

Egypt's Labor Market and the COVID-19 Pandemic – a longer term perspective*

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Abstract

Before the COVID-19 pandemic, Egypt's labor market conditions were deteriorating, with declining labor force participation and increasing informality despite positive economic growth. Low private sector development and moratorium on public sector hiring left a fast-growing population with very few jobs to compete for, most jobs were created in low productive male-dominated sectors such as construction. Women and youth have been in a disproportional disadvantage in accessing jobs. When COVID-19 hit a range of evidence showed substantial negative labor market impacts, potentially exacerbating the pre-pandemic trends. Yet, a large share of this evidence comes from phones surveys. This paper relies on representative data from the Labor Force Survey (LFS) for the period 2010-2021 to look at the COVID-19 impacts with a decade-long perspective of labor market trends in Egypt. The analysis pools 12 years of LFS data and relies on a difference-in-differences approach to describe the labor market impacts of the pandemic, with a more detailed picture of impacts by sector, economic activities, and groups. The results show that COVID-19 caused a temporary drop in men and women's employment, with women significantly more likely to exit the labor force completely. All sectors were negatively affected, except for women in public sector. By the third quarter of 2020, labor market trends have reverted to the deteriorating pre-pandemic trends.

Keywords: labor market trends, COVID-19, gender.

JEL codes: J21, O17, J16.

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1. Introduction

During the decade preceding the COVID-19 pandemic, many labor market indicators in Egypt were deteriorating, even despite an acceleration of economic growth between 2015 and 2019. Labor force participation (LFP) and employment rates, already at very low levels compared to other countries, continued to decline, especially among high educated women. The unemployment rate fell slightly, but the share of discouraged unemployment and inactive young people (excluding those enrolled in school or university) increased. At the same time, the quality of employment deteriorated, with the percentage of workers in informal and irregular employment increasing. A fast expansion of the working-age population (ages 15-64) poses both opportunities and challenges to an effective functioning of the labor market.

The COVID-19 crisis further exposed fault lines in Egypt's labor market, exacerbating the already deteriorating labor conditions. Many efforts have been made to understand changes in the labor market and welfare losses caused by the COVID-19 in Egypt. Growing evidence suggests that the pandemic caused a decrease in employment and an increase in unemployment rates. Evidence show that disadvantage groups were the worst impacted by the pandemic. These households were affected through direct channels (reduction in income due to sickness) and indirect channels (employment shocks and earnings). Additionally, non-income channels such as health expenditure and reduction of disposable income impacted households' welfare and school closures disrupted learning for children.

Nevertheless, most rapid assessments conducted in the early onset of the pandemic rely on high-frequency phone surveys, which predominantly target self-reported household heads or main income earners, or are based on a sampling frame that is not necessarily fully representative of the

population. Using phone survey was common across many countries, not only specific to Egypt, given the urgent interest to monitor the potential impacts of the pandemic and the restrictions to implement traditional face-to-face surveys. One challenge found in many settings is that women are less likely to be represented in these surveys. Another constraint has been the small sample size, which prevents getting a good breakdown of the impacts in different sectors and economic activities. Finally, these surveys have been useful to provide a short-term picture of the impacts, but do not put the impacts in perspective of longer time trends.

This paper aims to contribute to the evidence on the recent developments in the Egyptian labor market, especially in the light of the COVID-19 pandemic. We study the impact the Covid-19 crisis on the country's working-age population within the trajectory of Egypt's labor market in the decade prior. We use Egypt's Labor Force Survey (LFS) quarterly data from 2010 to 2020 that are individually representative at the national level, which enables us to confidently infer differences across different groups, sectors, and economic activities. First, we analyze labor market trends before and after the COVID-19 pandemic and the important role of demographics on the labor market. Second, we use a difference-in-differences method to better approximate the early impacts of the COVID-19 pandemic on labor market outcomes. We disaggregate all our analyses separately for women and men.

The analysis shows that the pandemic led to steep—but temporary—decline in LFP and increase in unemployment rates, but the rates swiftly stabilized to pre-COVID levels. A closer look at the second quarter of 2020 suggests that employment across all economic activities were negatively affected, and no economic activity—except for agriculture among men—was able to absorb the displaced labor force. It is interesting to note though the difference in responses of women and men to the pandemic, and how they transitioned in and out of the labor force. The

negative effect on employment was smaller for women than for men, since women were highly engaged in the public sector or agriculture. However, women were less likely to be unemployed (i.e. women were less likely to be outside of employment and yet looking for work), while there was an increasing share of men who were unemployed. Thus, on net, men and women are equally likely to exit the labor force.

The paper proceeds as follow. Section 2 describes the Labor Force Survey used in this study. Section 3 presents pre-COVID labor market trends in Egypt from 2010 to 2019 by gender, age group, and education. Section 4 highlights some relevant literature looking at labor market impacts of the COVID-19 pandemic. In Section 5, we outline the methodology used to estimate the impacts of the pandemic, while in Section 6, we describe post-COVID employment trends. Section 7 summarizes the findings and Section 8 concludes.

2. Data

This paper pools quarterly rounds of Egypt's Labor Force Surveys (LFS). These cross-sectional surveys are collected by the Central Agency for Public Mobilization and Statistics (CAPMAS) in cooperation with the Economic Research Forum (ERF). The survey was initially carried out from 1957 with the intention of capturing quarterly information on Egypt's labor market and has continued to be implemented in an annual basis. For all years used in this paper, from 2010 and 2021, the data is available at a quarterly basis. These versions of the LFS and their documentation are publicly available on the ERF web page and belong to the collection of harmonized datasets provided to the public as the Open Access Micro Data Initiative (OAMDI, 2019).

We restrict the analysis to working-age individuals between ages 15 and 64. One of the main features of the LFS is that it is nationally representative and captures information on household characteristics, education, employment, occupation, economic activity, employment sector, informality, work location, wages, and employment status of working-age individuals. The survey allows to calculate labor market outcomes such as employment, unemployment, full-time students, and labor force participation. We define four mutually exclusive groups of the working-age population: (i) employed; (ii) unemployed; (iii) enrolled in school; and (iv) outside of the labor force (otherwise). Employed individuals are those who worked for at least one hour over the past week producing goods or services.¹ Unemployed individuals did not work for an hour over the past week but are willing to work, actively looking for a job in the past three months, or able to start working in the following two weeks. Individuals reporting to be currently studying and outside of the labor force (not employed or unemployed) are classified as full-time students. Otherwise, individuals out of the labor force who are not full-time students are categorized in the fourth category, which may include retirees, homemakers, and others.

Finally, we define four sectors. First, formal private sector includes individuals with a signed contract or subscribed to social insurance at the time of the interview, and who reports to work in the private sector. Second, informal workers are those who do not have a contract nor social insurance. Third, public sector employees are those who report working in the public sector or with the government.² Fourth, farm sector workers are those who work for the private sector in

¹ These can be individuals that are classified as wage workers, self-employed, or unpaid family workers.

² The LFS does not distinguish employees of state-owned enterprises.

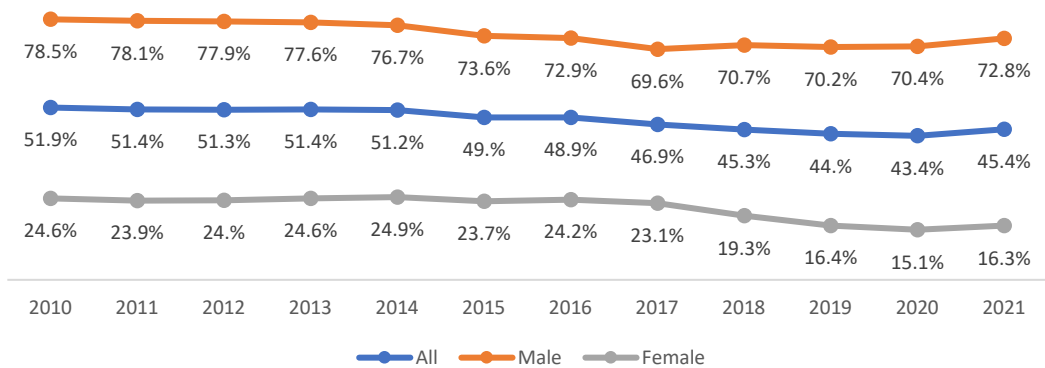
an agricultural activity and have a status of employment as an employer, own-account worker, self-employed, or contributing (unpaid) family worker.

3. Egypt's Labor Market Before the COVID-19 Pandemic

Before the pandemic, Egypt's labor force participation was low compared to the lower middle-income countries average. While men's labor participation rate was only 2 percent to 5 percent lower than lower middle-income countries (LMIC) and global average, women's participation was significantly lower, driving down the average labor force participation rates. In 2019, female LFP for women was as low as 20 percent, compared with 35.7 percent in LMIC and 52.6 percent globally.

Between 2010 and 2019 labor participation rate was steadily declining for men and women of all ages, although the size of the decline was greater for women and youth (ages 15-24). For working-age individuals (aged 15-64), LFP fell from 51.9 percent to 44 percent (Figure 1). While the overall participation rate was roughly stable between 2010 and 2013 it fell 7 percentage points between 2013 and 2019. The fall in LFP was particularly sharp among youth (ages 15-24)—both men and women—with their rates dropping by 23 percent and 57 percent, respectively, between 2010 and 2021. Overall women's LFP similarly declined dramatically over the same period, falling by 34 percent.

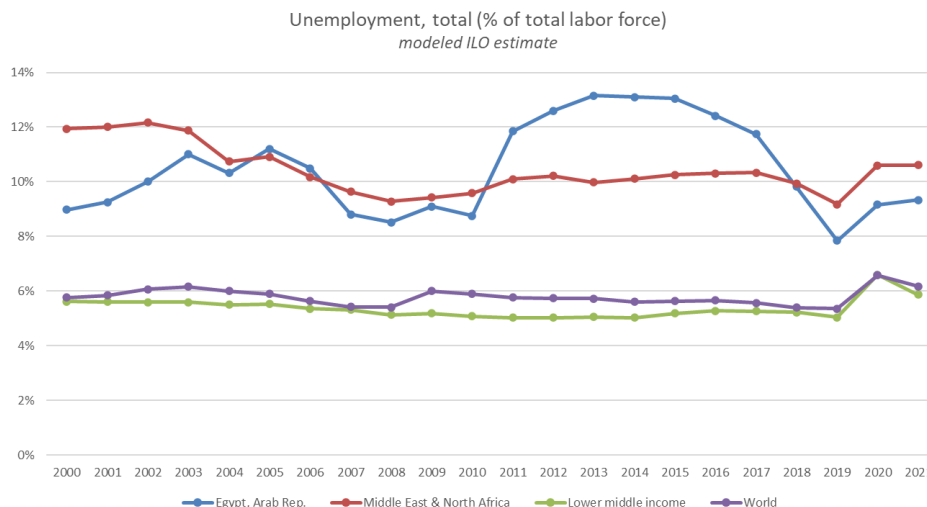
Figure 1. Labor force participation of both women and men steadily declined since 2010



Source: Author’s calculation using the LFS 2010-2021.

Egypt’s unemployment rate remained one of the highest in the world, with women, youth, and the higher educated being particularly vulnerable. Egypt’s unemployment rate increased dramatically in 2011, from 8.8% in 2010 to 11.6%, going above the average unemployment in MENA countries. It peaked between 2013 and 2015, when unemployment reached 13%. The unemployment rate stayed higher than the MENA average until it stabilized in 2018, where it fell to a comparable level to the MENA average (Figure 2). Women, youth, and the higher educated are disproportionately more likely to be unemployed. In 2021, unemployment rate of women is almost 3 times higher than that of men, while college-educated are nearly 7 times more likely to be unemployed than those who are illiterate. Youth (ages 15-24) unemployment rate stood at 17.6% compared with 9.6% and 3.3% for those ages 25-34 and 35-64, respectively.

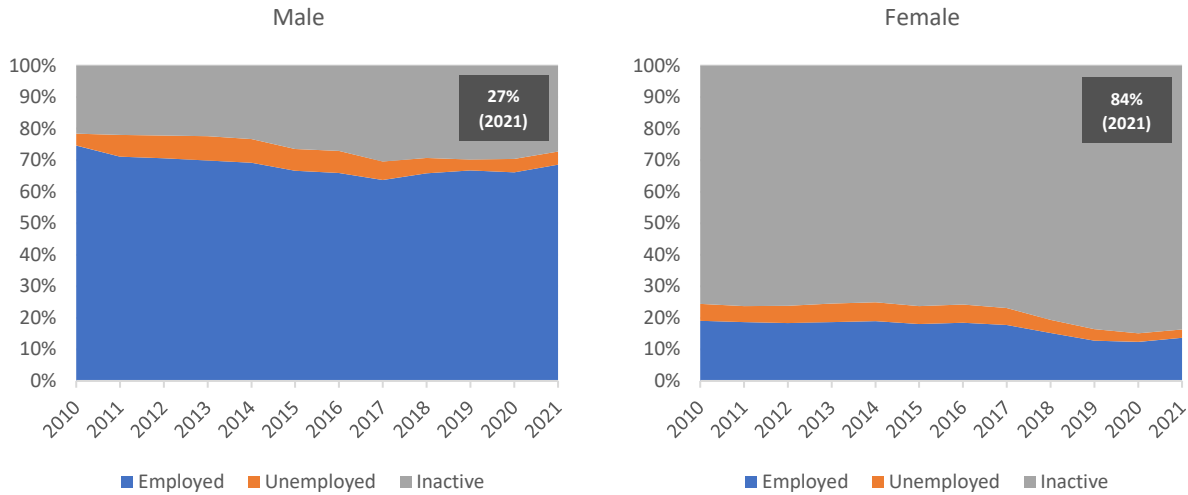
Figure 2. Unemployment rate in Egypt soared above the MENA average between 2011 and 2017



Source: International Labour Organization “ILO Modelled Estimates and Projections database (ILOEST)” ILOSTAT. Data Retrieved from the World Development Indicators (WDI) portal.

Shrinking unemployment rate masks a growing concern with increasing shares of inactive population, especially among women. The working-age population can be divided into three mutually exclusive categories: employed, unemployed, and those outside of the labor force (who are neither working nor looking for work). Employment-to-population ratio, illustrated by the blue shaded area in Figure 3, is on a declining trend since 2010, falling from 47.4% in 2010 to 41.9% in 2021. Unemployment rate also fell over the same period because greater shares of the population were exiting the labor force altogether. In 2010, 22% of the men’s population and 76% of women’s were outside of the labor force; by 2021, these shares had grown to 27% of men and 84% of women.

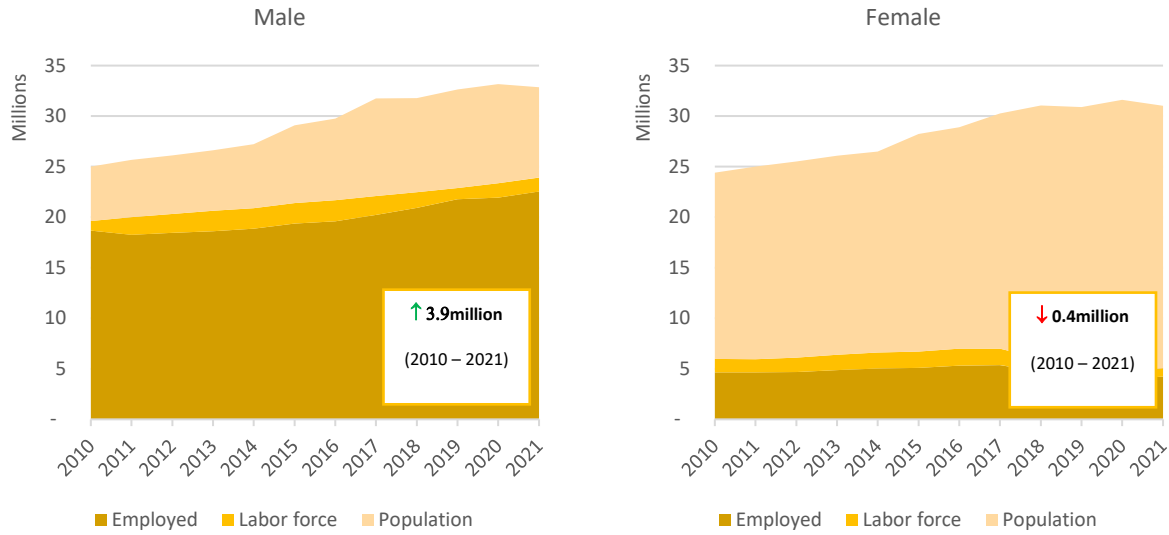
Figure 3. Shrinking unemployment is accompanied by growing shares of the population outside of the labor force, especially women



Source: Authors’ calculation using Labor Force Surveys (CAPMAS, harmonized by ERF).

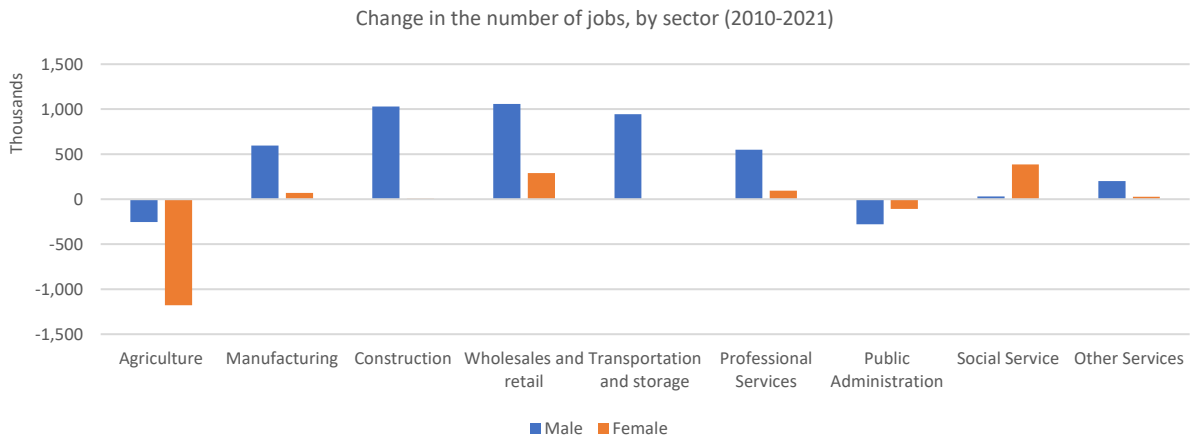
Deteriorating labor market indicators partly reflect the difficulties of the labor market to keep pace with Egypt’s rapid population growth. Between 2010 and 2021, the working-age population grew by 14.5 million, but the number of people employed only grew by 3.5 million (3.9 million more men and 0.4 million fewer women employed) (Figure 4). This yielded growing shares of the population who could not be absorbed into the labor force, were discouraged, and left or never entered the labor force. These represent a missed opportunity to capitalize on Egypt’s demographic dividend.

Figure 4. Egypt’s labor market cannot keep pace with its rapid population growth



Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

Figure 5. Employment is shifting away from primary to secondary, with significant job reductions in the agriculture sector for women

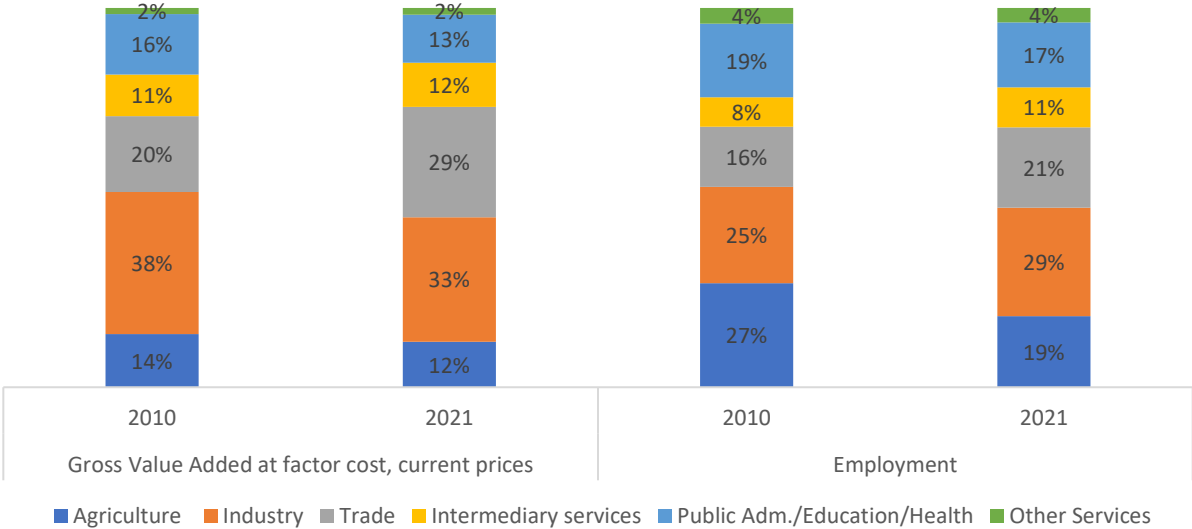


Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

Job transitions out of agriculture have been accompanied by limited job creation concentrated in manufacturing, construction, trade, and logistics, and significant job losses for women. In line with the ongoing structural transformation process, employment was shifting away from primary sector (agriculture) to the secondary sectors (manufacturing, construction, trade, and

logistics). The number of jobs in agriculture declined by more than 1.4 million between 2010 and 2021; 1.2 million of which were among women. However, expansion of the non-agriculture sectors was primarily concentrated among men, with only 10% of the 4 million new jobs in non-agriculture sectors were gained by women (Figure 5).

Figure 6. There remains some discrepancy in economic activities’ contribution to GDP productivity and employment growth



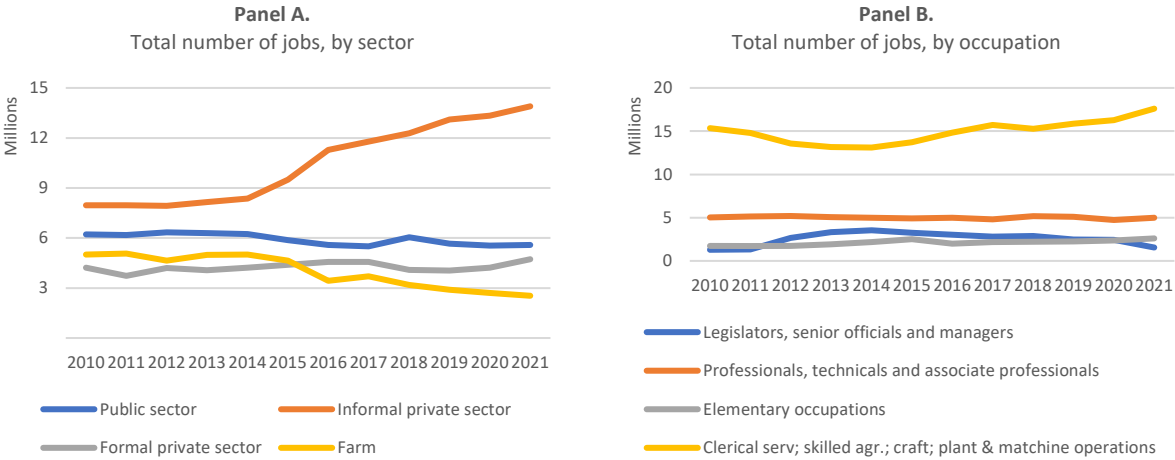
Source: Authors’ calculation based on Ministry of Planning and Economic Development online dataset and Labor Force Surveys (CAPMAS, harmonized by ERF).

Despite some signs of converging realignment over time, there remains some discrepancy in economic activities’ contribution to GDP productivity and employment growth. In 2021, the Industry sector contributed the most added value to Egypt’s GDP with 33 percent, followed by Trade at 29 percent (Figure 6). Despite employment growth in these sectors since 2010, employment shares in 2021 were still disproportionately lower than their value-added contributions. The economy and labor market seemed to moving closer in the right direction. For example, the Agriculture sector used to be the top employer with 27 percent employment share in

2010, despite being a low-added value and declining productivity sector. Employment share in Agriculture declined significantly in 2021, associated with increasing shares in Industry, Trade, and Intermediary Services, which were the more the productive sectors. Similarly, employment share in Public Administration, Education, or Health Service were on a declining pattern, commensurate with their declining productivity over time. However, employment shares in Agriculture and Public Administration, Education, or Health Services remained higher than their value-added contributions.

Yet, the labor market is increasingly becoming more informal amidst limited job creation in formal public and private sectors. Since 2010, the public sector shrunk by 0.6 million jobs, and the farm sector by 2.4 million jobs. Formal private sector employment grew by merely 45,000 jobs a year, which pales in comparison to the 1.3 million people entering working-age (ages 15-64) each year (Figure 7, Panel A). Similarly, there was no job creation in high-skilled occupations (professionals or managers) requiring tertiary education (Figure 7, Panel B). Informal private sector absorbed most of this population growth, growing by 5.9 million between 2010 and 2021.

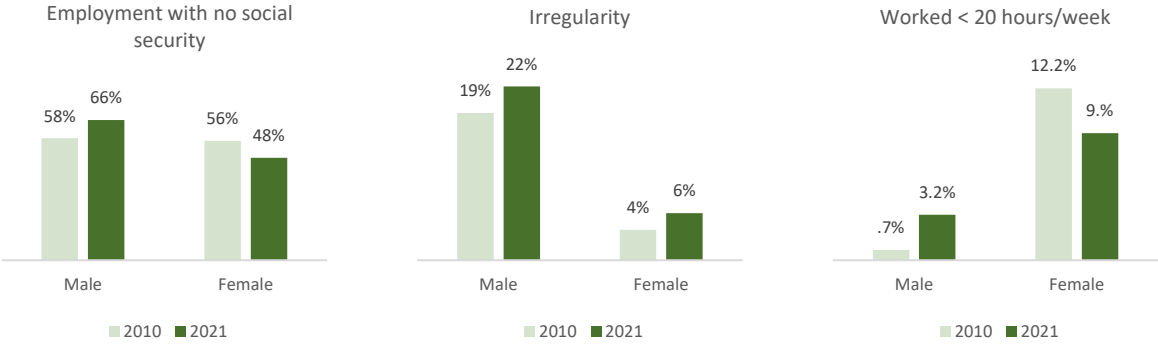
Figure 7. Rapid increase in number of informal jobs amidst limited job creation in formal public and private sectors



Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

Further, quality of employment deteriorated, with increasing exclusion from social security, irregularity, and underemployment. We look at three non-pecuniary aspects of employment quality: social security coverage through employment, irregularity, and part-time work. Men’s employment quality is deteriorating across all three dimensions, with increasing likelihood of working without social security, in an irregular job, and in a part-time job for less than 20 hours a week (Figure 8). This is aligned with previous findings by Fedi et al. (2019) and Sehnbruch et al. (2021) on increasing incidence and intensity of precarious work. Irregular employment also became more common among women workers. The decreasing share of women workers without social security and in part-time work is consistent with the exodus of women workers (especially from farms) from the labor force, and those who remain are more likely to hold a stable public sector job.

Figure 8. Quality of employment declined, with increasing exclusion from social security, irregularity, and underemployment

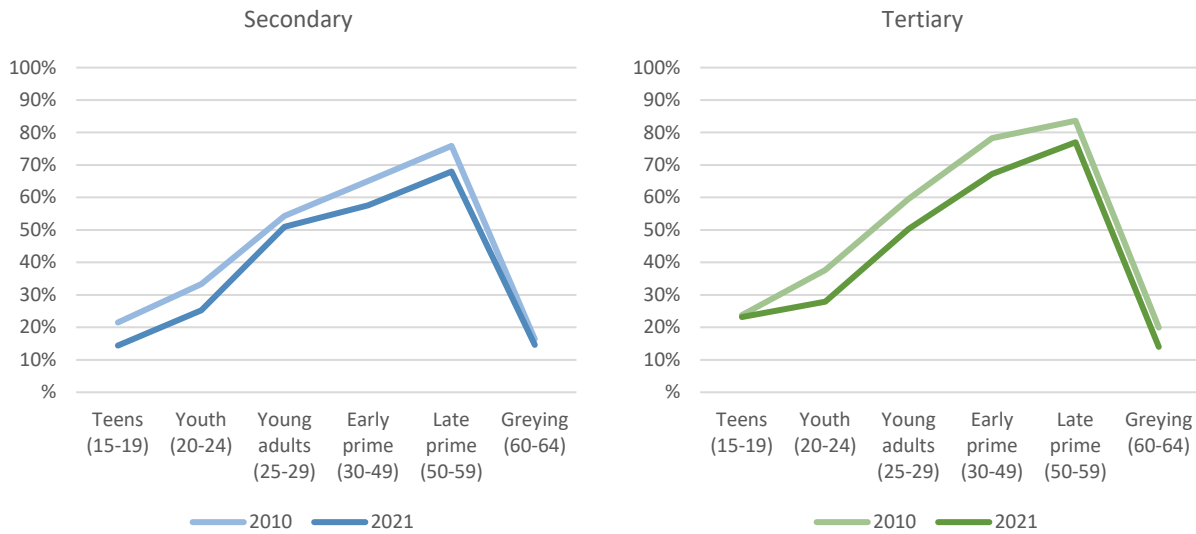


Source: Labor Force Surveys (CAPMAS, harmonized by ERF)

The current cohort of youth are entering a much-constricted labor market. Given the same age and education level, the likelihood to be employed is lower in 2021 than in 2010 (Figure 9). Youth unemployment rate peaked between 2012 and 2016 rising above 30% from 23.8% in 2010. Though it stabilized recently, eventually falling to 17.6% in 2021, youth employment was also on

a declining trend since 2010. The drop is particularly pronounced among women, whose employment rate was cut in half over the 11-years period compared with one-fifth drop among men.

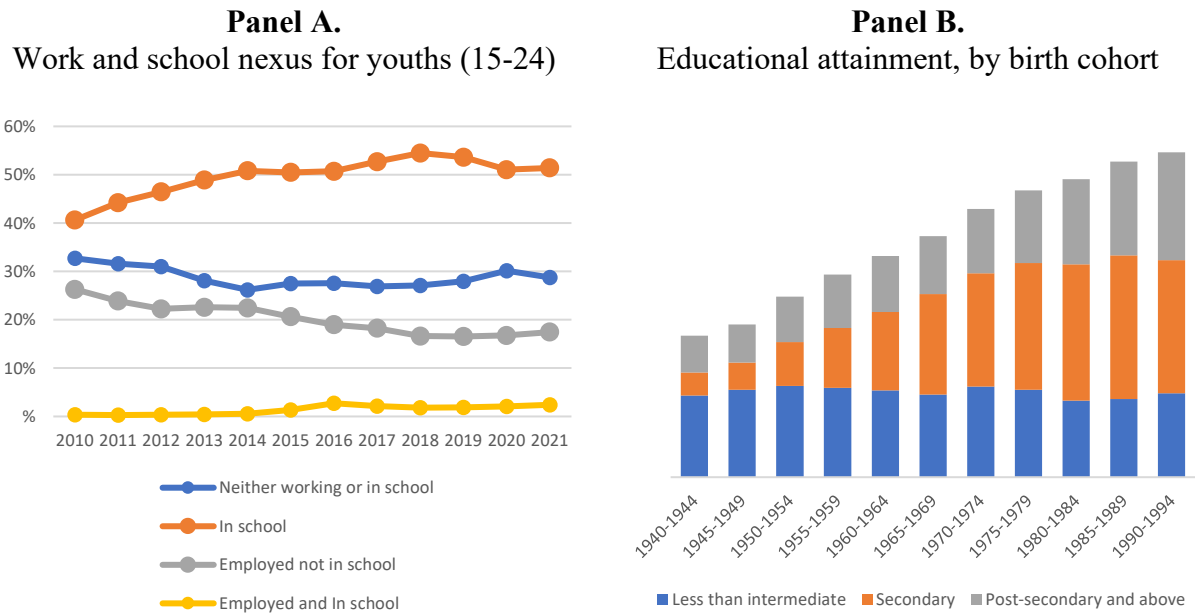
Figure 9. Given the same age and education level, it is more difficult to be employed in 2021 than a decade ago



Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

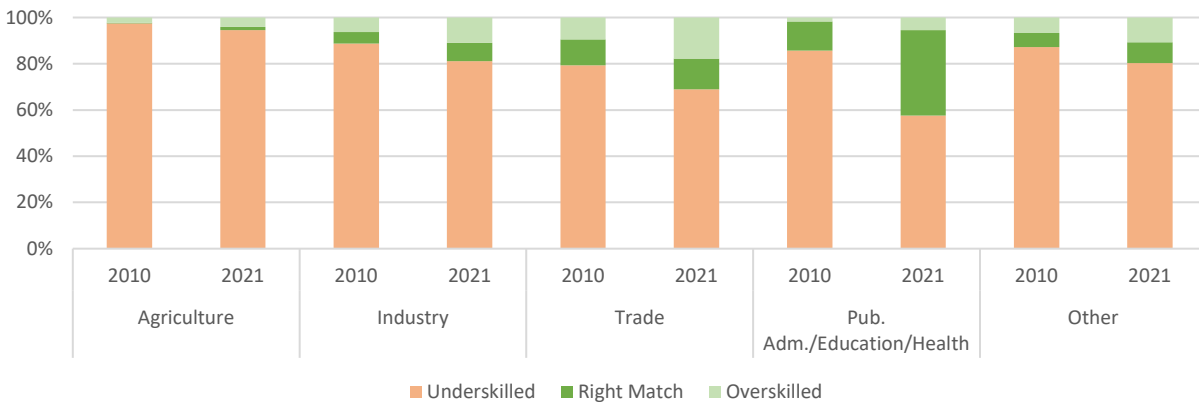
Nonetheless, youth are more likely to stay in school, accumulating more human capital. The school-to-work nexus can be defined by four distinct states: (i) in school not employed, (ii) employed not in school, (iii) in school and employed, and (iv) neither in school, nor employed. The share of Egyptian youth in school and not employed increased by 10 percentage points between 2010 and 2021, while the share of those employed not in school fell by 9 percentage points (Figure 10, Panel A). Moreover, the younger generations are getting more educated. Compared to the birth cohort born in late 1960s (age 52-56 in 2021), the cohort born in early 1990s (age 27-31 in 2021) are twice more likely to be tertiary educated, and 9 percentage points more likely to have secondary education (Figure 10, Panel B).

Figure 10. Youth are more likely to stay in school and are getting more educated



Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

Figure 11. Improved matching of skills and occupation over time, in certain sectors, but underskilled labor still dominates



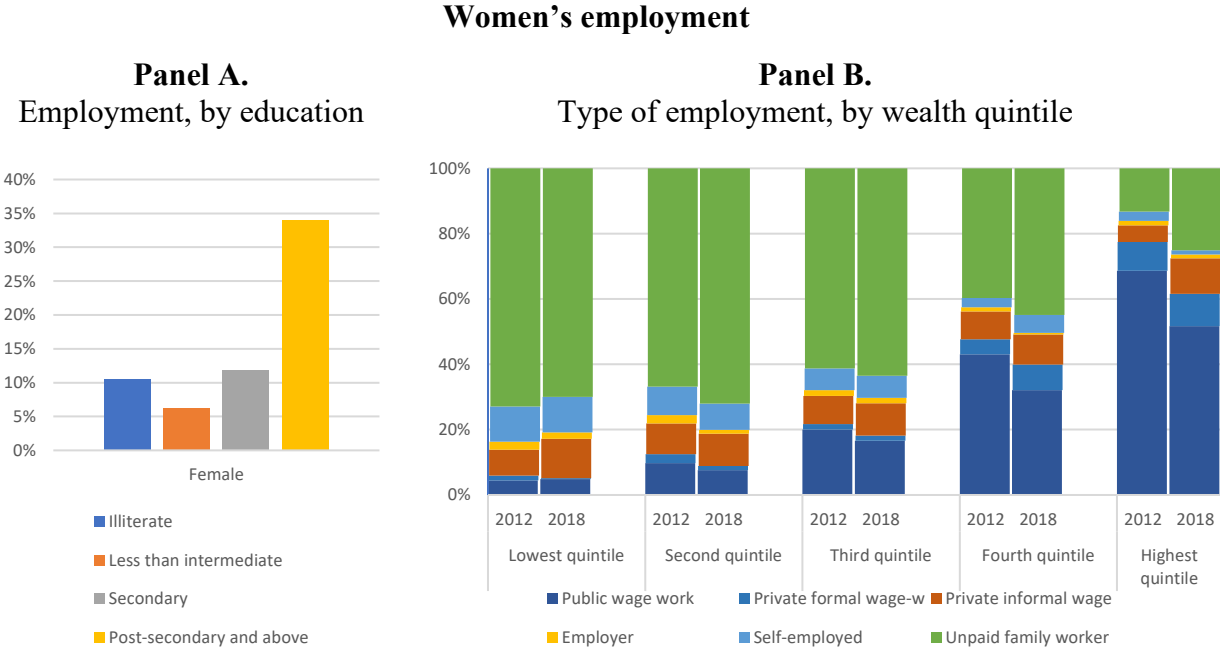
Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

Promising sign shows that the labor market is improving in matching skills and occupation over time, though it is still dominated with underskilled labor. Public administration, education, and health services are the most improved with 37% of the jobs are matched with the right skills

for the job (Figure 11). Though there is increasing shares of overqualified labor in all sectors, the labor market is still dominated by underskilled labor. Particularly, in agriculture and industry sectors, where the share of underskilled labor remained at 95% and 81%, respectively, in 2021.

Education also proved to be a powerful engine for women’s economic inclusion. Women with secondary education are nearly twice more likely to be employed than those with less than intermediate education (Figure 12, Panel A). The relative odds of being employed rose to 4.5 times when women graduated from tertiary education. Consistent with the U-shaped hypothesis, the lowest educated women (illiterate), who may be driven by necessity to work and support their family’s financial needs, are more likely to be employed than those with less than intermediate education. Meanwhile, women in higher wealth quintiles, are also more likely to hold formal employment, in both public and private formal wage work (Figure 12, Panel B).

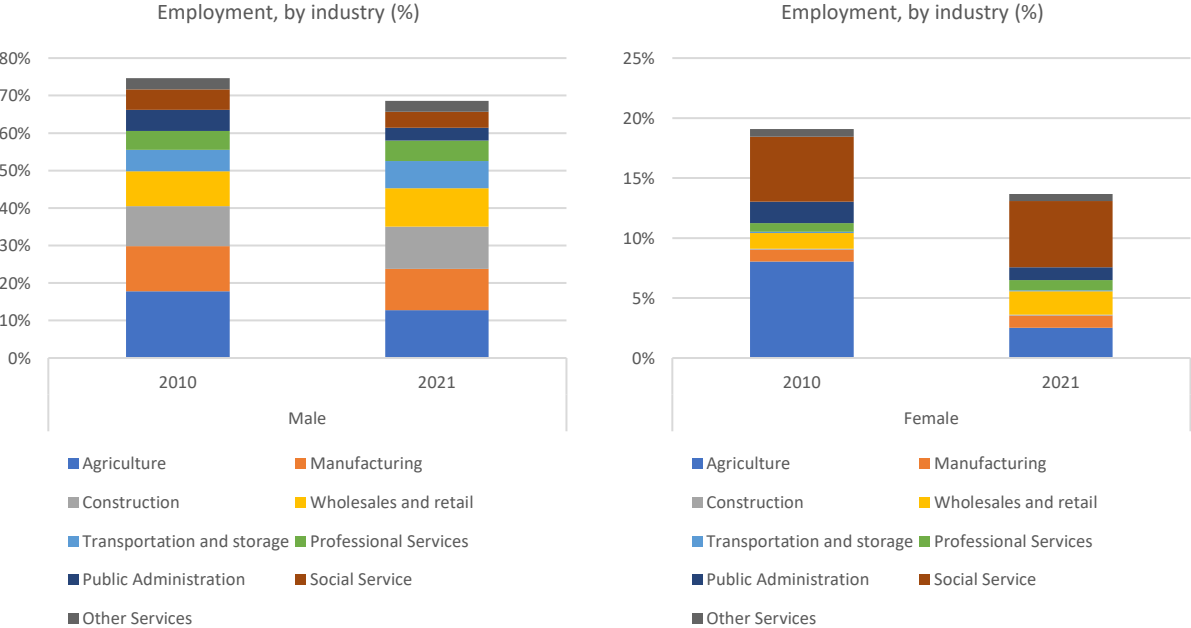
Figure 12. Women’s likelihood of employment increases with education, and their likelihood of holding a formal employment increases with wealth quintile



Source: Panel A is derived from Labor Force Survey 2021 (CAPMAS, harmonized by ERF). Panel B is derived from Egypt Labor Market Panel Survey 2012 and 2018.

However, the lack of diversity in women’s employment makes it less resilient to structural changes in the labor market. In 2010, employed women were predominantly concentrated in two sectors: agriculture and social services (Figure 13). With massive job losses in the agriculture sector and public sector hiring moratorium since 2011, the share of women who exited the labor force is almost commensurate to the loss in agricultural employment, with limited shifts into other industries. Meanwhile, men were more represented across all industries, hence, the effect of the structural transformation is less dramatic among men.

Figure 13. Women’s employment was more concentrated in fewer industries than men, making their LFP more susceptible to sectoral transformations of the labor market



Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

4. Literature review on labor market impacts of COVID-19

Studies in developed countries find negative impacts of the pandemic on employment (Albanesi and Kim, 2021; Lemieux et al., 2020; Kikuchi, Sagiri and Mikoshiba, 2020; Galasso

and Foucault, 2020). These studies also support the theory of disaggregated impacts by gender. Women's employment appeared to be the most negatively impacted by the Covid crisis. Compared with men, authors have proven that women tended to transition more towards unemployment and/or out of the labor force (Albanesi and Kim, 2021; Montenegro et al., 2021; Dang and Nguyen, 2020), or they are more likely to be temporarily suspended by their employees (Adams-Prassl et al., 2020a; Moehring, Reifenscheid and Weiland, 2021). Increase in domestic care responsibilities and childcare needs in response to school closures and caring for sick relatives is likely a crucial cause that affected employment disproportionately for women (de Paz Nieves, Gaddis and Muller, 2021; Alon et al., 2020; Beauregard et al., 2020).

However, these effects may be mixed for low- and middle-income countries (LMIC). Developing countries have higher informality rates in their labor markets, therefore employees participating in this sector have a lower degree of job protection, particularly among women (Bonnet, Vanek and Chen, 2019; de Paz Nieves, Gaddis and Muller, 2021). Jobs that are amenable to work from home (WFH)—which have been found to moderate the impact of the pandemic on employment (Dingel and Neiman, 2020) especially on women effects (Alon et al., 2021)—are relatively scarce across LMIC countries. As such, the impact of the COVID-19 crisis within these countries may differ substantially from the impacts that have been observed across developed countries.

In the case of Egypt, efforts to assess the impact of the pandemic over the labor market have been studied with phone surveys data (ElBehairy et al., 2022; Krafft et al., 2021). These studies conclude that employment and labor force participation rates of women's were below men's, but both followed the same trends through the pandemic (Krafft et al. 2021). They also suggest that the pandemic resulted in the decreases of employment and increases of unemployment

levels. Particularly these studies show that women were more negatively impacted (ElBehairy et al. 2022).

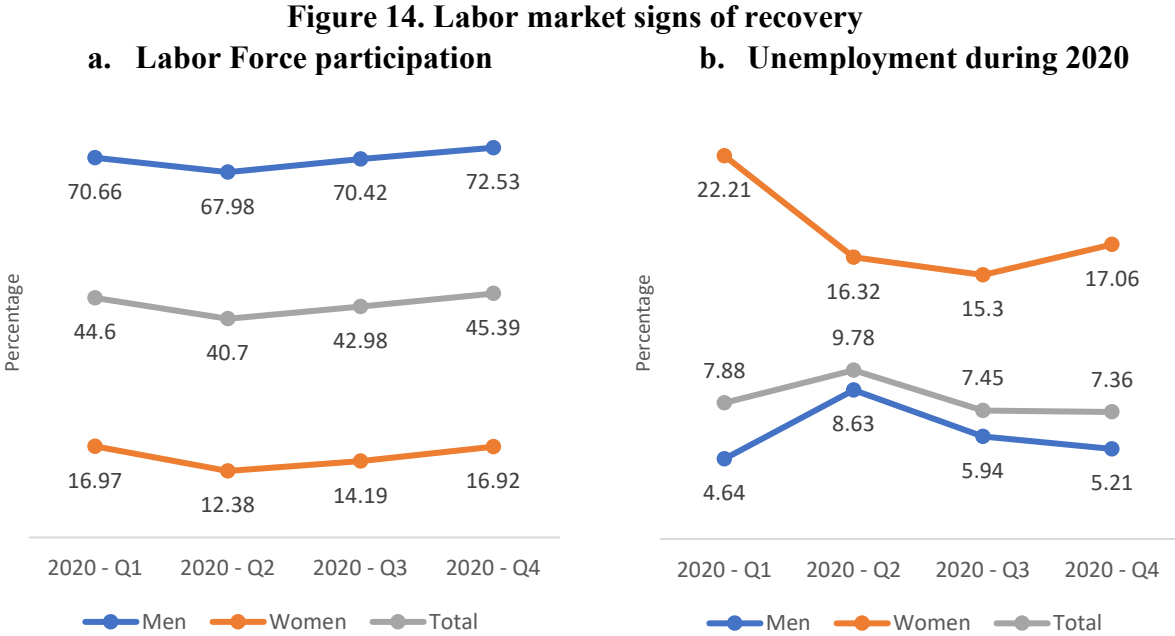
However, many of the phone surveys launched at the onset of the COVID-19 pandemic in LMICs were not equipped with existing infrastructure, such as nationally representative database of phone numbers that can be disaggregated by sex. As a result, many phone survey efforts revert to random digit dialing (RDD), else they were based on some recently conducted face-to-face surveys where a phone number was collected from the household head (Beegle et. al. 2021). Ex-post recalibration mechanisms to reweight observations in high-frequency phone surveys manage to get closer to the true population averages, but they still fail to overcome selection biases (Brubaker, Kilic, and Wollburg 2021).

5. Post-COVID-19 Labor Market Trends

The onset of the COVID-19 pandemic led to steep—but temporary—decline in LFP and increase in unemployment rates. In the second quarter (Q2) of 2020, at peak of the first wave of the COVID-19 pandemic, labor force participation rate declined from 44.6% to 40.7% and unemployment rose to 9.8% from 7.9% from the previous quarter. Yet men and women were affected differently. Women’s drop in labor force participation was much stronger than men. Labor participation for women decrease by 4.6 percentage points, and men dropped by 2.7 points. Additionally, men’s unemployment rose by 4 percentage point, while women’s unemployment dropped 6 percentage points.

Figure 14 shows LFP and unemployment trends during the pandemic and afterwards. By the third (Q3) and fourth (Q4) quarter of 2020, both LFP and unemployment rates have recovered

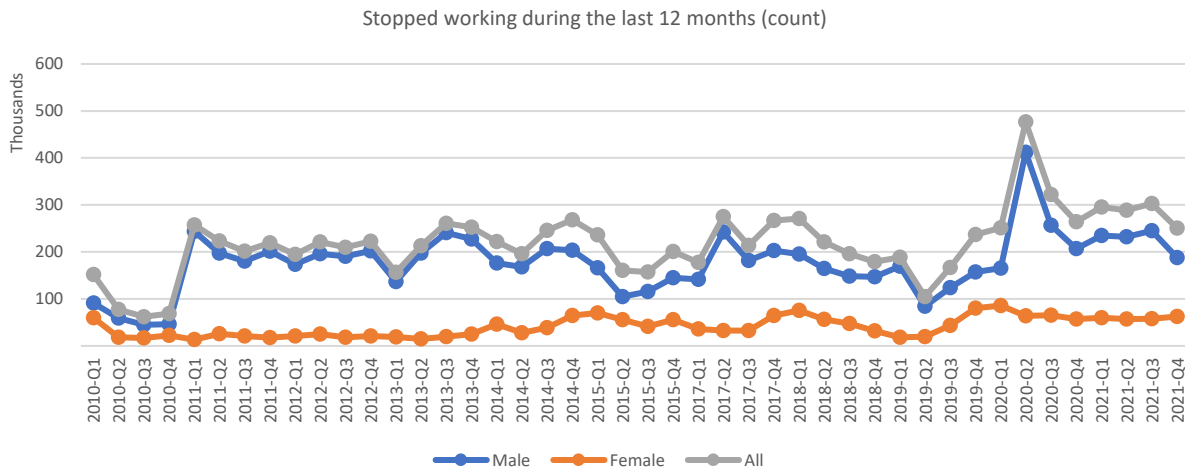
to pre-COVID levels. Unemployment slowly dropped to 7.5% in the Q3 and to 7.4% in Q3. Likewise, the labor force participation increased to 43.1% and 45.4% during Q3 and Q4. However, the recovery was not even for both men and women. While men and women’s labor force participation increase in the two subsequent quarters after the pandemic, unemployment slightly increase for women and decrease for men.



Source: Author’s calculation based on the LFS 2020 (CAPMAS, harmonized by ERF).

While overall employment rate has rebounded back to pre-COVID level, work turnover remained higher than “normal”. The number of individuals reporting stopping work in the past 12 months increased dramatically in Q2 of 2020, from 251,000 in Q1 to 476,000 in Q2 (Figure 15). Between 2011 and 2019, this number averaged around 213,000. Despite signs of immediate recovery, with the number falling to 321,000 in Q3, the number still hovered slightly above the average between 2010 and 2019.

Figure 15. Work turnover remained higher than “normal” since the onset of the COVID-19 pandemic



Source: Labor Force Surveys (CAPMAS, harmonized by ERF).

6. Difference-in-differences to estimate impact of the COVID-19 pandemic

The Government of Egypt declared the COVID-19 pandemic as national emergency in March 2020. To study the effects of the pandemic on Egypt’s labor market, we estimate a difference-in-difference (DID) model leveraging differences within-year (across seasons) and across years. This specification facilitates the distinction between idiosyncratic fluctuations of every quarter in the labor market and the “abnormal” impact of the pandemic. We rely on the exogenous timing of the pandemic, which represents an unexpected global event (Albanesi and Kim, 2021; Alon et al., 2021; Deshpande, 2020; Couch, Fairlie and Xu, 2020; Lee, Park and Shin, 2021). Additionally, the use of multiple years before the Covid-19 crisis ensures that our estimates capture pre pandemic trends instead of calculating year-specific anomalies.

We estimate the following regression pooled for male and female samples separately:

$$y_{ijst} = \alpha + \beta Post_{st} + \gamma_j + \theta_s + \delta_t + \phi X_{ijst} + \varepsilon_{ijst} \quad (1)$$

where y_{ijst} is the labor market outcome of individual i in governorate j in quarter s and year t . $Post_{st}$ is a binary variable at the quarter and year level, which takes 1 after the second quarter of 2020, and 0 otherwise (pre pandemic period starting from 2010 and ending at the first quarter of 2020). Our regression analysis is limited to the second quarter round, at the start of the Covid-19 pandemic since from the third quarter the Covid-19 measures eased. The β is the coefficient of interest that is the estimate of the DID. γ_j, θ_q and δ_t are the governorate, quarter and year fixed effect, respectively. X_{ijst} is a vector of control variables, that includes individual characteristics such as sex, age, age squared, marital status dummies, household size, number of children in the household (0-6 years old and 7-14 years old) dummies for educational attainment and urban or rural dummy. We clustered the standard errors at the governorate level.

Through regression (1) we study the effects of the pandemic on different labor market outcomes, y_{ijst} , such as the extensive margins and the effects across the sectors and economic activity. For the extensive margin, we look at unemployment, employment, enrollment full-time in school and inactivity. To study the shifts within economic activities and sectors we define mutually exclusive dummy variable as indicator for employment in each sector and economic activity. The sum of individuals across sector or economic activities and sectors equals the total number of employed individuals during that period.

7. Results

Effect on the extensive margin

In this section, we examine the results of the effects of the COVID-19 pandemic on unemployment, employment, full-time students, and inactivity. Table 1. displays the movements

in and out of employment by gender. The sum of the share of individuals across the four categories should sum to 1, while coefficients should sum to zero. Taken together, we can interpret the coefficients relative to one another—an increase in one category comes at the expense of a decrease in another category. Table 2 shows that women were 5 percentage point more likely to leave the labor force. Additionally, they were 1 percentage point less likely to enroll in school during the pandemic. The results suggest that the COVID-19 pandemic has depressed female LFP further from the already low baseline before the pandemic.

Men show similar increase in the labor force exit rates, as women. Thus, men’s participation in unemployment increased by 3 percentage points and employment was more likely to decrease by 6 percentage points. Men and women are 1 percentage point and 2 percentage points less likely to be enrolled as full-time students since the pandemic.

Table 2. Covid-19 impacts on the transition

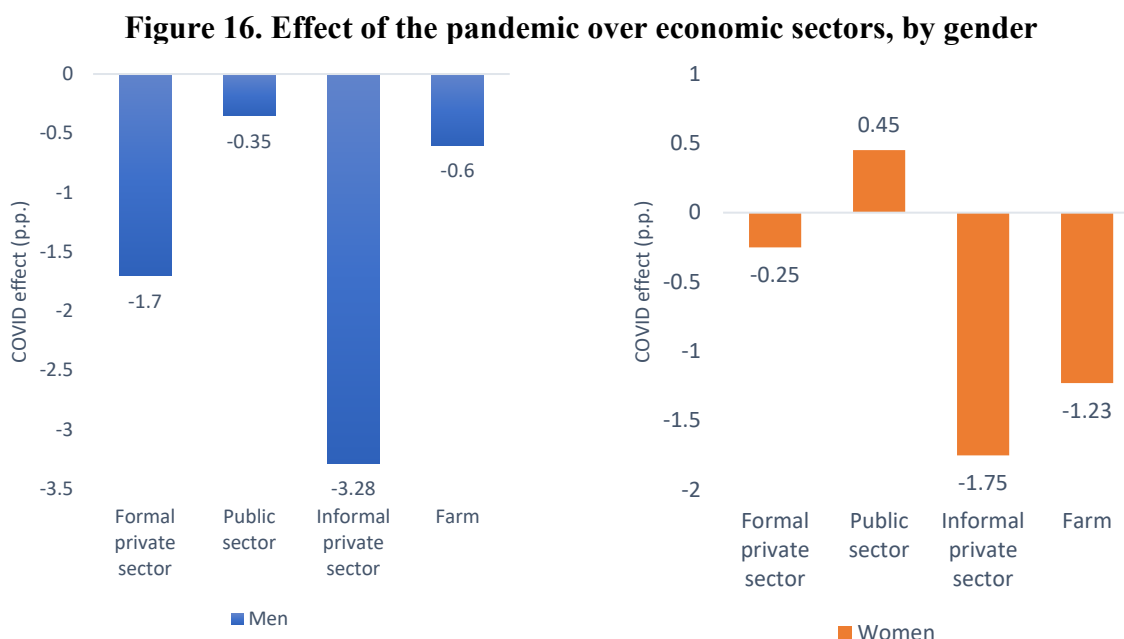
	Employed (1)	Unemployed (2)	Enroll in school (full-time) (3)	Outside LF (4)
Panel A: Women				
COVID	-0.03 (0.01)**	-0.02 (0.00)**	-0.01 (0.00)+	0.05 (0.01)**
Pre pandemic average	0.17	0.05	0.16	0.61
Panel B: Men				
COVID	-0.06 (0.01)**	0.03 (0.01)**	-0.02 (0.00)**	0.05 (0.01)**
Pre pandemic average	0.68	0.06	0.17	0.09

Source: Authors’ calculation using the LFS 2010-2020 (CAPMAS, harmonized by ERF).

Note: **, *, + indicate statistical significance at 1, 5, and 10% levels, respectively.

Effects on Economic Sector

Figure 16 shows the effect of the pandemic over the economic sectors for workers aged 15 to 64 years old, by gender. The pandemic decreases men’s and women’s likelihood to participate in all economic sectors, apart from women’s public sector. Informal public sector was the sector with the biggest outflow of working individuals. Men were 3.3 percentage points less likely to work in this sector, as well women with a decrease in their participation of 1.75 percentage points.



Source: Authors’ calculation using the LFS 2010-2020 (CAPMAS, harmonized by ERF).

Note: The graph shows coefficients of a “post-COVID” dummy from regressions of the likelihood of being employed in various economic sectors, separately for male and female samples. Not shown in the graph are the likelihood of being unemployed and inactive. With these two included, we defined mutually exclusive categories of economic sectors for everyone in the population. Hence, the coefficients can be interpreted as net shifts from one economic activity to another among the working-age population.

Following the informal public sector, the private formal sector represented the second sector with the lowest likelihood of employment for men. Men were 1.7 percentage points less likely to be employed in this sector, compared to 0.25 percentage points for women.

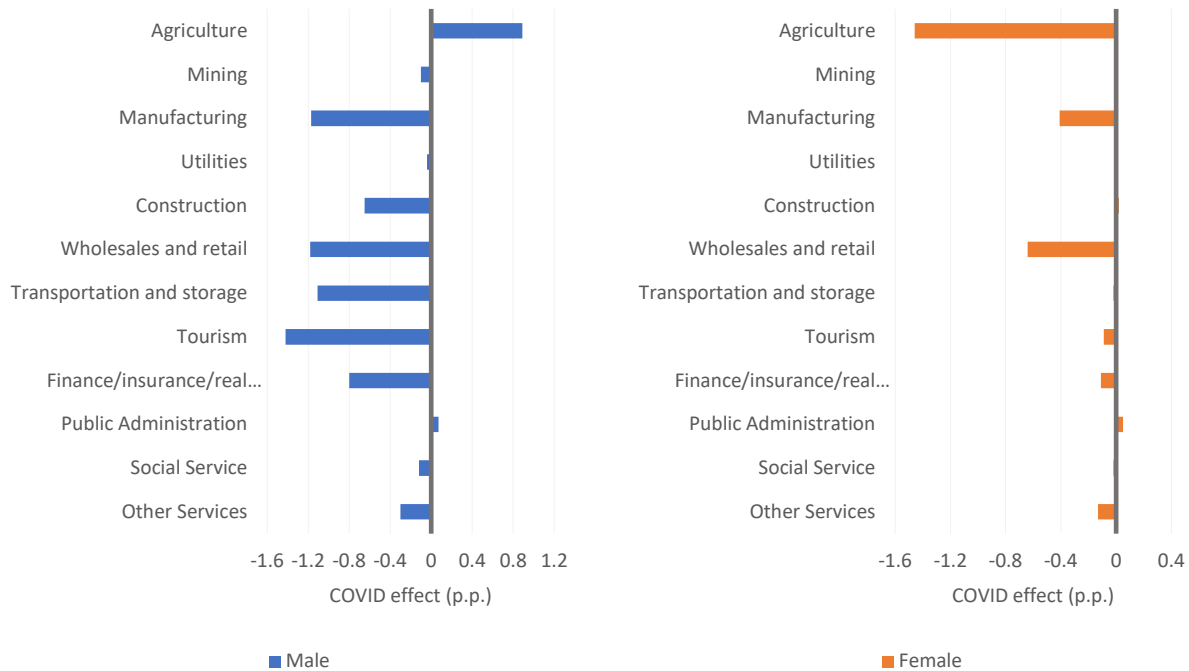
Significant job losses in the agriculture sector has had severe implications on women's employment, and the pandemic has made women's participation in this sector worse together their participation in the farm sector. In the second quarter of 2020, women were 1.23 percentage points less likely to be working in the farm sector. Men also contribute to the decrease in these types of jobs in a slightly manner. They were 0.6 percentage points less likely to be working for the farming sector.

On the other hand, women experienced a slightly positive likelihood in 0.45 percentage points for their work in the public sector, while men were less likely to participate in this sector by 0.35 percentage points.

Effects on economic activities

Figure 17 illustrates the movements between economic activities. A closer look at the second quarter of 2020 suggests that all economic activities were negatively affected, and no economic activity—except for agriculture among men—was able to absorb the displaced labor force. All economic activities experienced temporary contraction. Except agriculture, no other economic activity was able to absorb the displaced workers. But agriculture has opposite effects for men and women—where it served as a buffer for men's employment, women were 1.5 percentage points less likely to be employed in agriculture during Q2 of 2020. Negative effects for men were particularly severe in Tourism, Transportation and Storage, Wholesale and Retail, and Manufacturing; each of which was associated with at least 1 percentage points lower likelihood of employment among men.

Figure 17. Employment effect of the pandemic by economic activity, by gender



Source: Authors’ calculation using the LFS 2010-2020 (CAPMAS, harmonized by ERF).

Note: The graph shows coefficients of a “post-COVID” dummy from regressions of the likelihood of being employed in various economic activities, separately for male and female samples. Not shown in the graph are the likelihood of being unemployed and inactive. With these two included, we defined mutually exclusive categories of economic activities for everyone in the population. Hence, the coefficients can be interpreted as net shifts from one economic activity to another among the working-age population.

8. Conclusions

During the decade preceding the current Covid-19 pandemic, the Egyptian economy had already experienced challenges which resulted in a sharp deceleration in economic growth while the working-age population continued its strong expansion posing many challenges to an effective functioning of the labor market. Several studies have already highlighted the deterioration of many labor market indicators such as the continued fall of the participation rate, which is already among the lowest in the world, the decline of the employment rate, the rise in the proportion of

discouraged unemployed, the growing shares precarious and informal employment and the fall in real wages (Fedi et al. 2019, Krafft et al., 2019, and Said et al., 2019).

Stagnant job growth in the private sector restraints Egypt's ability to gain momentum from its demographic dividend, leading to deteriorating labor market indicators. Despite being more educated, younger cohorts are finding it more difficult to find employment. The available jobs are increasingly becoming more informal and of lower quality, with limited access to social security, higher irregularity, and higher underemployment. While education serves an important function in promoting women's economic inclusion, the lack of diversity in women's employment creates a barrier to take advantage of the economic transition from agriculture.

The COVID-19 pandemic caused temporary disruptions to Egypt's labor market, which further exacerbated pre-pandemic disadvantages especially facing women and youth. We find that women and men's employment were negatively affected, and the negative effect was more severe for men. However, displaced men are more likely to be unemployed (still looking for work), while displaced women became discouraged and exited the labor force entirely. Except for women in the public sector, all other sectors are negatively affected by the COVID-19 pandemic. Displaced men could only find employment in agriculture. Men and women were also less likely to be enrolled full-time in school, jeopardizing their long-term human capital investments.

Beyond the temporary slowdown, Egypt's labor market trends resumed where they left off before the pandemic. The deteriorating trends continued, with further decline in overall employment rates for both women and men, as well as continued increase in informality. Slow pace of job creation, especially in the private sector, coupled with public sector hiring moratorium means there are fewer jobs available for the rapidly growing population. In the absence of major reforms to boost private sector development, many youths will continue to face the perils of high

unemployment and informality, constraining Egypt's ability to benefit from the demographic dividend.

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