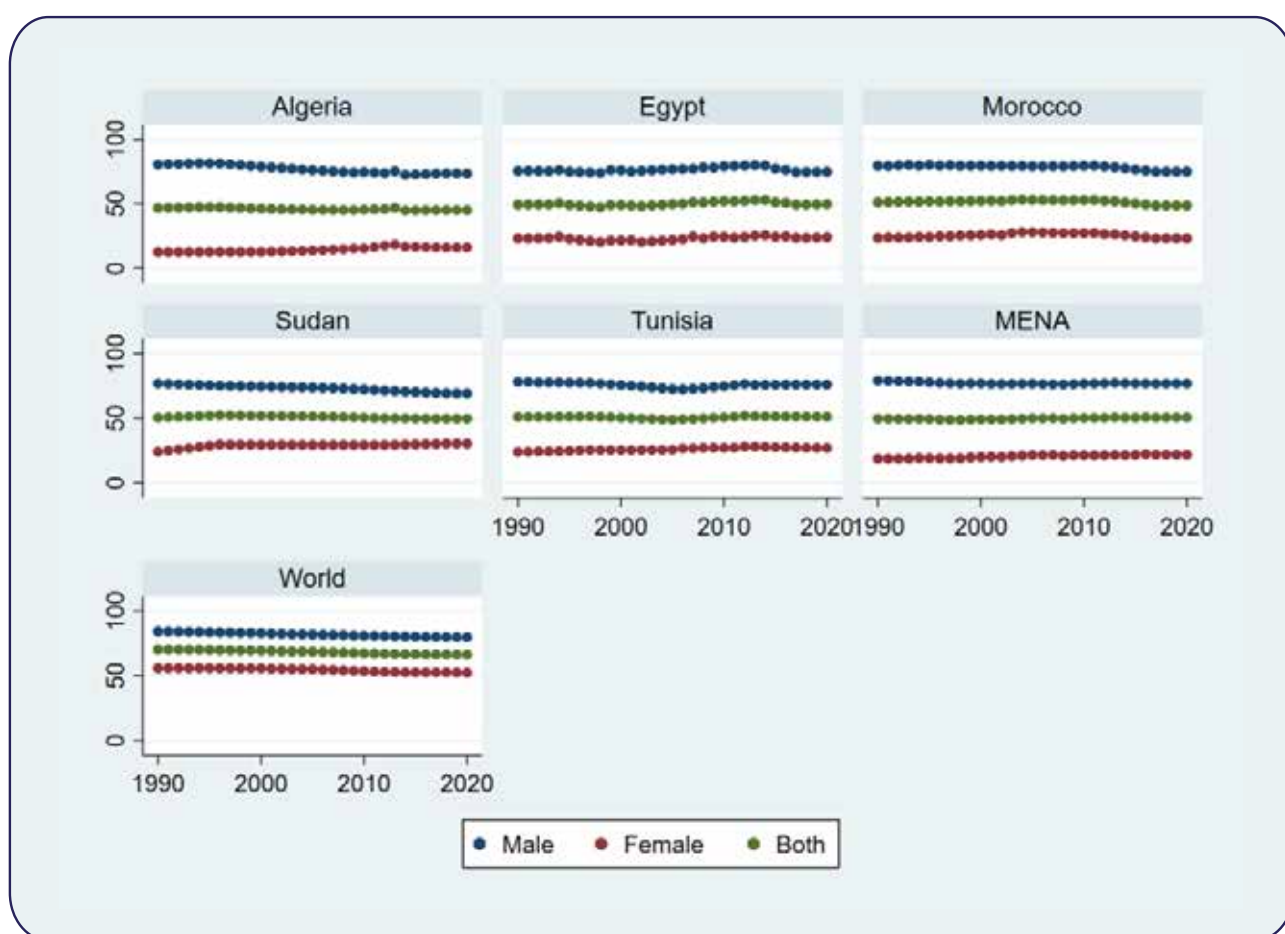




Appendix

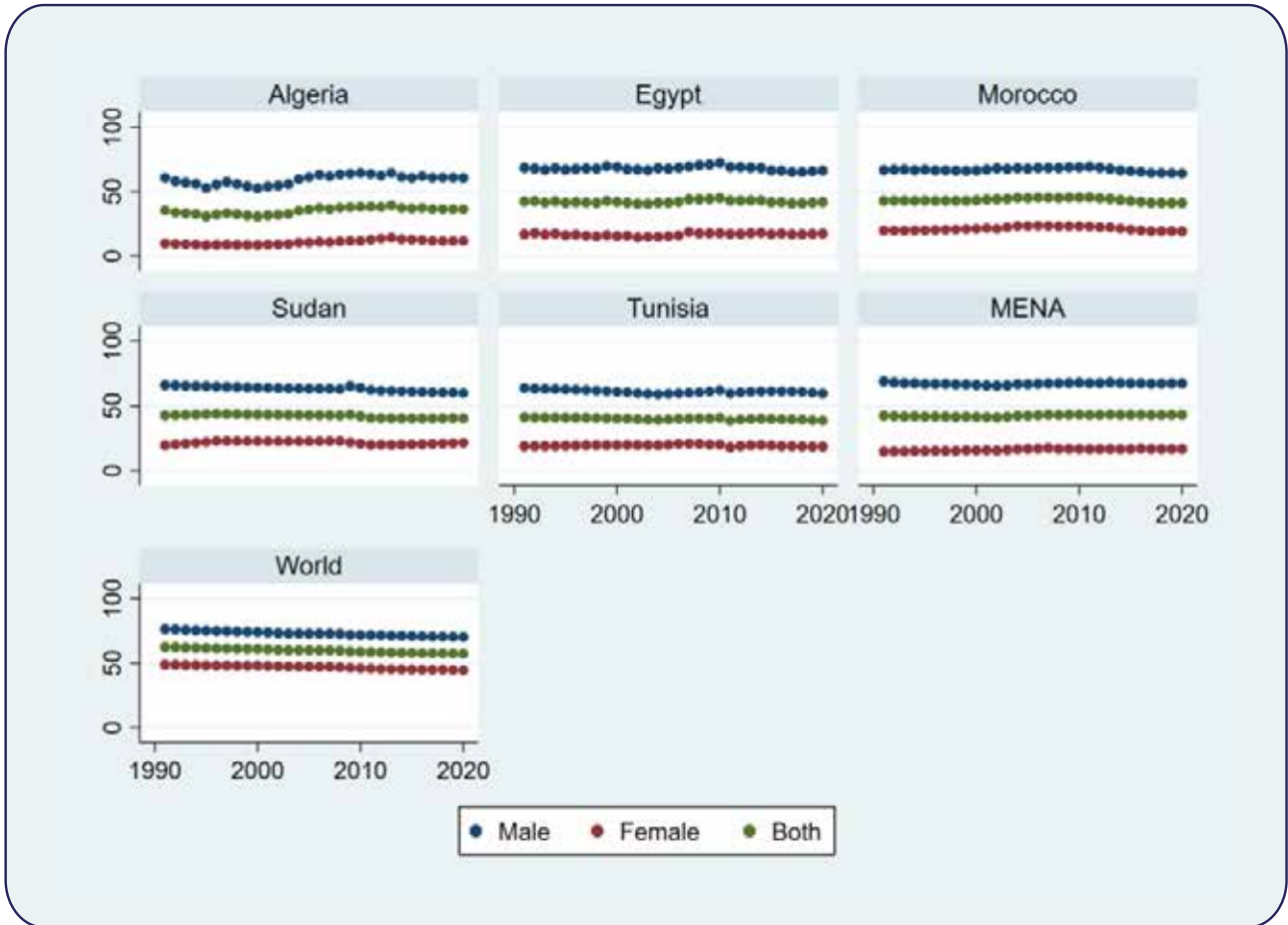
>>> Appendix 1: Overview chapter

► **Figure 1.** Labour force participation rates by sex, ages 15-64 (percentage, ILO modelled estimates)



Source: Authors' own illustration based on ILO modelled estimates from ILOSTAT

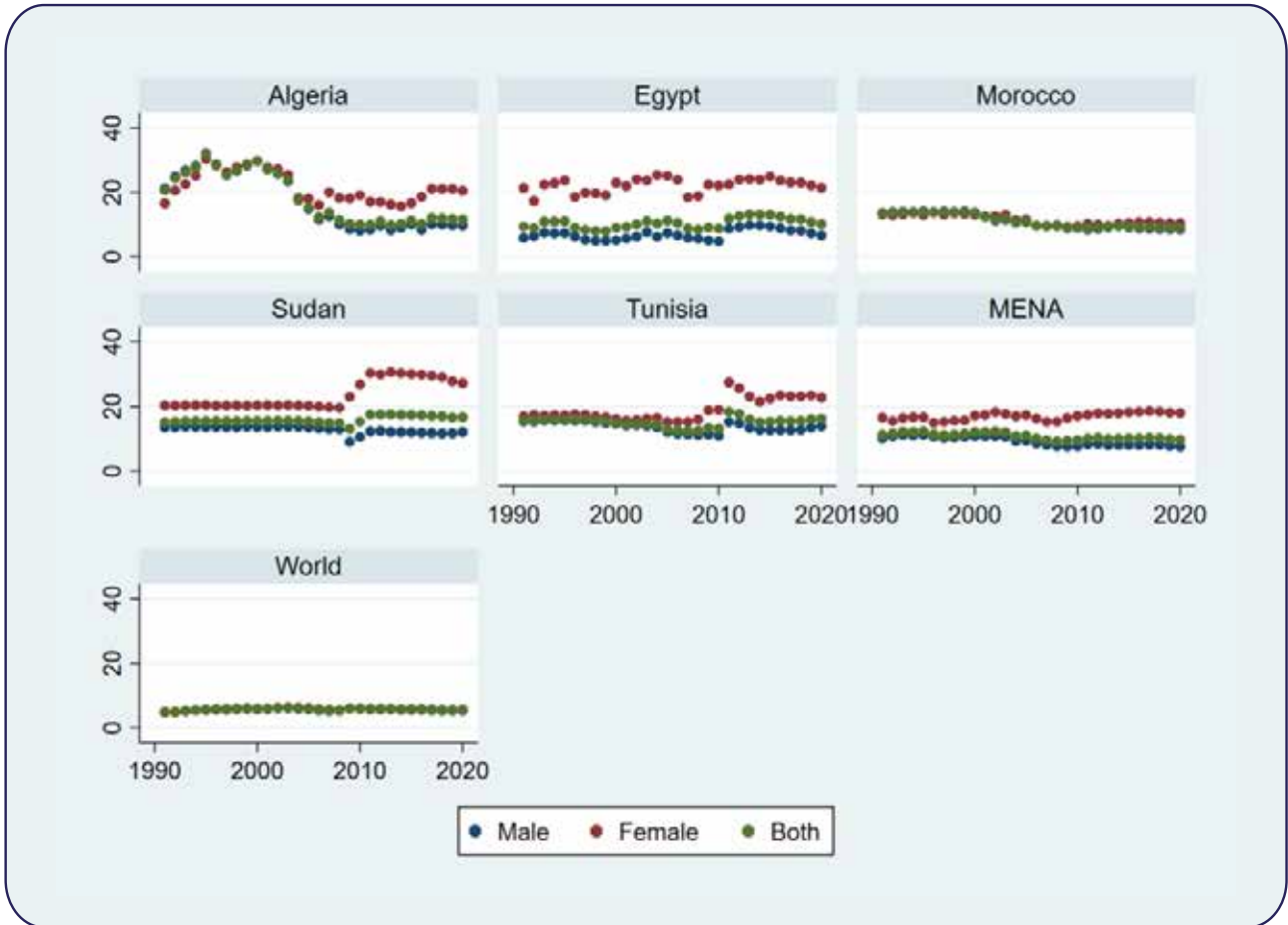
► **Figure 2.** Employment to population ratios by sex, ages 15+ (percentage, ILO modelled estimates)



Source: Authors' own illustration based on ILO modelled estimates from ILOSTAT



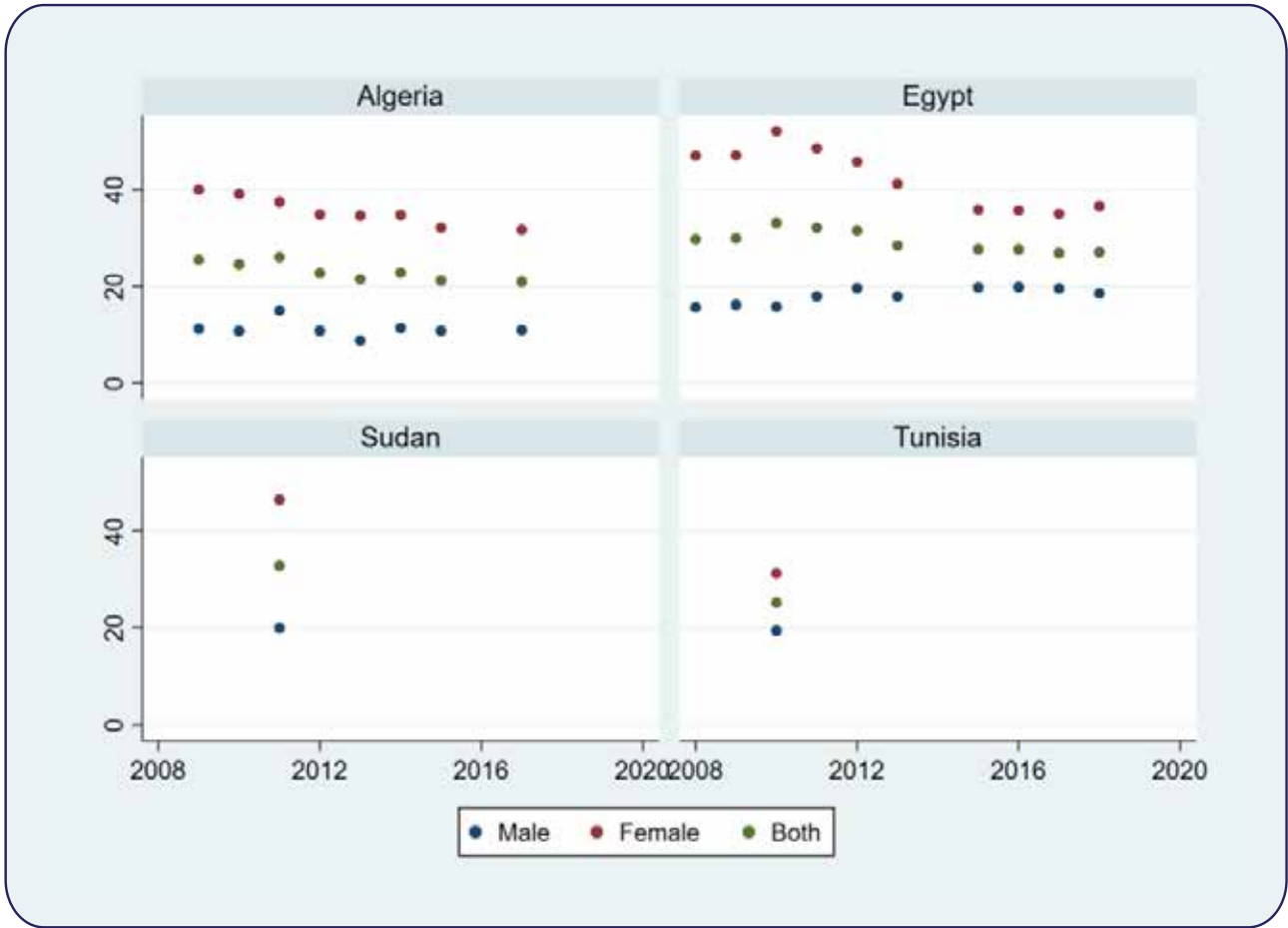
► **Figure 3.** Unemployment as a percentage of labour force by sex (percentage, ILO modelled estimates)



Source: Authors' own illustration based on ILO modelled estimates from ILOSTAT



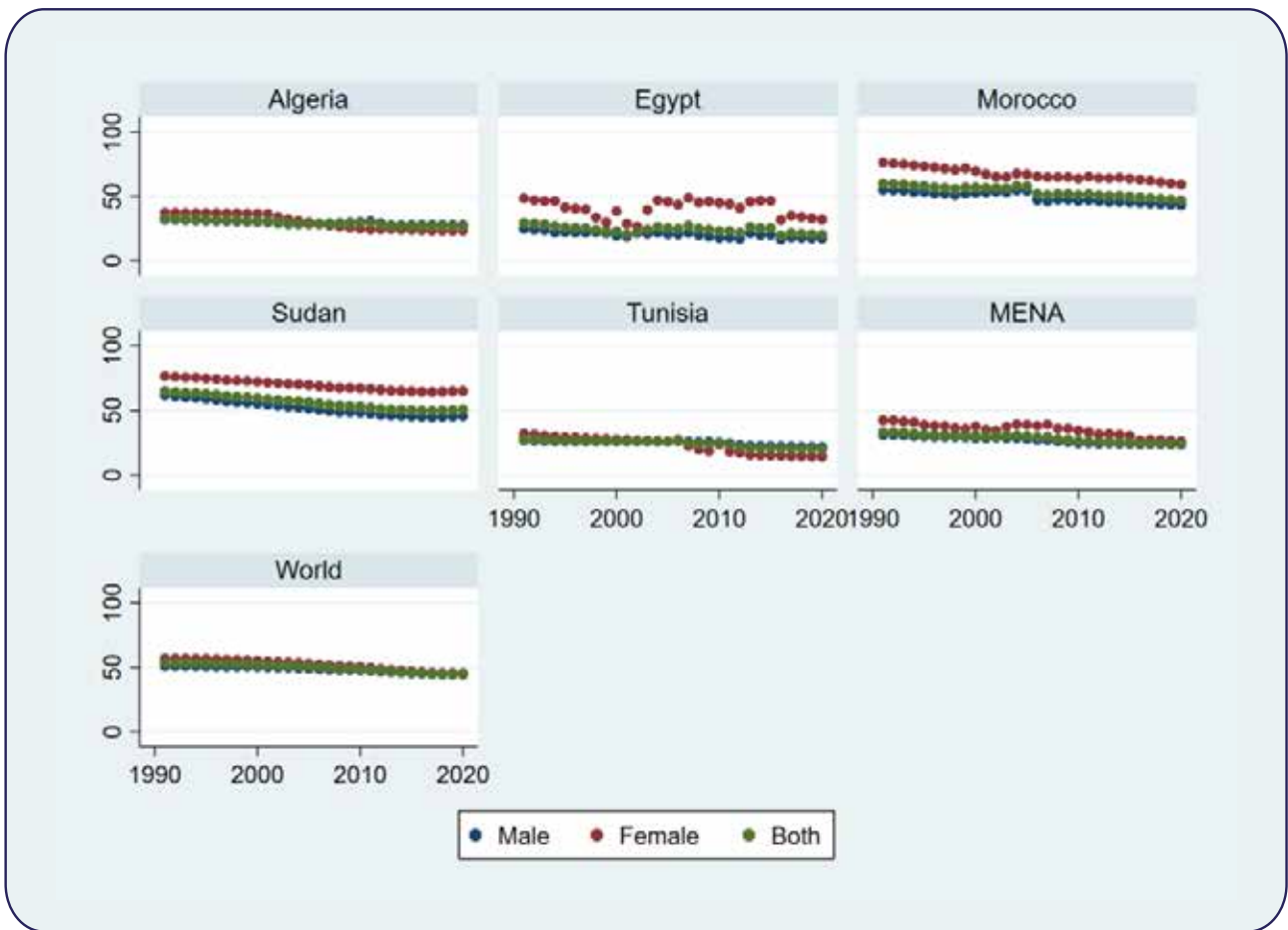
► **Figure 4.** Youth NEET rate by sex, ages 15-24 (percentage, ILO modelled estimates)



Source: Authors' own illustration based on ILO modelled estimates from ILOSTAT



► **Figure 5.** Vulnerable employment (contributing family workers and own-account workers as a percentage of total employment) by sex (ILO modelled estimates)

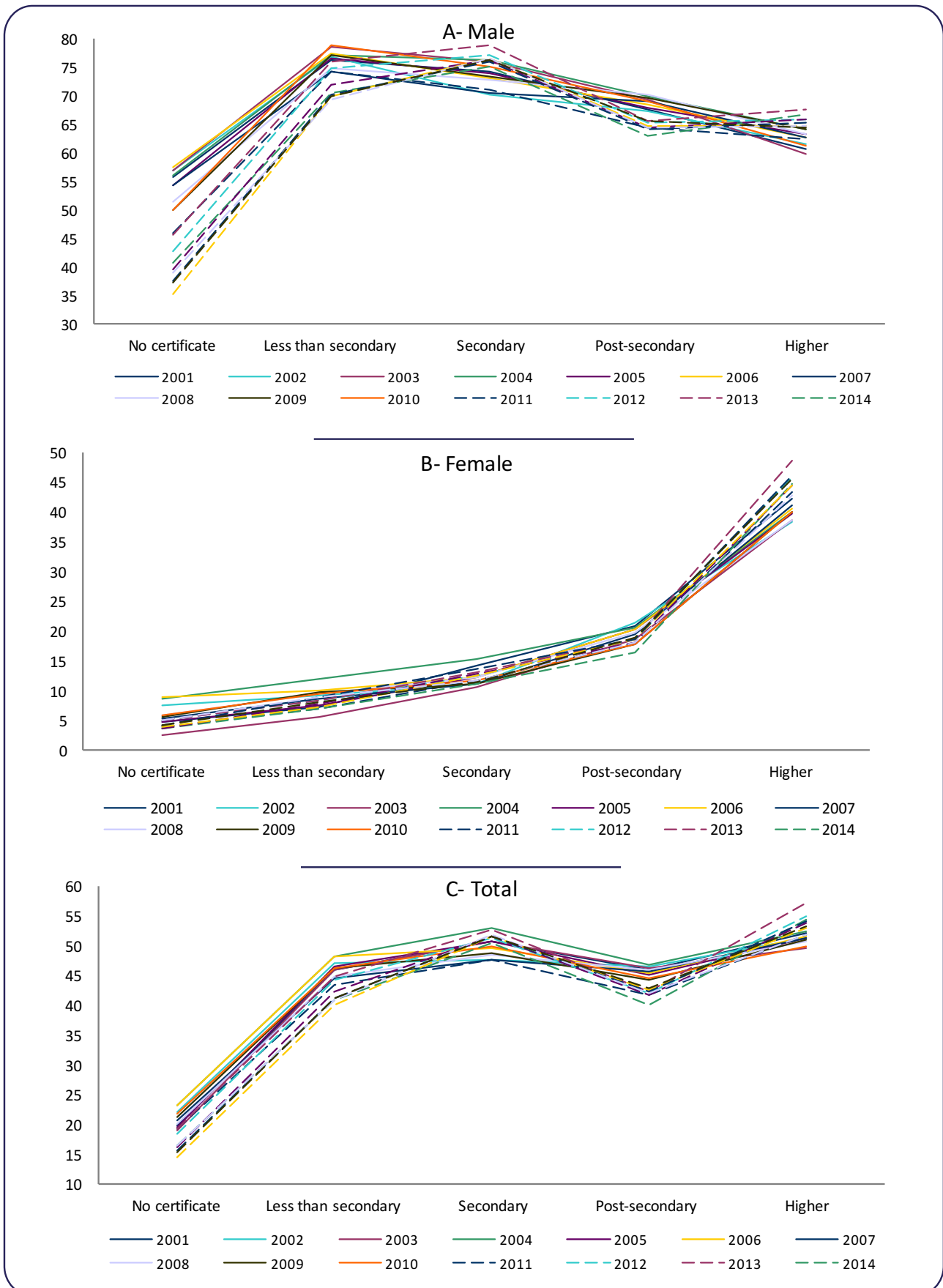


Source: Authors' own illustration based on ILO modelled estimates from ILOSTAT



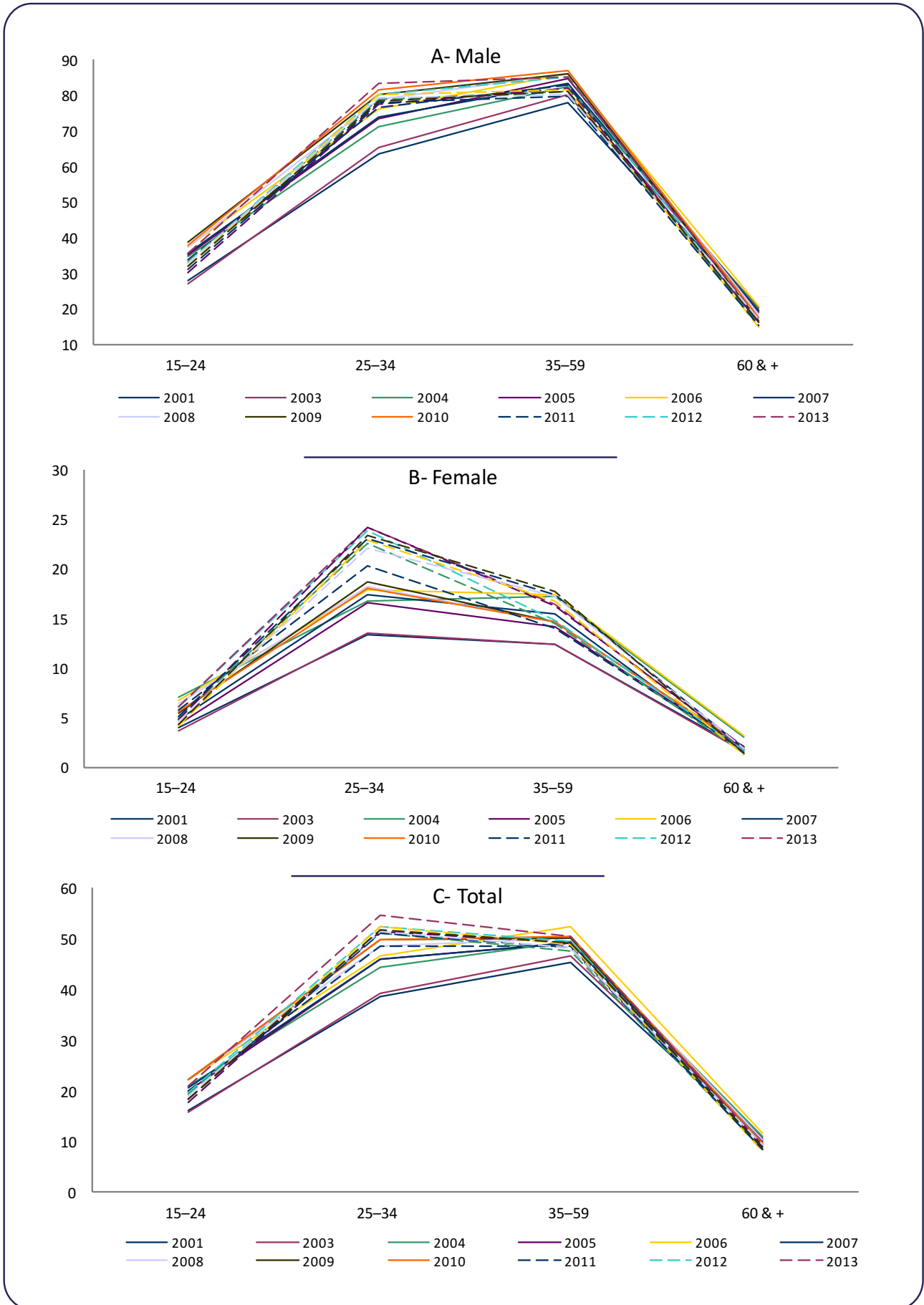
>>> Appendix 2: Algeria

► **Figure A1.** Labour force participation rates, by education



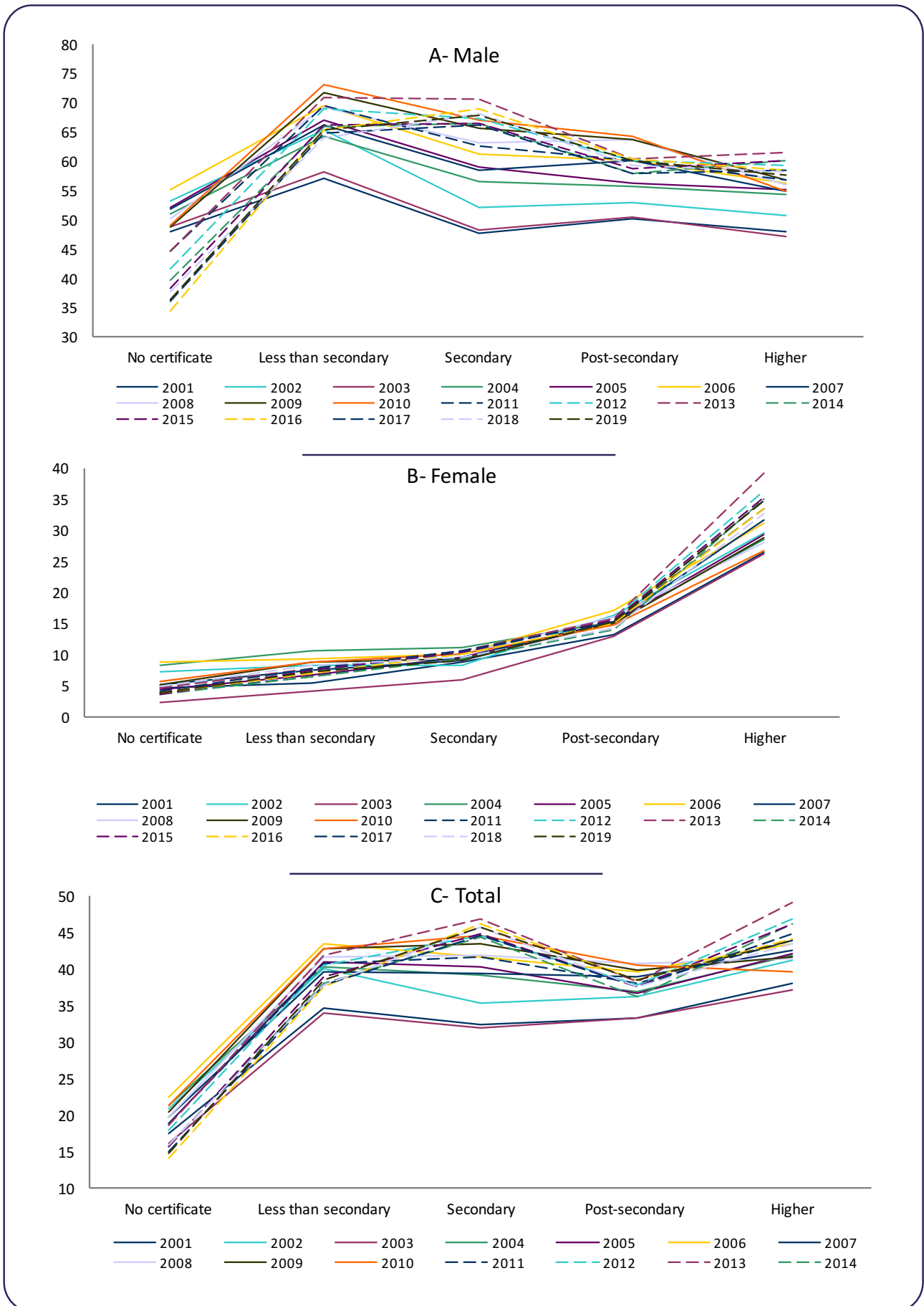
Source: Authors, based on ONS. Labour Force Survey 2001–2019.

► **Figure A2.** Employment rate, by age



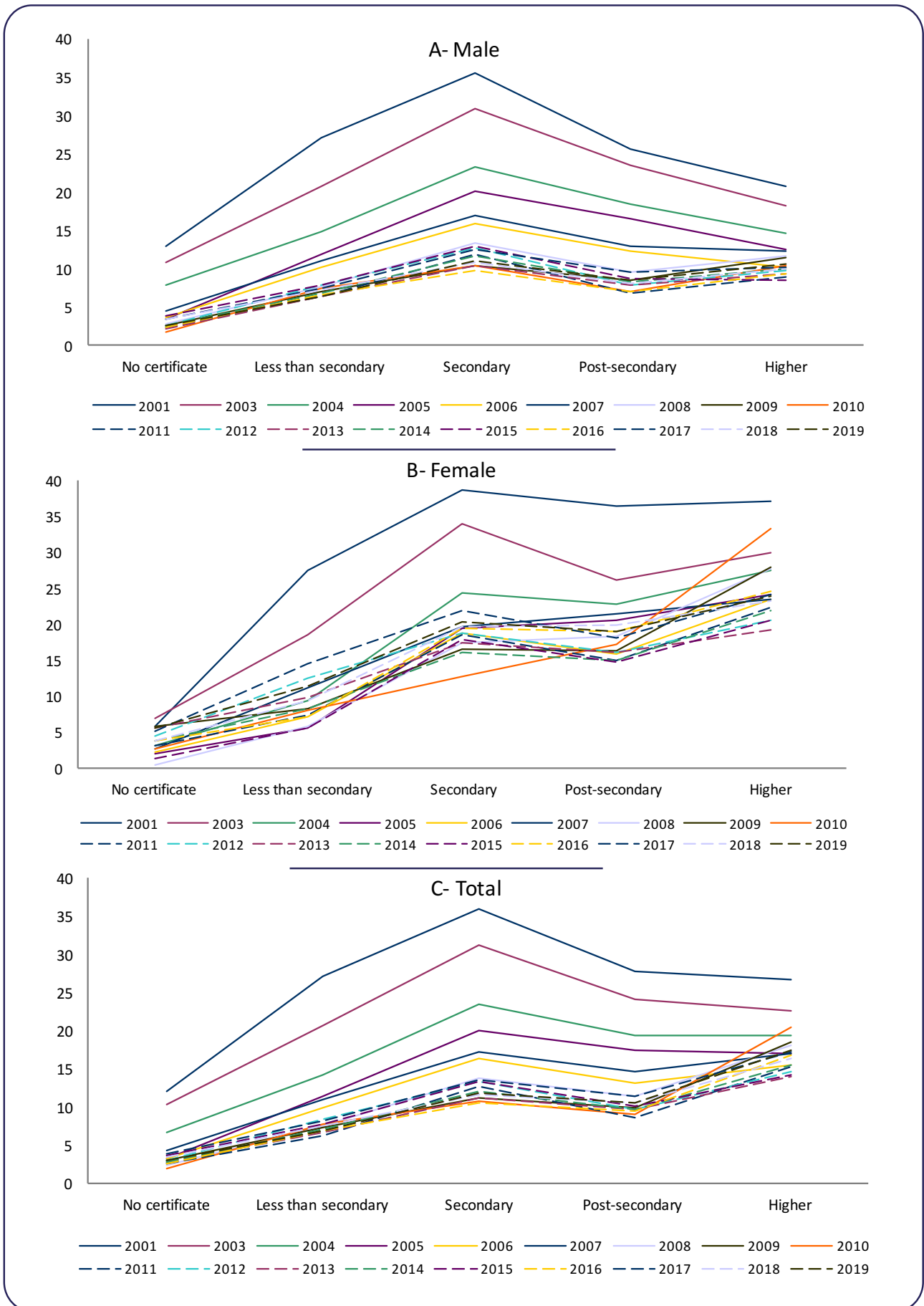
Source: Authors, based on ONS. Labour Force Survey 2001–2019.

► **Figure A3.** Employment rate, by education



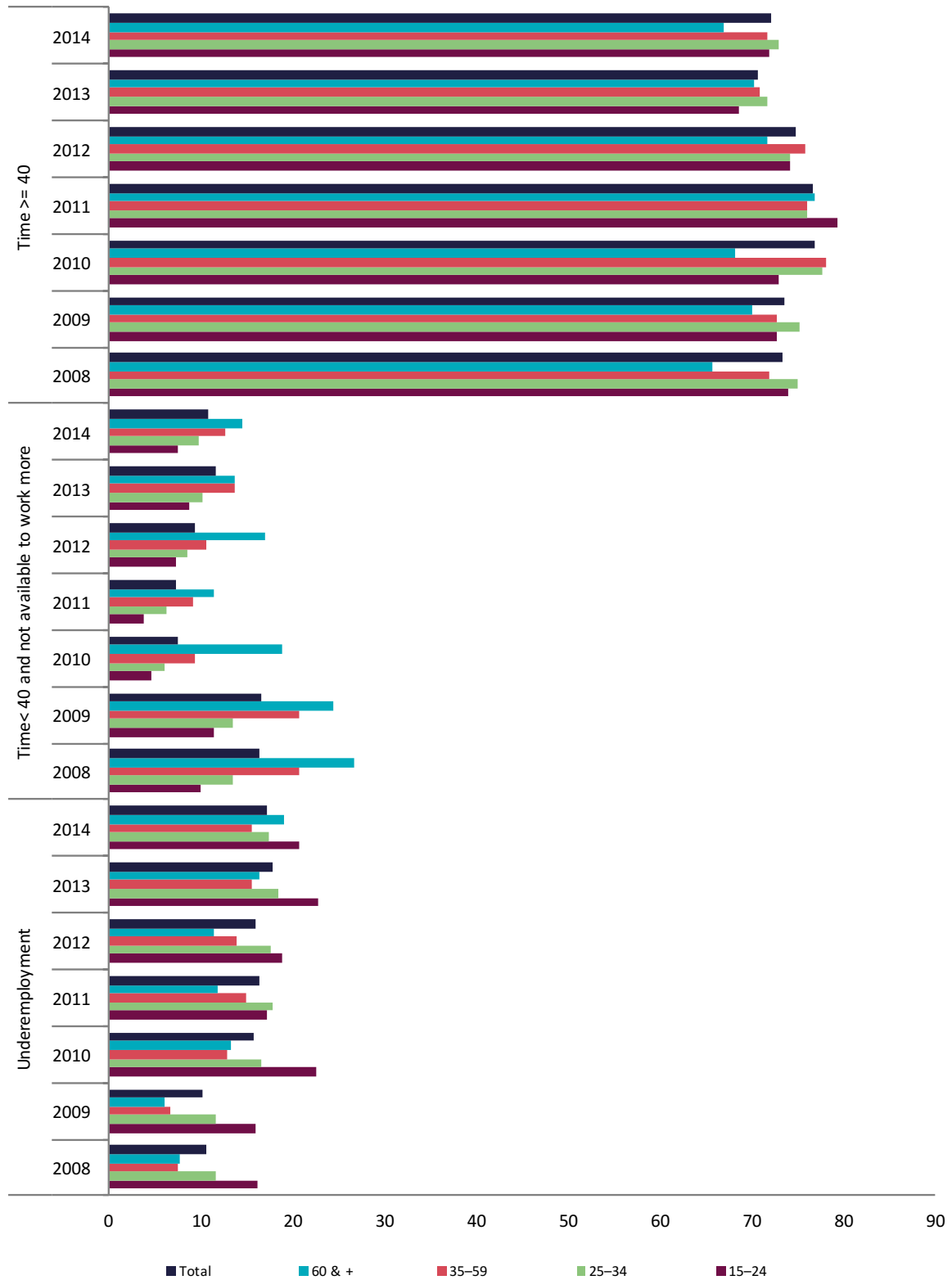
Source: Authors, based on ONS. Labour Force Survey 2001–2019.

► **Figure A4.** Unemployment rate, by education



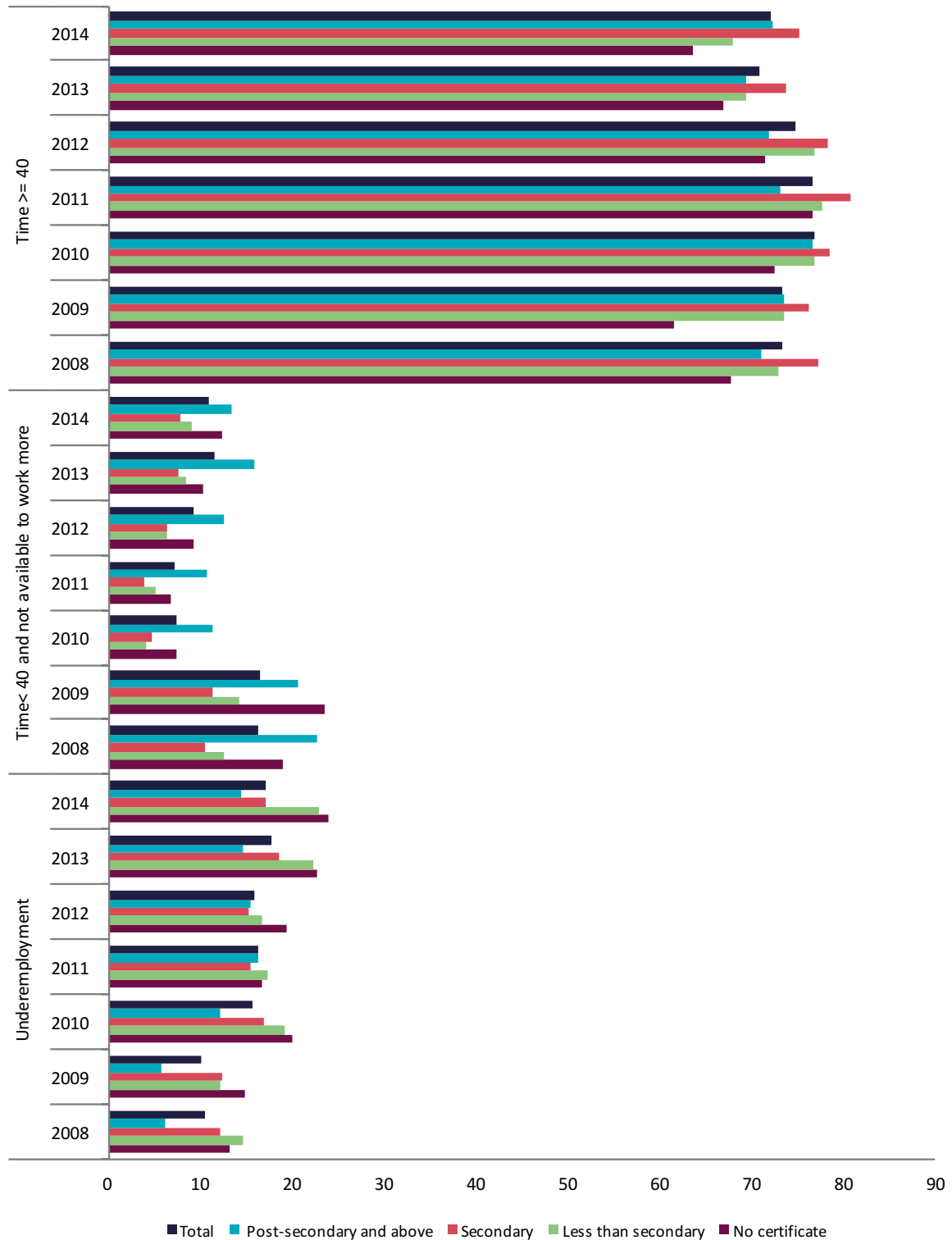
Source: Authors, based on ONS. Labour Force Survey 2001–2019.

► **Figure A5.** Underemployment, by age



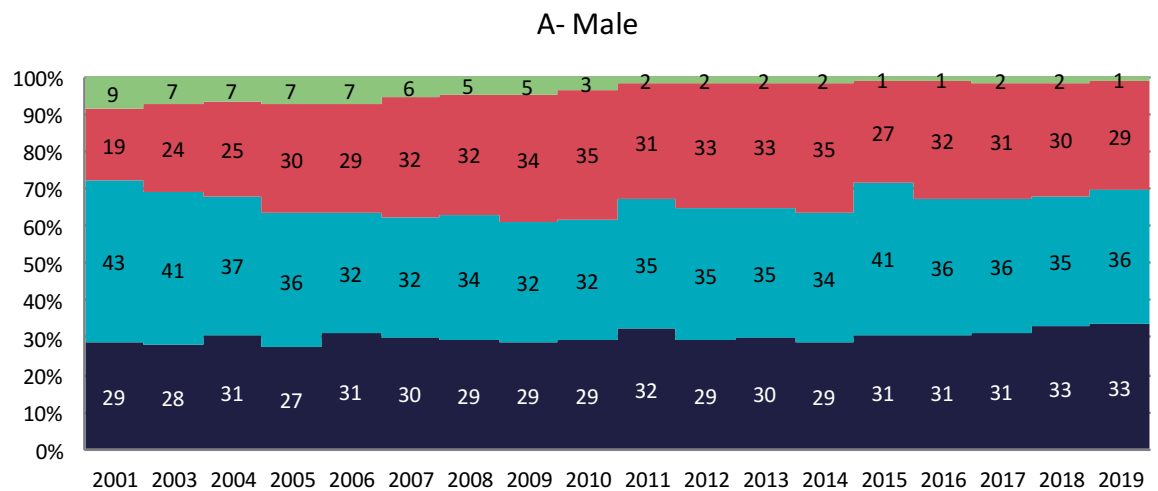
Source: Authors, based on ONS. Labour Force Survey 2008–2014.

► **Figure A6.** Underemployment, by educational attainment

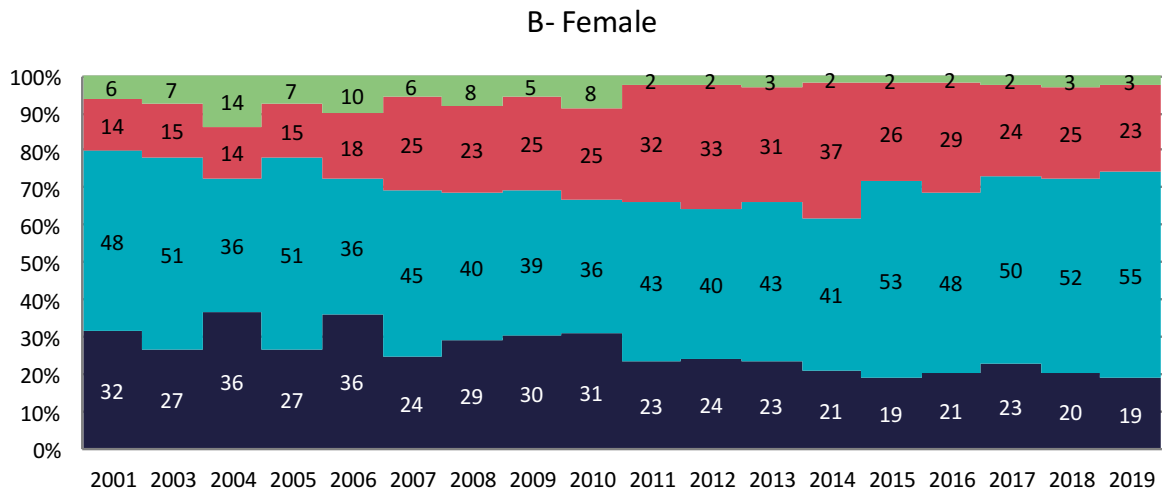


Source: Authors, based on ONS. Labour Force Survey 2008–2014.

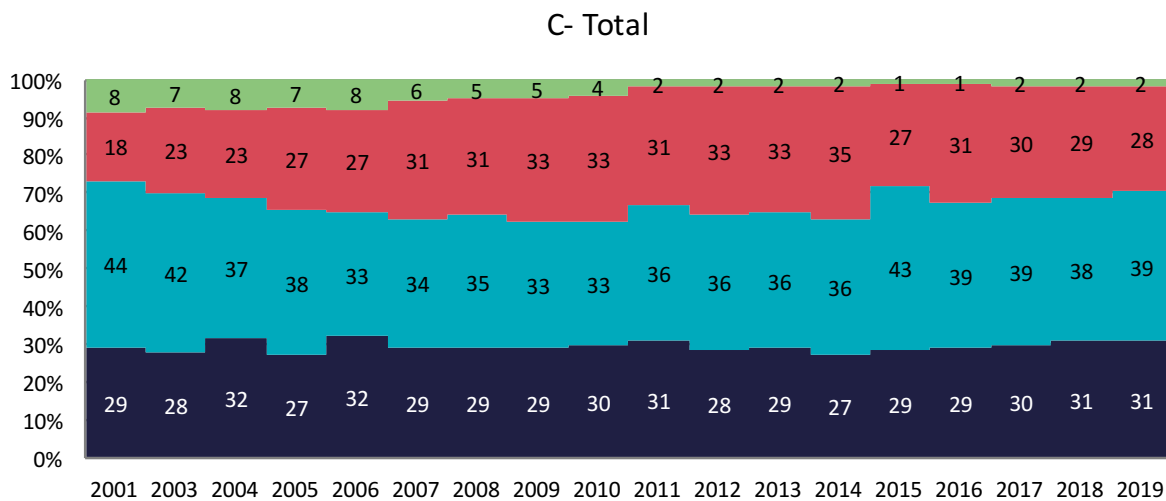
► **Figure A7.** Type of employment



■ Employers and self-employed ■ Permanent employees ■ Non-permanent employees and apprentices ■ Family workers



■ Employers and self-employed ■ Permanent employees ■ Non-permanent employees and apprentices ■ Family workers



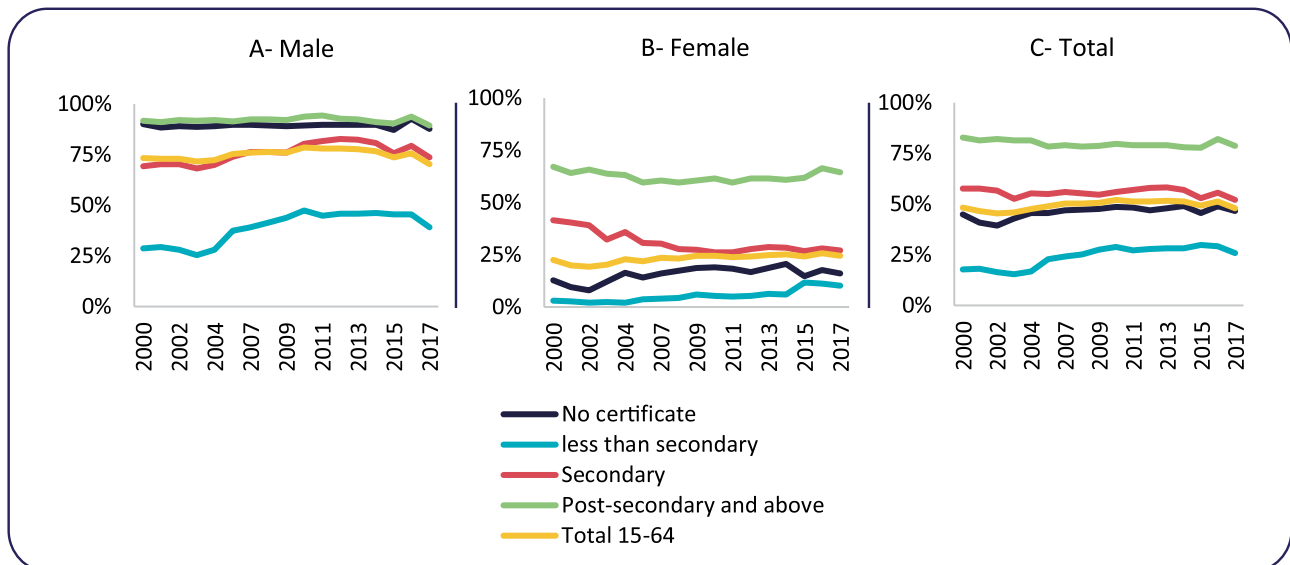
■ Employers and self-employed ■ Permanent employees ■ Non-permanent employees and apprentices ■ Family workers

Source: Authors, based on ONS. Labour Force Survey 2001–2019.

>>> Appendix 3: Egypt

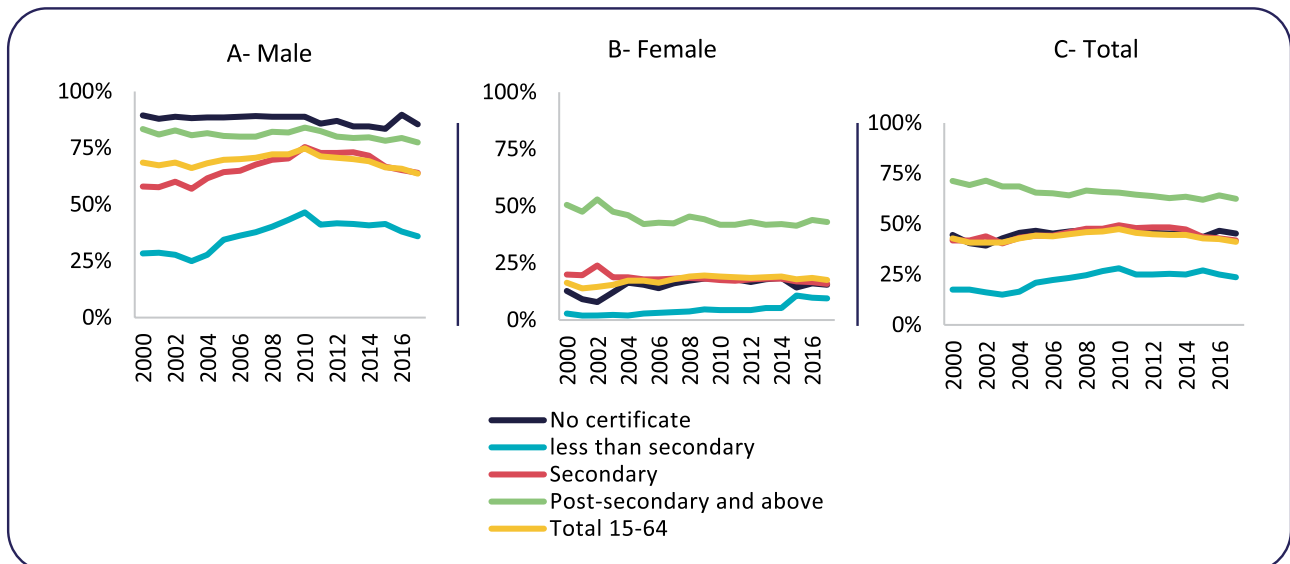
>> Appendix 2a: Additional figures

► **Figure 1.** Labour force participation rates by educational attainment and sex, ages 15-64, 2000-2017 (including those enrolled in school)



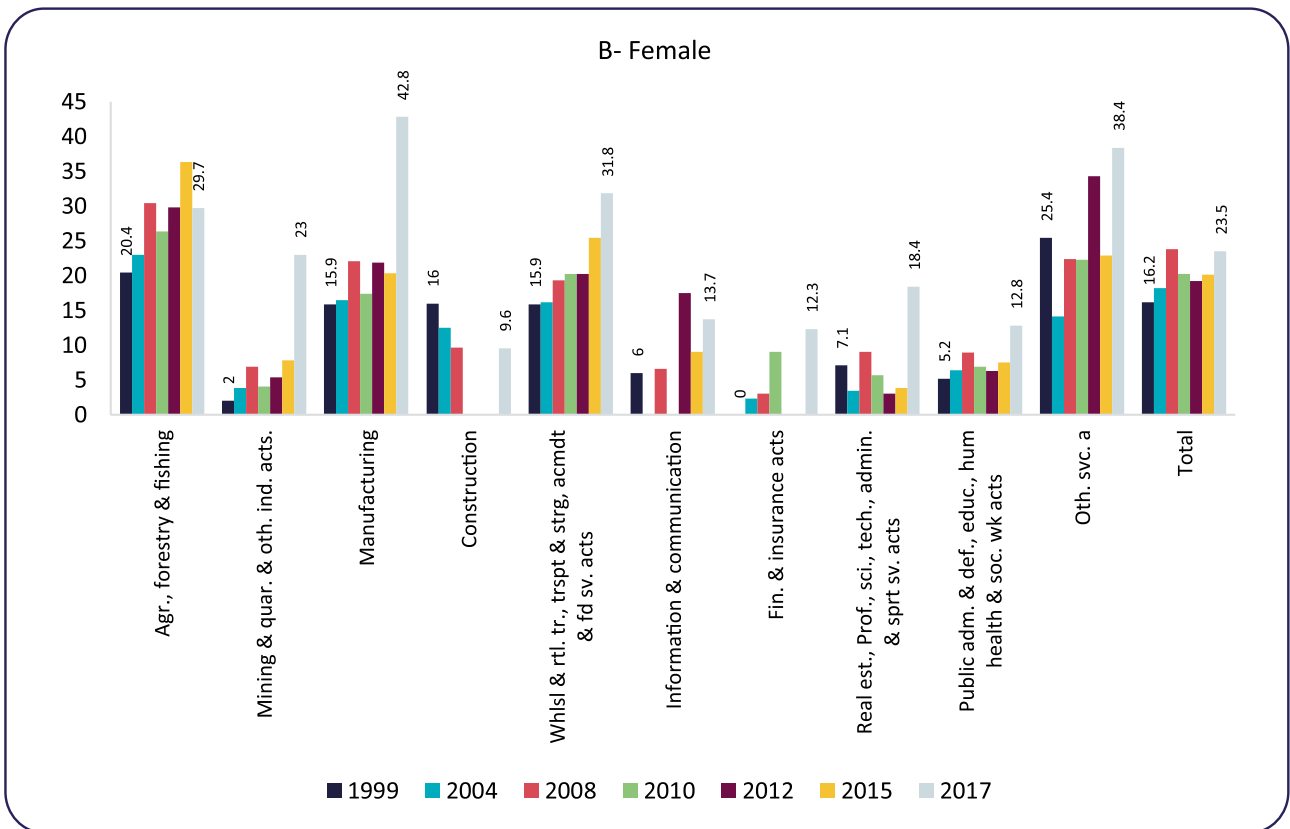
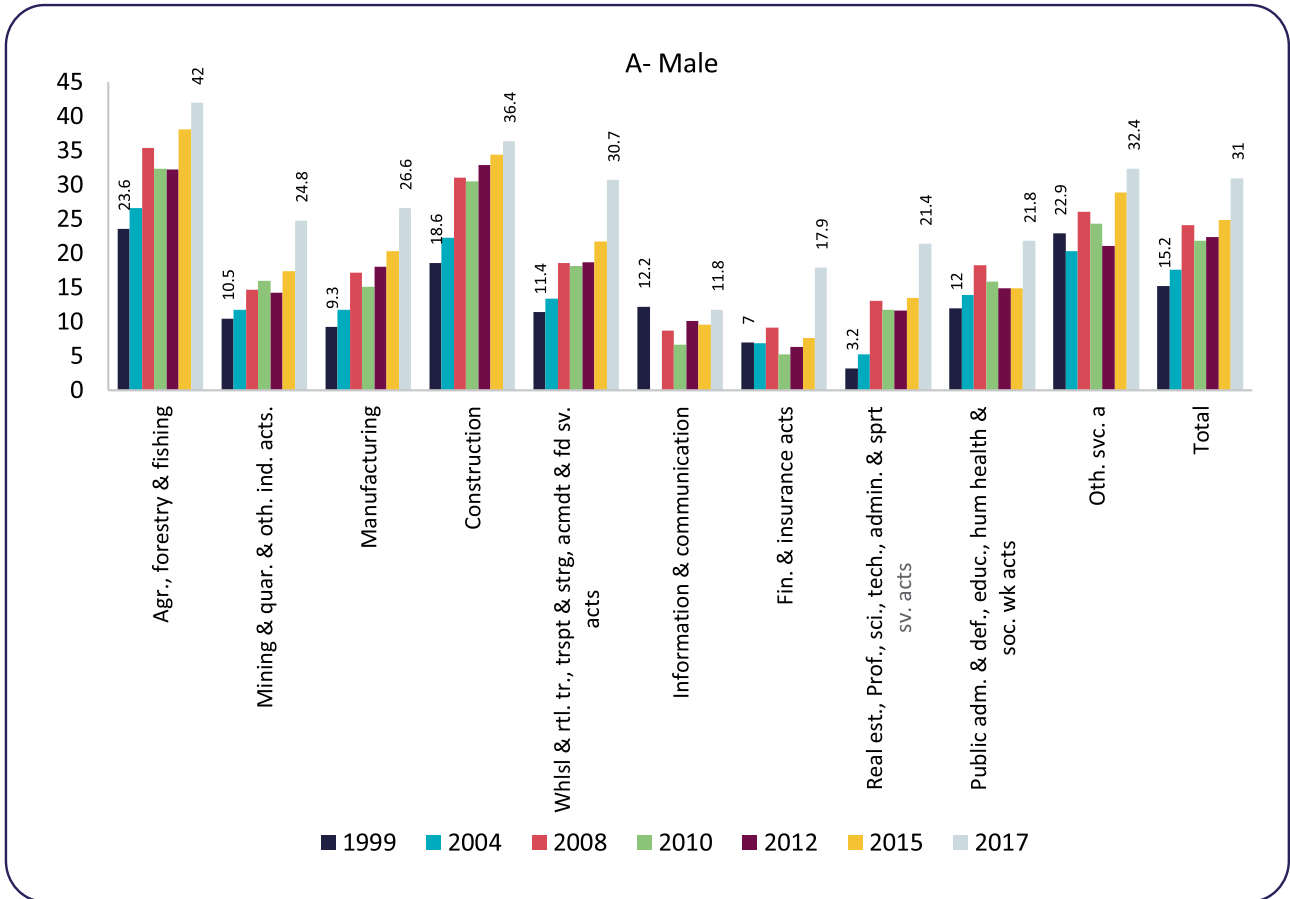
Source: Authors' calculations based on LFS 2000-2004 & LFS 2006-2017

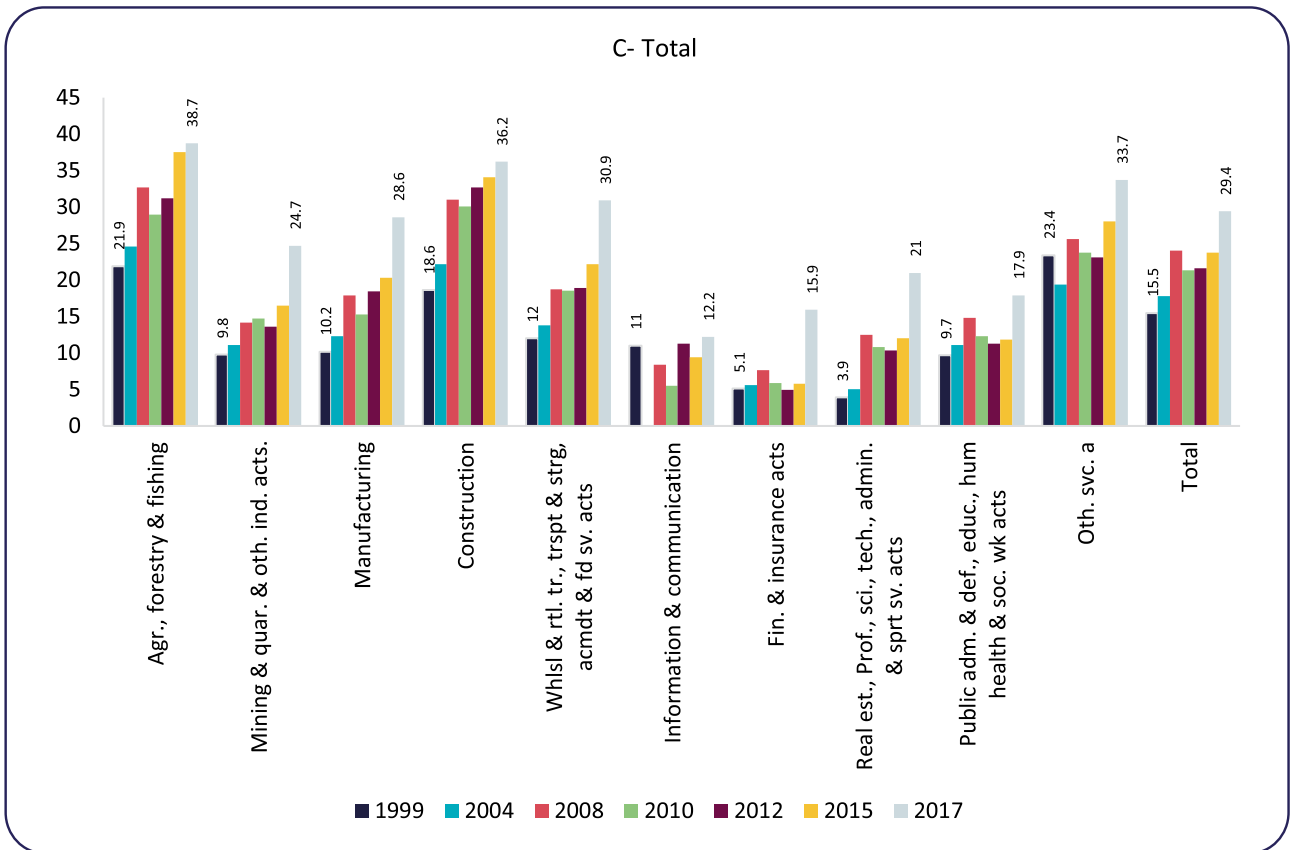
► **Figure 2.** Employment rate by educational attainment and sex, ages 15-64, 2000-2017 (including those enrolled in school)



Source: Authors' calculations based on LFS 2000-2004 & LFS 2006-2017

► **Figure 3.** Percentage of working poor by industry sector, ages 15-64, HIECS





Source: Authors' calculations based on HIECS 2004, 2008, 2010, 2012, 2015, 2017



» Appendix 2b: Additional tables

► **Table 1.** Skill levels required by each occupation and the corresponding education levels

ISCO-88 major groups	Required skill Level	Minimum required education for each skill level (based on mapping of Egypt education by ISCED)
Legislators, senior officials, and managers	3 + 4	University
Professionals	4	University
Technicians and associate professionals	3	University
Clerks		
Service and shop and market sales workers		
Skilled agricultural and fishery workers	2	Preparatory, secondary, and post-secondary
Craft and related trades workers		
Plant and machine operators, and assemblers		
Elementary occupations	1	
Military occupations	1 + 4	Primary
Conversion		

ISCO-88 Skill Level	Education level required (ISCED-97 groups)
4	Second stage of tertiary education (leading to an advanced research qualification)
3	First stage of tertiary education, 1st degree (medium duration) First stage of tertiary education (short or medium duration) Post-secondary, non-tertiary education
2	Upper secondary level of education Lower secondary level of education
1	Primary level of education

Source: constructed by the author from the ISCO88 ILO documentation and Mapping of Egypt education by ISCED. ¹

► **Table 2.** Mismatch matrix between the required education and actual education attained

Actual Education level	Skill level (Required education level)		
	1	2	3+4
University	overqualified	overqualified	appropriate
Prep., secondary and post-sec	overqualified	appropriate	underqualified
Primary	appropriate	underqualified	underqualified
None	underqualified	underqualified	underqualified

Source: constructed by the author



¹ <https://www.ilo.org/public/english/bureau/stat/isco/isco88/index.htm>
http://uis.unesco.org/sites/default/files/documents/egypt_isced_mapping_0.xls

>>> Appendix 4: Sudan

>> Appendix 3a: Decomposition methodology

> i- Decomposition of labour productivity growth

In literature there are a number of approaches to decompose aggregate labour productivity growth into within and between-sector components. However, we follow McMillan and Rodrik (2011) and McMillan et al. (2017) who use the two-fold decomposition, given as:

$$\Delta P_t = \sum_{i=1}^n \theta_{i,t-k} \Delta p_{i,t} + \sum_{i=1}^n p_{i,t} \Delta \theta_{i,t} \quad (1)$$

Where P_t and p_t refer to aggregate and sectoral labour productivity, respectively, and $\theta_{i,t}$ is the proportion of total labour employed in sector i at time t . Δ refer to changes between $(t-k)$ and t . Whereas the first term on the right-hand side captures within-sector productivity effect, the second term on the right-hand side captures between-sector effect.

> ii- Decomposition of skills demand

We use the decomposition equation of skills upgrading suggested by Berman et al. (1998) to calculate the within and the between components:

$$\Delta SK_t = \sum_{i=1}^n \Delta sk_{i,t} \theta_{i,t} + \sum_{i=1}^n \theta_{i,t} \Delta sk_{i,t} \quad (2)$$

Where SK_t is the share of high-skill labour in total labour, $sk_{i,t}$ is the share of skilled labour by sector and $\theta_{i,t}$ is the share of employment in sector i .

>> Appendix 3b: Computing employment elasticity

The employment elasticity is a measure of the percentage change in employment associated with a 1 percentage point change in value-added. The employment elasticity indicates the ability of an economic sector to create employment opportunities as per cent of its growth (value added). In the empirical literature, there are two methodologies that have commonly been used to calculate employment elasticities: the 'arc' elasticity and regression approach that provide point elasticity. Since we lack long time series data on employment and growth on sectoral level, we adopt the 'arc' elasticity approach, as given:

$$\varepsilon = (E_1 - E_0) E_0 / (Y_1 - Y_0) Y_0 \quad (3)$$

Where E is the employment and Y is the value added during a given period.



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