

ECONOMIC
RESEARCH
FORUM



منتدى
البحوث
الاقتصادية

Working Paper Series



THE SCHOOL TO WORK TRANSITION AND YOUTH
ECONOMIC VULNERABILITY IN EGYPT

Mona Amer and Marian Atallah

Working Paper No. 1353

THE SCHOOL TO WORK TRANSITION AND YOUTH ECONOMIC VULNERABILITY IN EGYPT¹

Mona Amer and Marian Atallah

Working Paper No. 1353

October 2019

The authors would like to thank Caroline Krafft, Ragui Assaad and Colette Salemi for their valuable comments and suggestions.

Send correspondence to:
Mona Amer
Cairo University
mona.amer@feps.edu.eg

¹ We acknowledge the support of the ILO and the Economic Research Forum for this paper, under the project “The Egyptian Labor Market: A Focus on Gender and Economic Vulnerability.”

First published in 2019 by
The Economic Research Forum (ERF)
21 Al-Sad Al-Aaly Street
Dokki, Giza
Egypt
www.erf.org.eg

Copyright © The Economic Research Forum, 2019

All rights reserved. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher.

The findings, interpretations and conclusions expressed in this publication are entirely those of the author(s) and should not be attributed to the Economic Research Forum, members of its Board of Trustees, or its donors.

Abstract

This paper explores the school-to-work transition patterns of young people in Egypt over the past two decades (1998-2018). In particular, it seeks to update the findings on labor market insertion trajectories using data from the most recent Egypt Labor Market Panel Survey (ELMPS) fielded in 2018 along with its predecessor surveys in 1998, 2006 and 2012. The analysis makes use of the 2018 labor market history module to elicit information on early labor market outcomes such as the time taken to find the first job and the type of job found after completing education. We also define youth economic vulnerability in the work setting and investigate its symptoms in the Egyptian labor market including forms of precarious employment (such as informality and irregular work). Finally, we shed light on socioeconomic status as one of the potential channels behind this vulnerability. Results reveal a rise in informal employment among youth in recent years and suggest that belonging to a lower socioeconomic bracket (as proxied by mother's education and father's occupation) increases exposure to informality.

Keywords: Youth, Labor force participation, Unemployment, NEET, School-to-work transition, Egypt.

JEL Classifications: J6, J13, J14, J21.

1. Introduction

This paper examines the school-to-work transition patterns of young people (aged 15-34) in Egypt over the last two decades (1998-2018).² In particular, it seeks to update the findings on labor market insertion trajectories using data from the most recent Egyptian Labor Market Panel Survey (ELMPS) fielded in 2018 compared to its earlier waves in 1998, 2006 and 2012. We exploit the labor market history module in the 2018 survey to elicit information on early labor market outcomes such as the time taken to find the first job and the type of job found after finishing school. Moreover, we set out to define youth economic vulnerability in the work setting and investigate its symptoms in the Egyptian labor market (informality, irregular work, unpaid work, and self-employment). Finally, we conclude by shedding light on some of the potential family background variables behind this vulnerability.

The paper proceeds as follows. Section 2 presents the socioeconomic characteristics of Egyptian youth by depicting trends in demographics, educational attainment and labor market outcomes (labor force participation, unemployment and the share of youth neither in education nor in employment) by gender and education level. Section 3 focuses on labor market entry by analyzing trends in first labor market statuses, unemployment duration and time to first job by sex, educational attainment, and school exit cohort. Specifically, we compare two cohorts of school leavers: those who left school between 2006 and 2010, and those who graduated between 2011 and 2014. This distinction helps us capture the potential changes in the Egyptian labor market following the January 25th uprising in 2011 along with the economic and political shifts that followed.³ In addition to insertion patterns, labor market dynamics are also explored by analyzing the early career paths in the first few years after leaving school by sex and school exit cohort. Section 4 looks at precarious and vulnerable youth employment trends taking into consideration informality, irregularity, unpaid work, and self-employment by gender and educational level. Finally, Section 5 investigates family background (mother's education and father's occupation) as potential channels for inequality of opportunity in the labor market by gender. We conclude and discuss the implications of our findings in Section 6.

2. Socioeconomic characteristics of youth

2.1. Demographics of youth

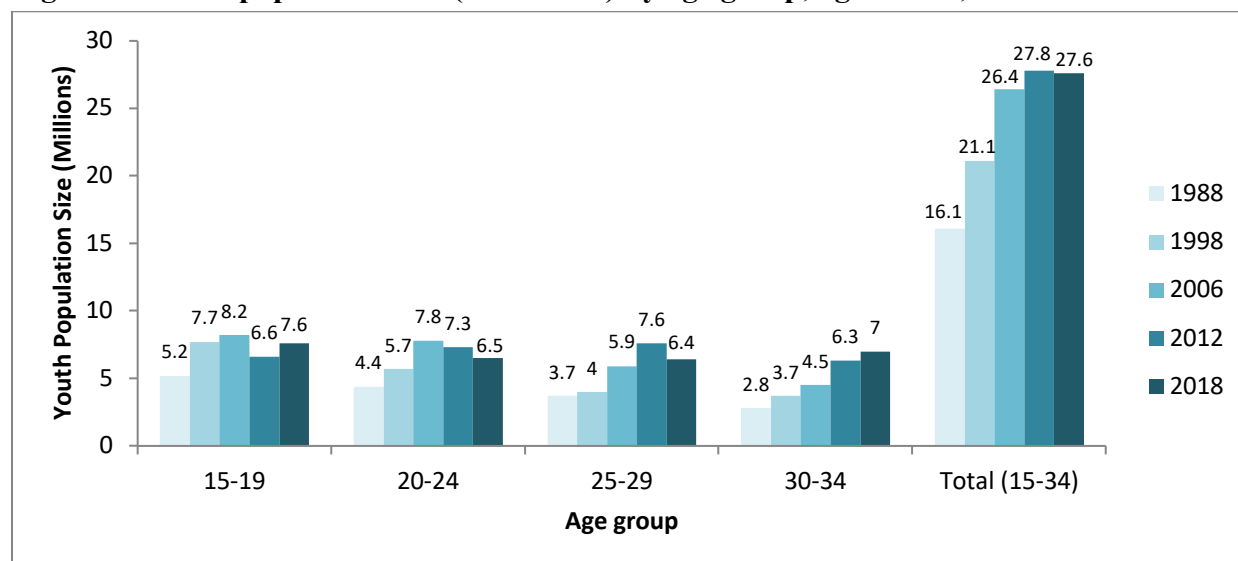
In 2018, Egypt had 27.6 million people aged 15 to 34, representing around a third of the total population (Figures 1 and 2). The share of youth has been increasing from 1988 reaching a peak in 2006, then started to decline in 2012 and 2018. Looking at the age subgroups in Figure 2, the decline appears to be driven by the drop in the shares of the intermediate age groups (20-24 and 25-29), whereas the shares of the youngest and oldest groups (15-19 and 30-34) showed a slight increase. The decline in the shares of youth in their twenties is consistent with the aging of the

² Where comparable data are available, we extend the analysis back to 1988 using the 1988 Labor Force Survey.

³ We do not include those who graduated after 2014 to be able to observe the labor market transitions up to four years following school exit for the younger cohort.

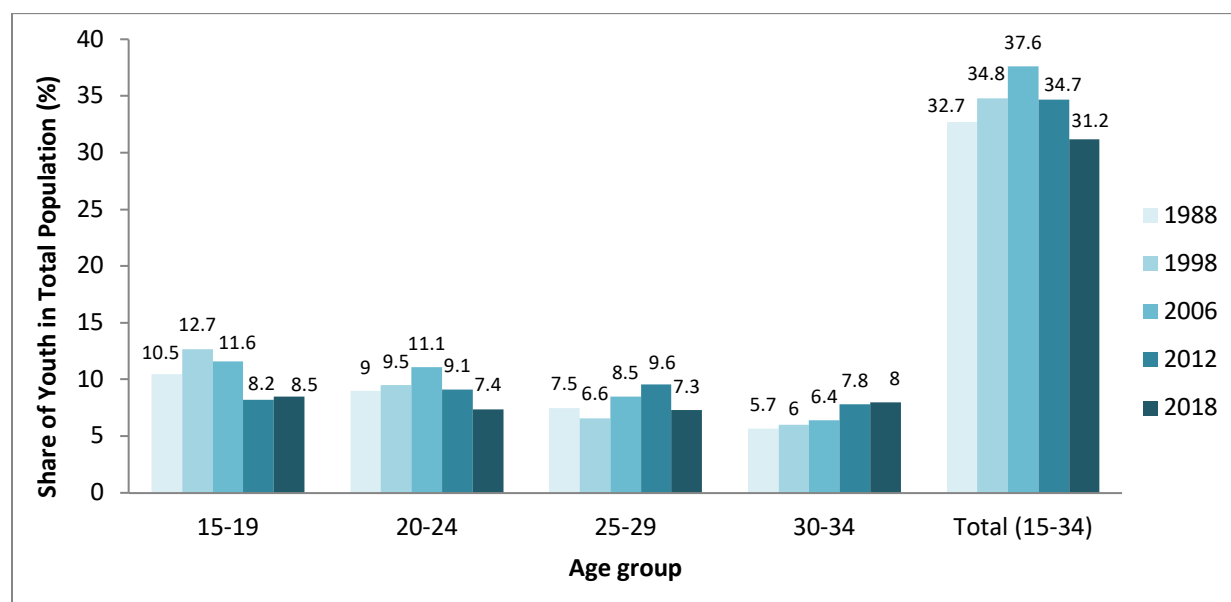
youth bulge previously documented in the Egyptian labor market (see, for example, Amer (2014) and Assaad & Krafft (2013)).

Figure 1: Youth population size (in millions) by age group, ages 15-34, 1988-2018



Source: Authors' calculations based on LFS 1988, ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018

Figure 2: Share of youth in total population by age group (percentage), ages 15-34, 1988-2018

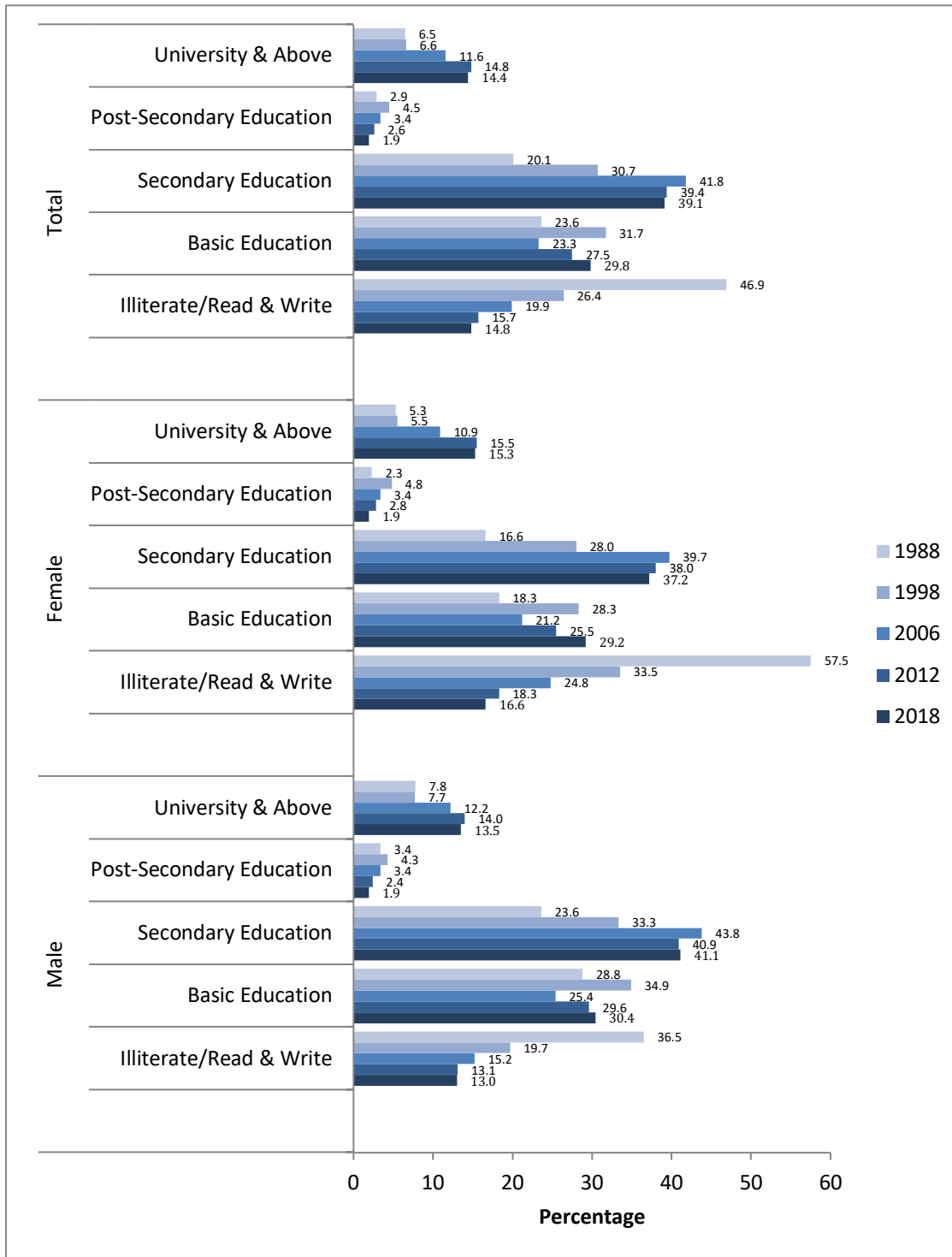


Source: Authors' calculations based on LFS 1988, ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018

2.2. Educational attainment

Figure 3 examines the education profiles of young people between 1988 and 2018. In 2018, secondary education was the most common level of educational attainment among youth, with 39 percent of those aged 15-34 being secondary-degree holders. On the contrary, less than 15 percent were holders of university or post-graduate degrees, with a slightly higher representation of women. Going back in time, it can be observed that the share of those with no formal schooling (illiterate/read & write) fell substantially for both genders between 1988 and 1998, reflecting improved access to schooling over this period. The reduction was more pronounced for women, with the share of uneducated women going down from more than a half to only a third of the young female population. However, between 2012 and 2018, the education distribution did not exhibit much change, especially for men. For women, a small increase in basic education resulted in a continued decline in illiteracy rates.

Figure 3: Youth educational attainment (percentage) by sex, ages 15-34, 1988-2018



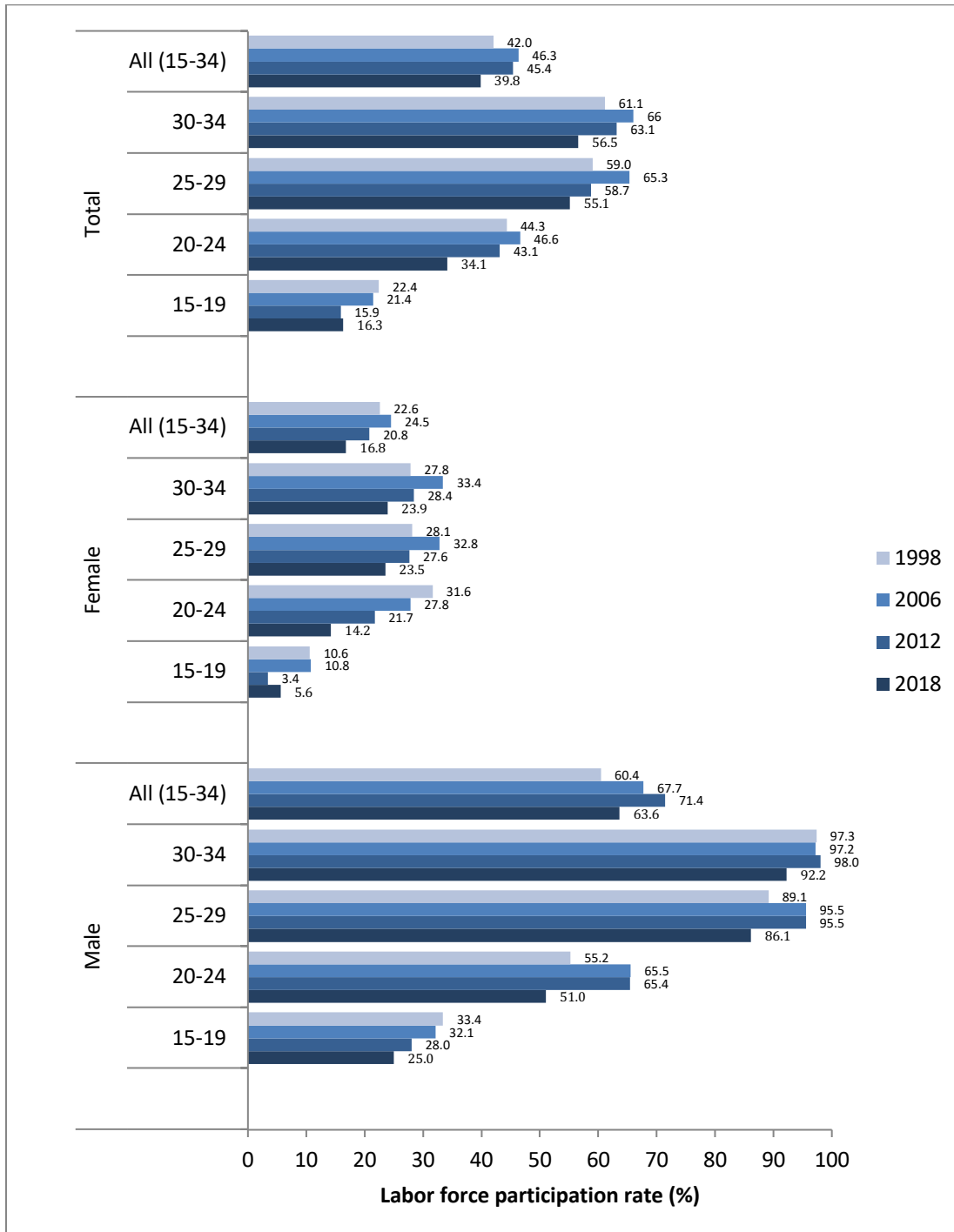
Source: Authors' calculations based on LFS 1988, ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018

2.3. Labor market outcomes and youth not in education, employment or training (NEET)

This section focuses on youth labor market outcomes, including labor force participation, unemployment rates, unemployment duration as well as the share and characteristics of youth not in education, employment or training (NEET).

In terms of labor force participation, strong gender differences appear in Figure 4. While around 64 percent of men aged 15-34 participated in the labor market in 2018, the participation rate was only 17 percent for women. It is also worth noting that labor force participation rates decreased from 2012 to 2018 by around 8 percentage points for men and 4 percentage points for women. The decline was most severe for those aged 20-24, suggesting delayed labor market entry. The only age-gender subgroup that had higher labor force participation rates in 2018 compared to 2012 was that of women aged 15-19, whose participation went up from 3.4 percent in 2012 to 5.6 percent in 2018. This small increase suggests that more women were choosing to enter the labor market directly after completing their basic or secondary education.

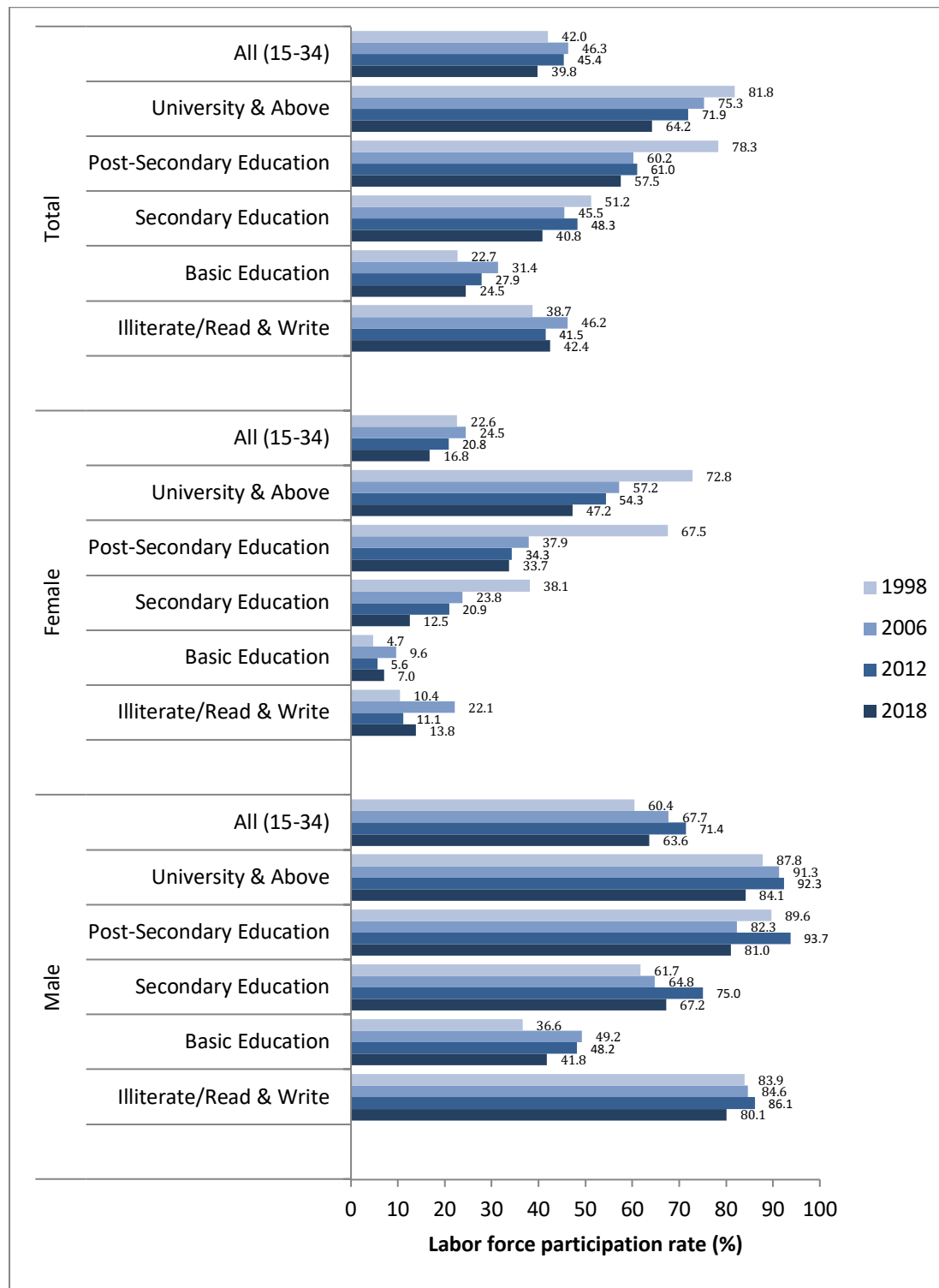
Figure 4: Labor force participation rate (percentage), by sex and age group, ages 15–34, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: standard (search required) market labor force definition, 7-day reference period

Figure 5 plots labor force participation rates by level of education. When considering both men and women, those with a university education had the highest participation rates across all rounds. As for the change in participation over time, the drop in labor force participation between 2012 and 2018 previously documented in Figure 4 was most pronounced among men with post-secondary education and women with secondary education. Finally, although men in all education groups had lower participation rates in 2018 relative to 2012, women's labor force participation declined for those with secondary education or above, but rose slightly for women in the illiterate and basic education groups.

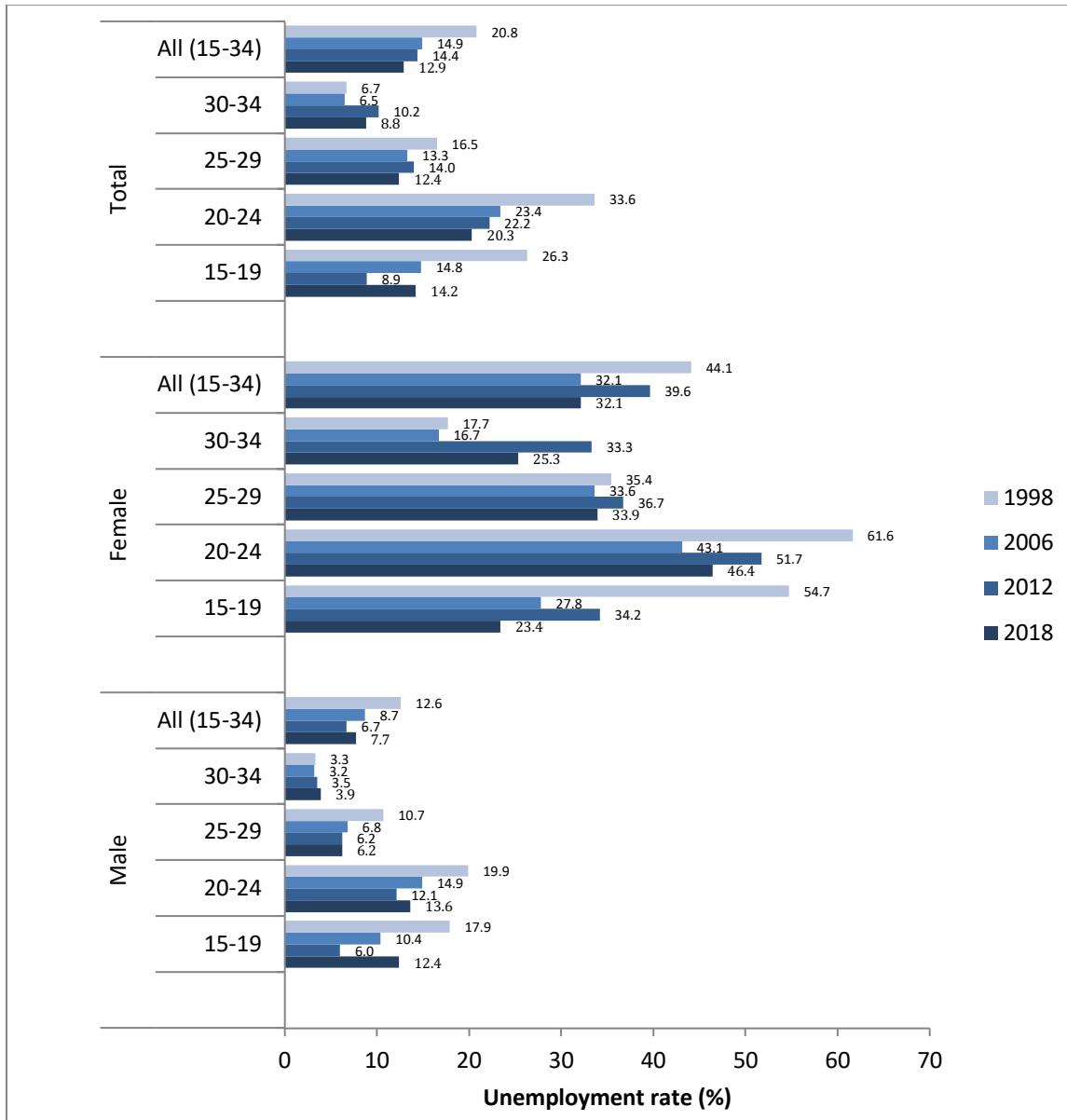
Figure 5: Labor force participation rate (percentage), by sex and educational attainment, ages 15–34, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: standard (search required) market labor force definition, 7-day reference period

In addition to labor force participation rates, substantial differences exist in unemployment rates by gender (Figure 6). While the unemployment rate stood at 7.7 percent for men aged 15-34 in 2018, the corresponding rate for women was more than four times higher (at 32.1 percent). As for the change between 2012 and 2018, the unemployment rate went up for men, particularly among the youngest age group (15-19) who witnessed a doubling of unemployment rates, but fell noticeably for women especially among the youngest (15-19) and the oldest (30-34) age groups.

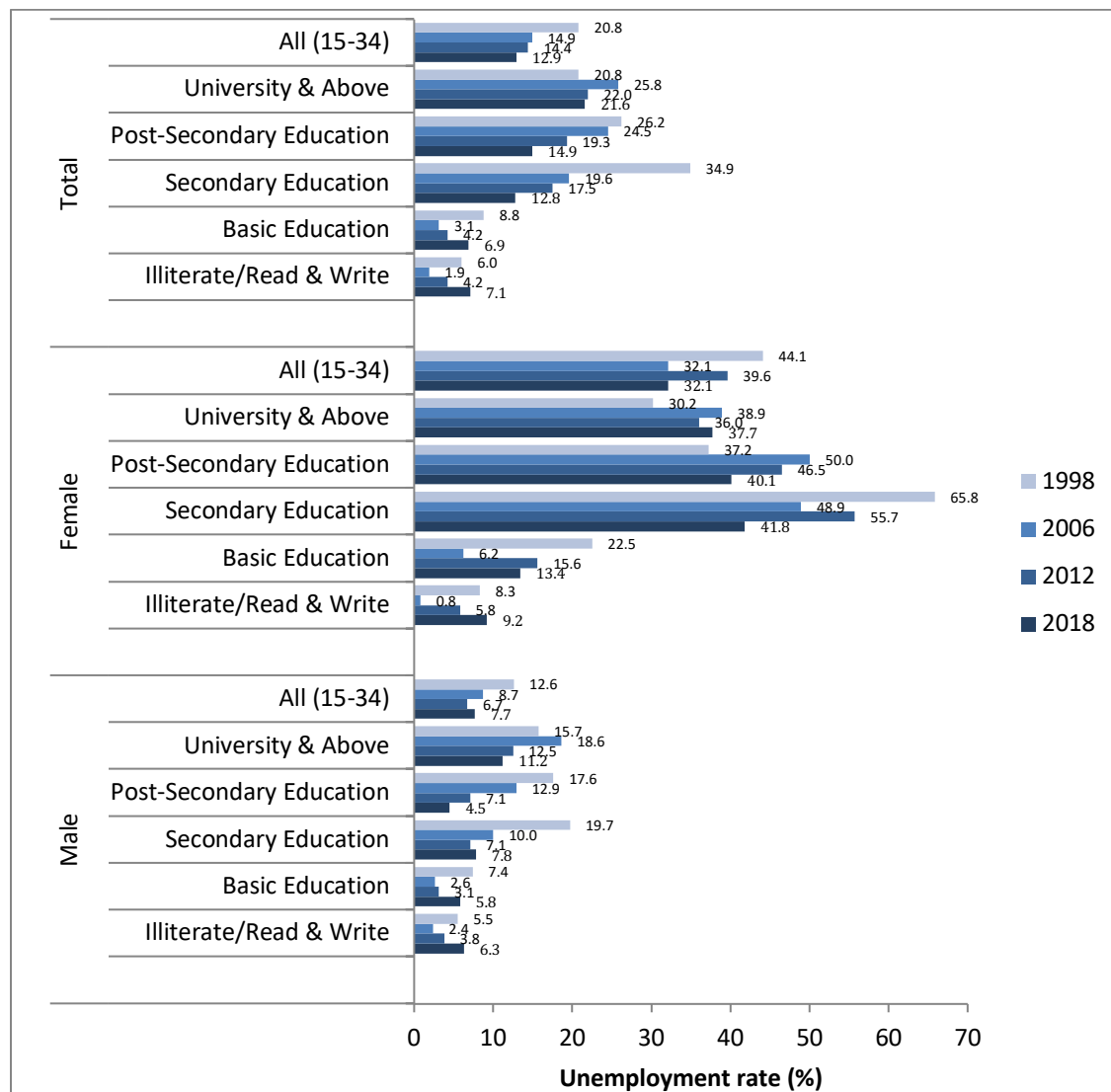
Figure 6: Unemployment rate (percentage), by sex and age group, ages 15–34, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: standard (search required) unemployment definition and market employment definition, 7-day reference period

Regarding the educational status of the unemployed, Figure 7 suggests that unemployment among young people in Egypt tends to be concentrated among the highly educated, as pointed out by Assaad and Krafft (2014). In both 2012 and 2018, the highest unemployment rate was observed among those with university education (around 22 percent). Meanwhile, the unemployment rates for secondary and post-secondary degree-holders have been steadily declining over time. Focusing on differences by gender, educated women have disproportionately high unemployment rates relative to their male counterparts. For instance, women with a university degree had an unemployment rate of around 38 percent in 2018, more than triple the unemployment rate of men with the same educational attainment.

Figure 7: Unemployment rate (percentage), by sex and educational level, ages 15–34, 1998-2018

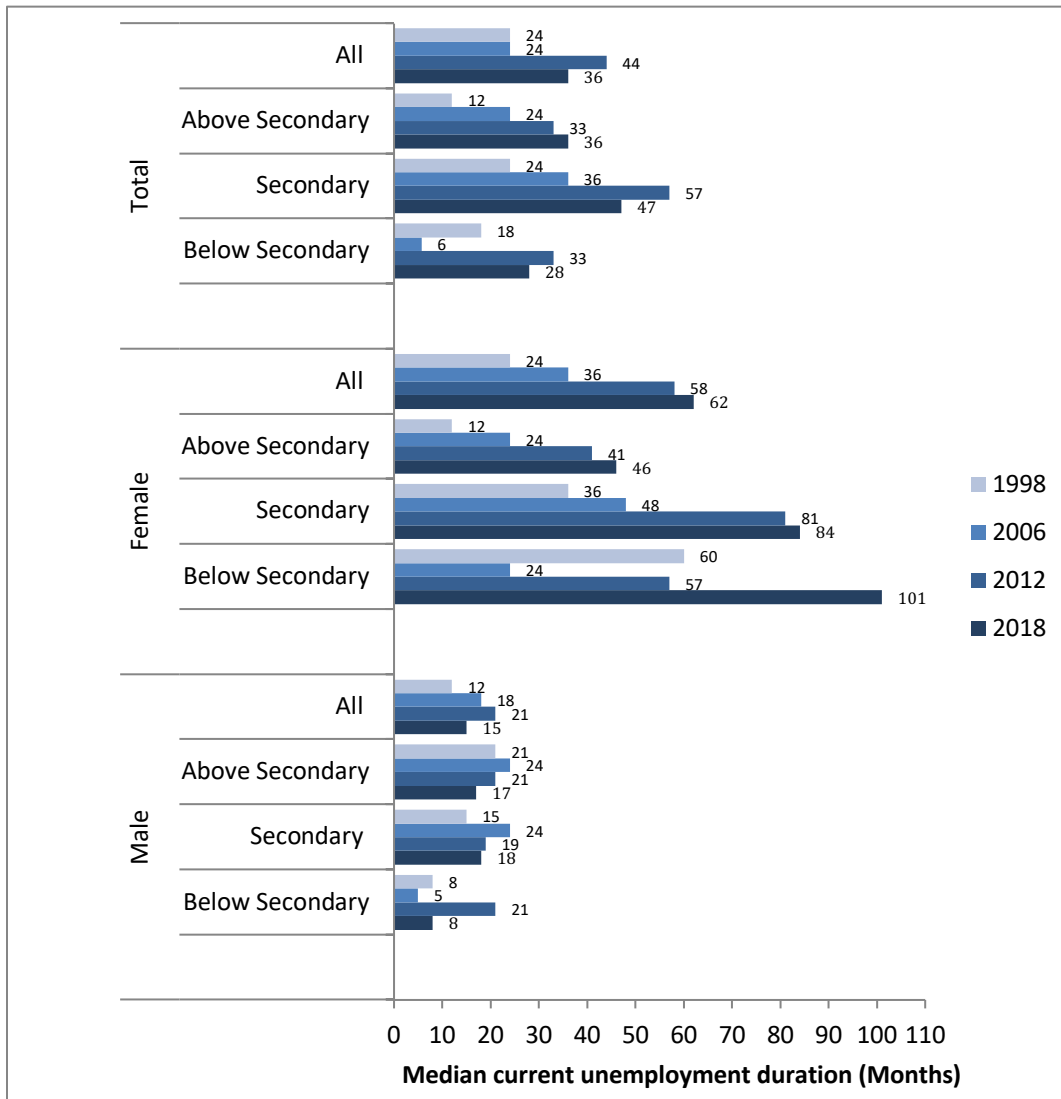


Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018.
 Note: standard (search required) unemployment definition and market employment definition, 7-day reference period. There are multiple subgroups with very few (n<25) unemployed individuals. These include women in the

illiterate/read & write and basic education categories in each round, men in the illiterate/read & write and basic education categories in 2006, and men with post-secondary education in 2012 and 2018.

Besides the incidence of unemployment, unemployment duration serves as an important indicator for the health of the labor market and the ease of finding a job. Figure 8 reports median current unemployment duration by education level. Broader education categories are used to ensure a sufficient sample size in each category. For those unemployed in 2018, median unemployment duration was highest among those with secondary education (47 months). Over time, the largest increase in median unemployment duration occurred among women with below-secondary education, with a spike from 57 months in 2012 to 101 months in 2018, the highest value observed across all groups and survey rounds. On the contrary, median unemployment duration fell for the least educated men from 21 months in 2012 to only 8 months in 2018.

Figure 8: Median duration of current unemployment (months), by sex & educational attainment, ages 15–34, 1998-2018



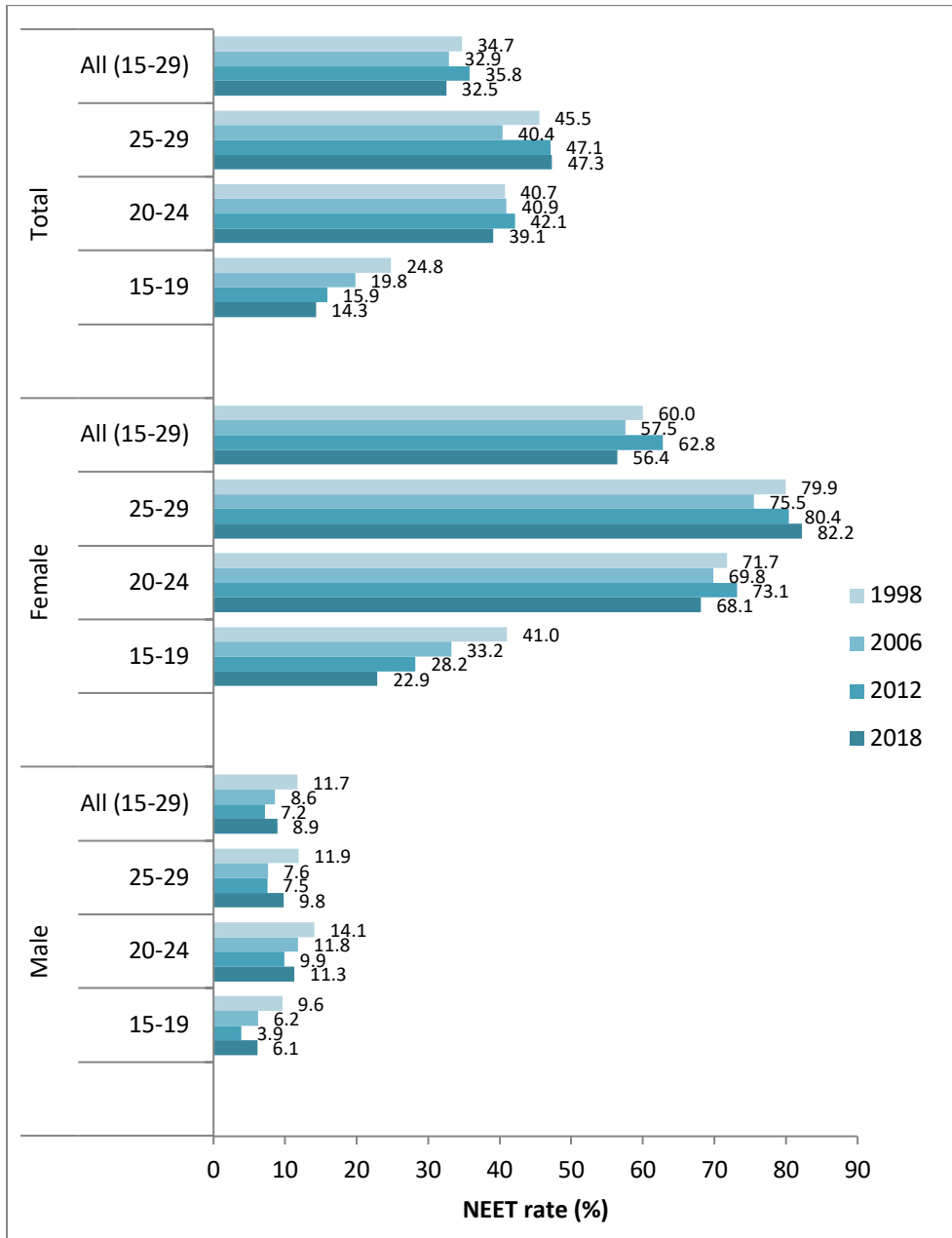
Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: standard (search required) unemployment definition and market employment definition, 7-day reference period

We now turn to examine the profile of individuals who are not in education, employment or training (NEET) among youth aged 15-29 years. As the data sets do not identify individuals currently in training, NEET is thus defined as those who are not in education or employment using the market definition of economic activity and excluding men serving in the military.⁴ In 2018, the share of women who were NEET was substantially higher than the share of men who were NEET (Figure 9). This is unsurprising and reflects both lower labor force participation

⁴ This is done by excluding male respondents who report “other” as the reason for being out of the labor force, a category that mostly captures recruitment in the military for young men.

(Figure 4) and higher unemployment (Figure 6) among women. However, between 2012 and 2018, the share of NEET youth increased for men but fell for women, with an overall reduction of around 3 percentage points for both genders combined. In terms of age, the highest NEET rate in 2018 was observed among those aged 25-29 for women (82.2 percent), and those aged 20-24 for men (11.3 percent).

Figure 3.9: NEET rate (percentage), by sex and age, ages 15-29, 1998-2018

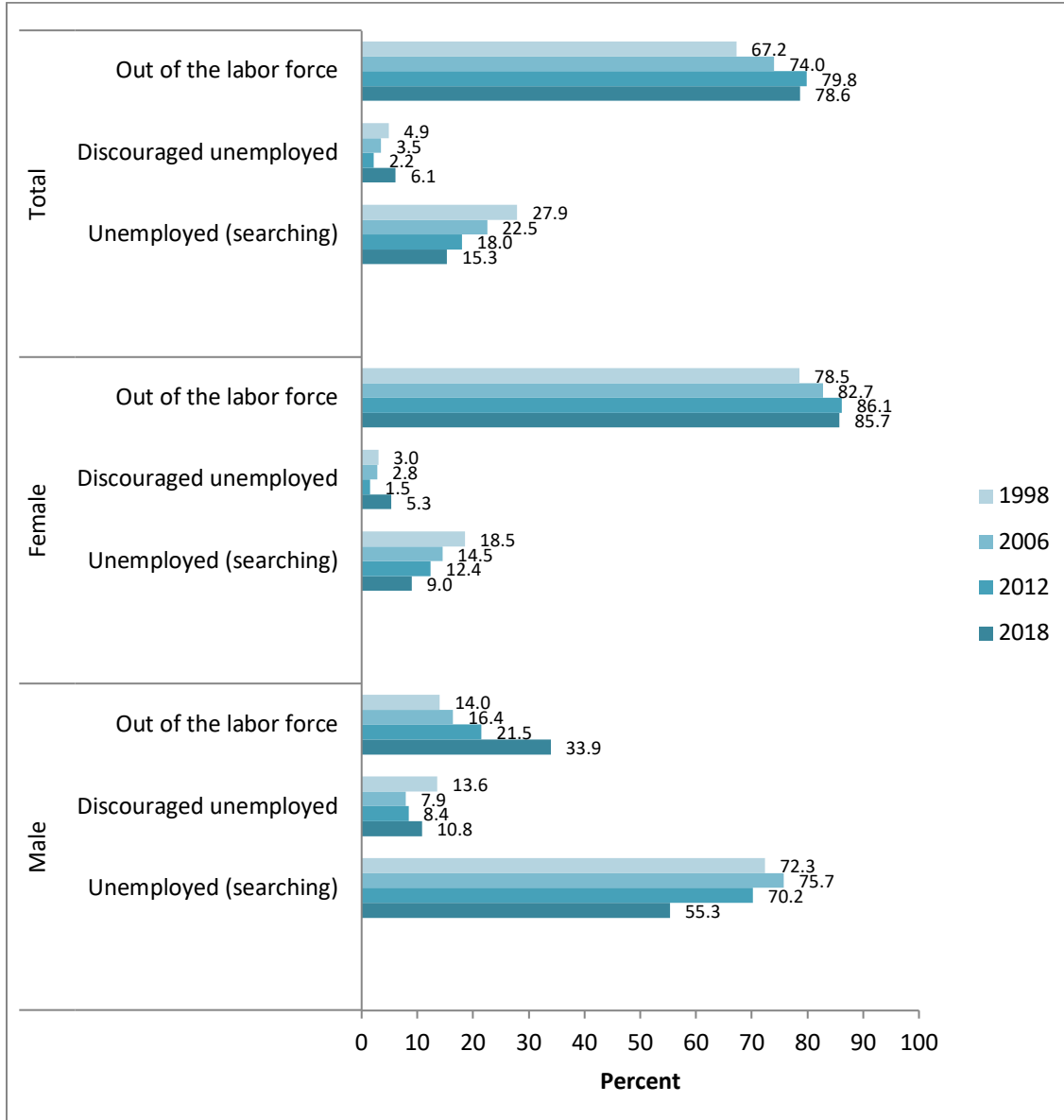


Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018

Note: Market employment definition, 7-day reference period.

Figure 10 sheds light on the exact labor market status of NEET individuals. Here again, clear differences emerge along gender lines. While around 86 percent of NEET women were out of the labor force in 2018, 55 percent of NEET men were unemployed men actively searching for a job. The share of discouraged unemployment (those available for work but not searching) represents a small percentage of NEET youth in both 2012 and 2018 and was lower for women than for men, but increased between the two rounds especially among women.

Figure 10: Labor market status among NEET (percentage), by sex, ages 15-29, 1998-2018

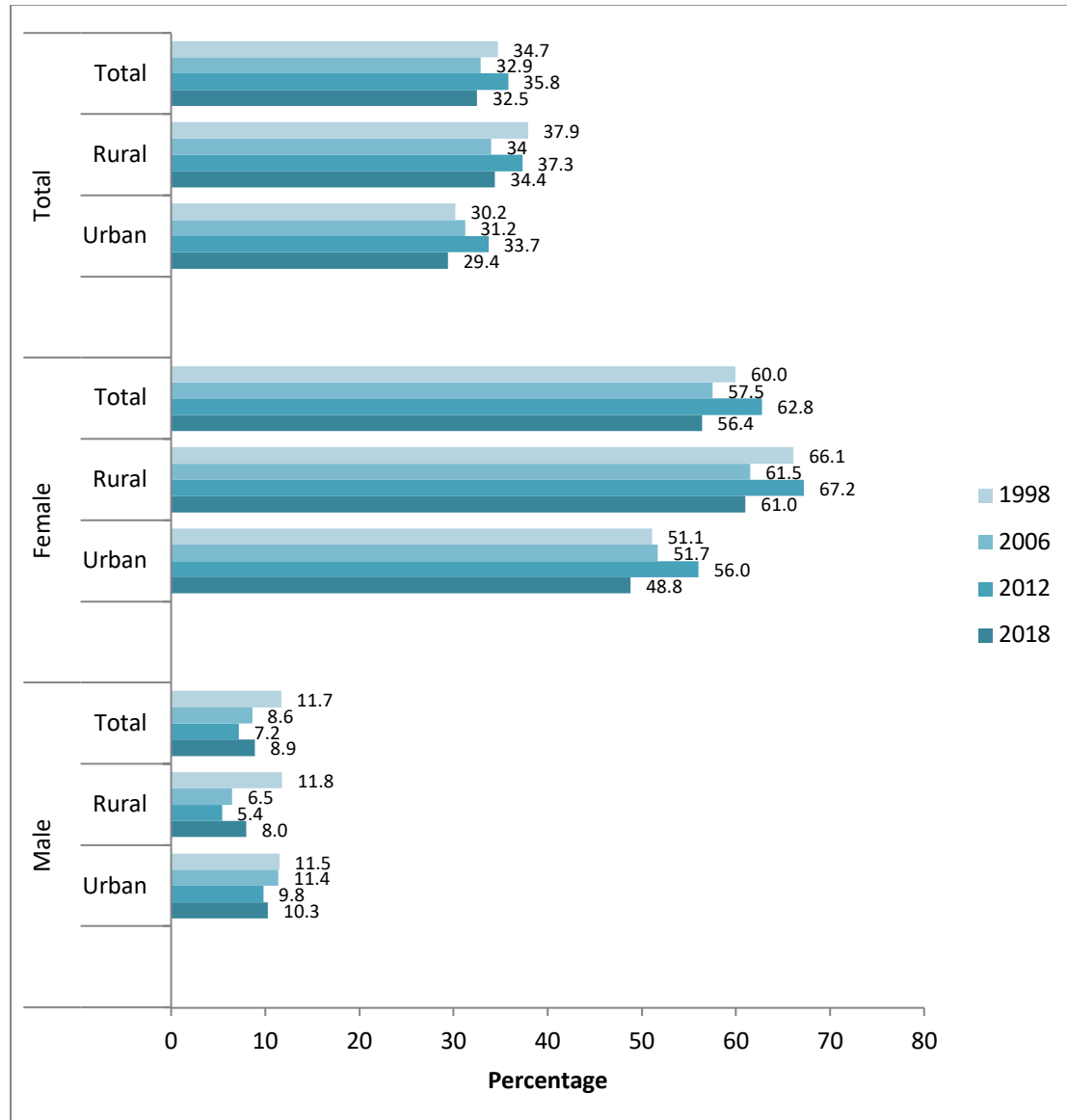


Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018

Note: Market employment definition, 7-day reference period.

Turning to the geographical dimension, Figure 11 plots the NEET rate by gender and location (urban versus rural areas). In general, a larger percent of women who were NEET resided in rural areas compared to urban locations in recent years, but the opposite was true for men. Different trends by gender are also observed when examining the change between 2012 and 2018, with the percent of NEET falling in both rural and urban areas for women but rising for men.

Figure 11: NEET Rate by sex and location, ages 15-29, market labor force definition, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: Market employment definition, 7-day reference period.

3. Labor market entry and the school-to-work transition

This section presents the dynamics of insertion into the labor market by examining the trends in first labor market status after school, in the duration to the first job (in months of unemployment and in years spent either in unemployment or inactivity), in the age at first job by gender and educational attainment, in addition to the pathways over 2 and 4 years from initial labor market status after school.

3.1. Distribution of first labor market statuses

The first labor market status was retrieved from the labor market history module of ELMPS 2018. This module retraces retrospectively the history of employment, unemployment and inactivity of the individual since he/she left school.⁵ It provides information, for those who ever worked, on the date of end of school, the start and end dates of the first and subsequent jobs (that lasted at least 6 months), the characteristics of each job (economic sector, employment stability, contract, social security), and whether the individual had an unemployment or inactivity spell (that lasted at least 6 months) between the date he left school and the first job. For those who never worked the first labor market status is defined by their current status, which can be either unemployment or inactivity. We distinguish labor market statuses: public employment, private formal employment (with contract or social security), private informal employment (with no contract nor social security), non-wage employment (comprising the employers and self-employed), unpaid family work, unemployment and inactivity.

To get a more precise picture of labor market insertion patterns, Figure 12 examines the first labor market status for men, distinguishing between two cohorts of school exit (those who graduated in the years 2006 to 2010 versus 2011 to 2015). The choice of these two school exit cohorts allows distinguishing individuals who have completed their studies before and after the major political turbulences that started in 2011 and the sharp economic downturn that followed.

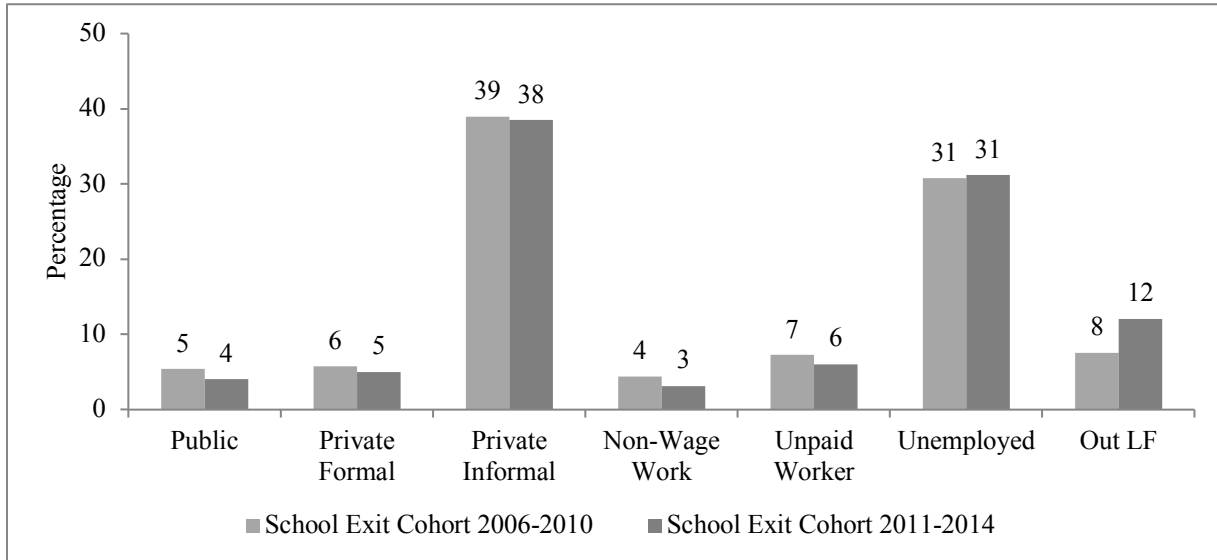
As displayed in Figure 12, the majority of men worked when they left school. But between the two cohorts this proportion fell from around 62 percent to 57 percent due to a considerable increase in the share of inactive men, which went up from 8 percent to 12 percent.⁶ This result confirms the substantial decline in male labor force participation as shown in the previous section. The increasing share of male inactivity has been at the expense of all types of

⁵ In the labor market history module, unemployment and inactivity spells after school and before the first job are reported only for those who have been to school. For those who never went to school or left school before the age of 15, the “school exit year” is set as the year when the individual turned 15 years old.

⁶ In Egypt, military service is compulsory for men and its duration varies between 1 and 3 years depending on their education level. Military service is therefore not an individual choice. In order to avoid any bias that might occur, men who reported being out of the labor force due to their military service were excluded from the inactive population. Nevertheless, the proportion of inactive men increased sharply between the two cohorts.

employment whose shares have fallen, especially those of non-wage work, public employment, formal private employment and unpaid family work. The share of informal employment has remained almost stable across school exit cohorts.

Figure 12: Male first labor market status after school (percentage) by school exit cohort, 2018

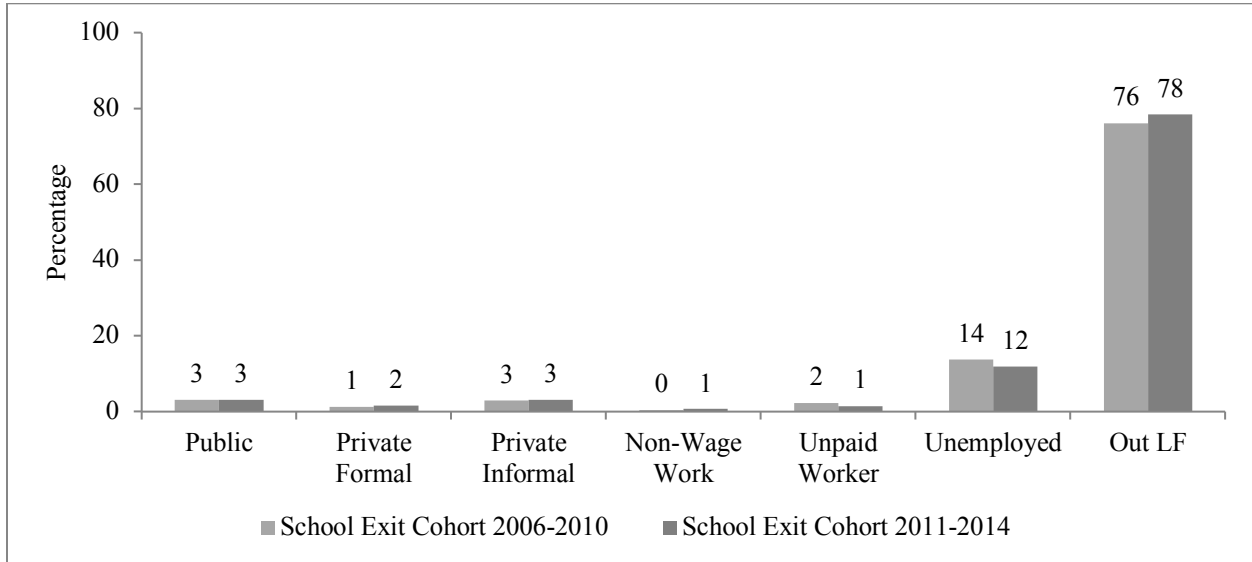


Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

As depicted in Figure 13, the overwhelming majority of women were inactive or unemployed after leaving the education system or at age 15 across school exit cohorts. Among those who completed their studies more recently, 78 percent were inactive and 12 percent were unemployed; only 10 percent were employed (mainly in the public sector or as informal private wage workers). Non-wage work and unpaid family work were negligible. Overall, there has been little change between the two cohorts except for a minor decrease in the share of unemployed women, offset by a slight increase in the share of formal private wage work and non-wage work as well as the proportion of inactive women.

Figure 13: Female first labor market status after school (percentage) by school exit cohort, 2018

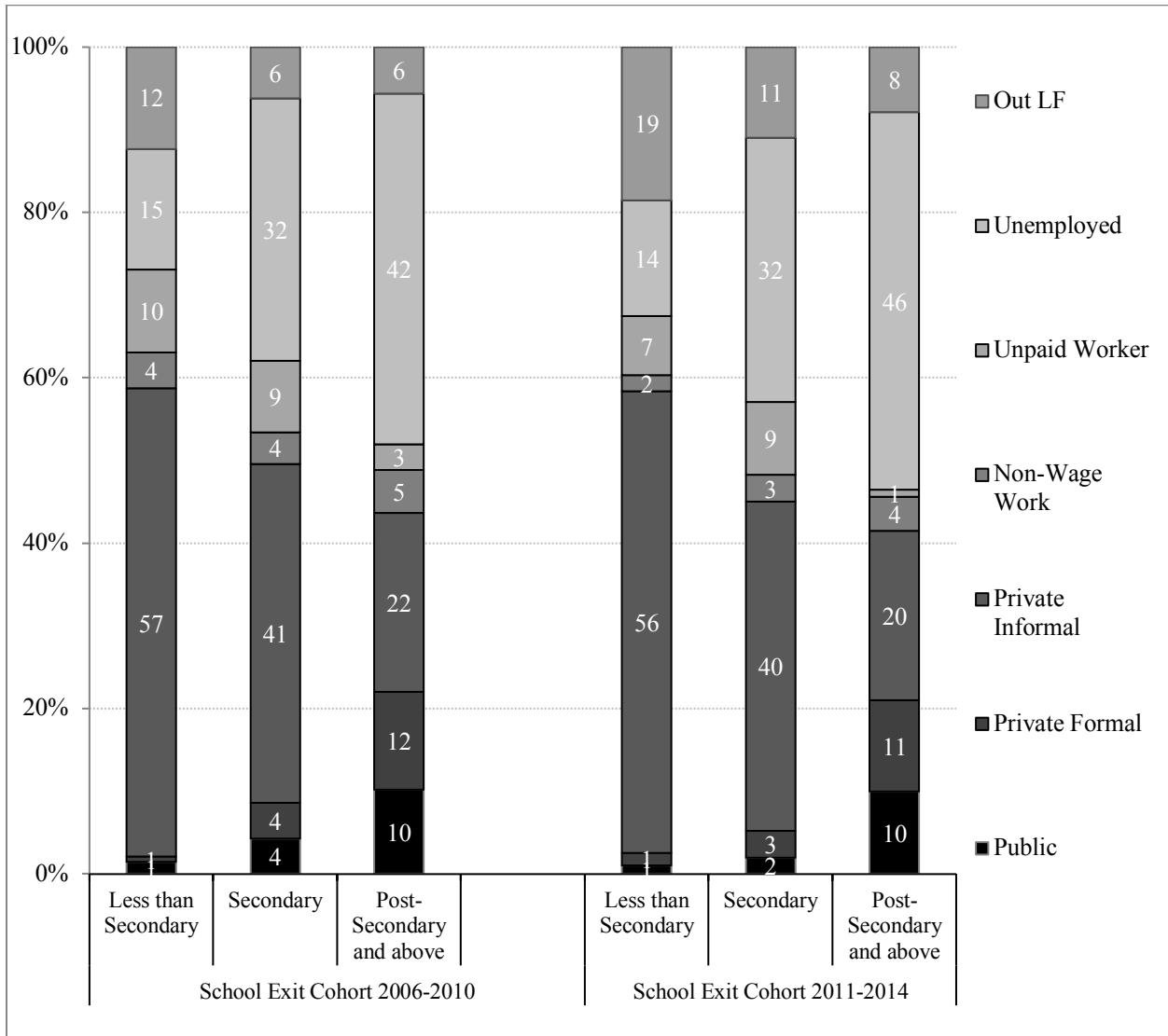


Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

Education plays a role in the initial sorting of individuals across employment sectors. Figure 14 reports the first labor market status for men by level of education. For both cohorts of school exit, there is a clear negative correlation between educational attainment and informal employment, but a positive correlation between education and unemployment, confirming the pattern described in Figure 7 for youth current unemployment rates. Indeed, it appears that the more educated and better-off were the ones who could “afford to stay unemployed” while searching for a formal job, while the more vulnerable group with lower education tends to be pushed (by necessity) into the informal sector. The increase in male inactivity at school exit could be seen at all levels of education, but particularly among secondary school graduates and lower-than-secondary school graduates. Among the most educated, formal employment in both the public and the private sectors has decreased whereas unemployment has been on the rise.

Figure 14: Male first labor market status after school (percentage) by education level and school exit cohort

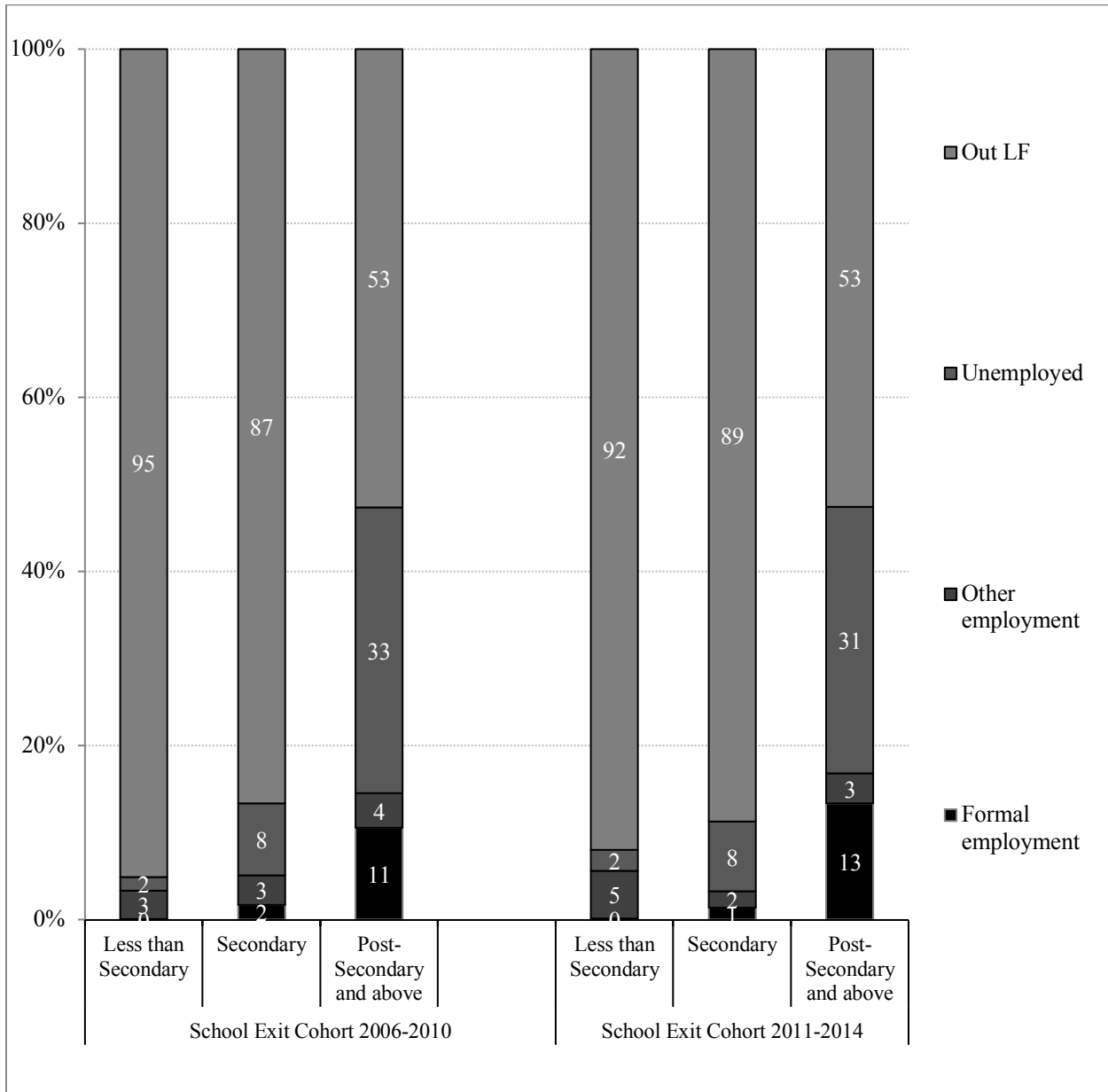


Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

As presented in Figure 15, an overwhelming majority of women with below-secondary education chose to stay out of the labor force. Additionally, in both school exit cohorts formal employment and in particular public sector jobs were more likely to be held by women with post-secondary education. First-time unemployment was particularly high for the most educated women, but has slightly declined from 33 percent in the older cohort to 31 percent among more recent graduates.

Figure 15: Female first labor market status after school (percentage) by education level and school exit cohort



Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

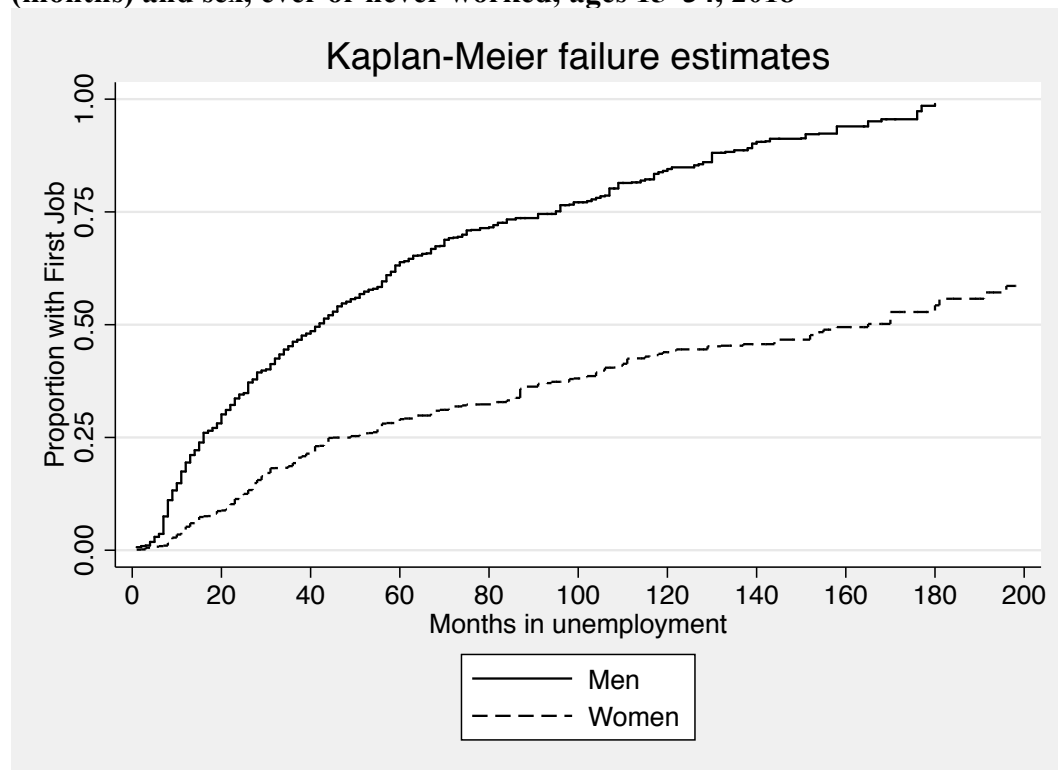
3.2. Unemployment duration to first job

In the labor economics literature, it is commonly known that longer unemployment durations negatively affect the probability of finding a job later on. For those who have worked before, unemployment duration is estimated using the labor market history module of ELMPS 2018 by

comparing the date when the individual left school⁷ and the start date of the first job if he/she experienced an unemployment spell that lasted at least six months prior to the first job (that also lasted at least six months). For individuals who never worked and are currently unemployed, the unemployment duration corresponds to the current (right-censored) unemployment duration.

Figure 16 shows the proportion of individuals finding a (first) job among those initially unemployed by months of unemployment on the horizontal axis. As expected, women tend to stay longer in unemployment than men. And whereas after 180 months spent in unemployment all men eventually found a job, only around 54 percent of the women ended up finding a job. The concavity of the curves (especially for men) implies that the job-finding rate among the unemployed decreases by time spent in unemployment (particularly in the range of 0-100 months), after which the rate of exit from unemployment starts to slightly pick up.

Figure 16: Proportion obtaining a first job by unemployment duration to first job (months) and sex, ever or never worked, ages 15–34, 2018



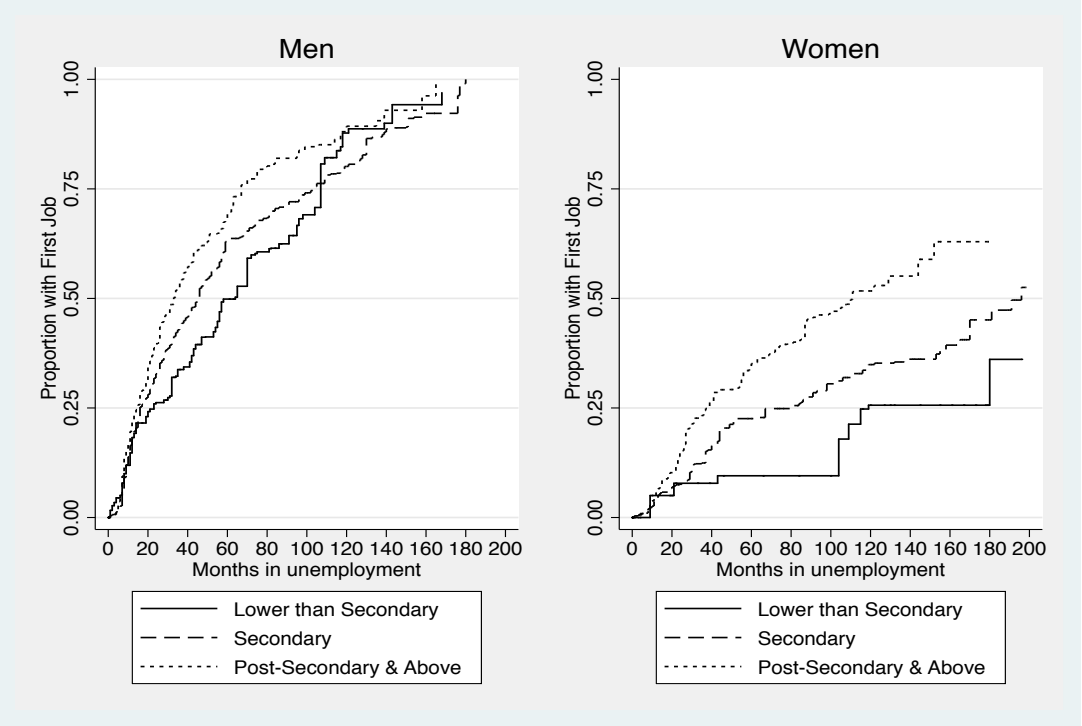
Source: Authors' calculations based on ELMPS 2018
 Note: standard market labor force definition

⁷ Only for individuals who went to school. For those who have never been to school, the unemployment duration corresponds only to the censored current unemployment duration.

Figure 17 further shows that educational attainment makes it easier to exit unemployment for men. All men, regardless of their education level, eventually found a job. Job-finding rates were generally higher for unemployed men with post-secondary education and above, followed by secondary-degree holders whose job finding probability was in turn higher than those with basic education (up to 140 months of unemployment duration, after which both rates converged and even started to reverse). For example, after 100 months in unemployment, 70 percent of men with below-secondary education level found employment, compared to 78 percent of men graduating from secondary school and 87 percent of men with a post-secondary or university degree. While the less educated men were less initially unemployed (Figure 14), they stayed longer in unemployment.

Women, whatever their education level, took longer to exit unemployment and find a job than men. While the job finding rates of female post-secondary degree holders clearly exceeded that of secondary-degree holders, the job-finding pattern for women with lower-than-secondary education increased rapidly early on then moved in a stepwise fashion in a less consistent manner compared to other education levels.⁸ For example, after 100 months in unemployment only 8 percent of the least educated women found a job, compared to 39 percent of women with a secondary school diploma and 57 percent of the most educated women.

Figure 17: Proportion obtaining a first job by unemployment duration to first job (months), sex and educational attainment, ever or never worked, ages 15–34, 2018.



Source: Authors’ calculations based on ELMPS 2018

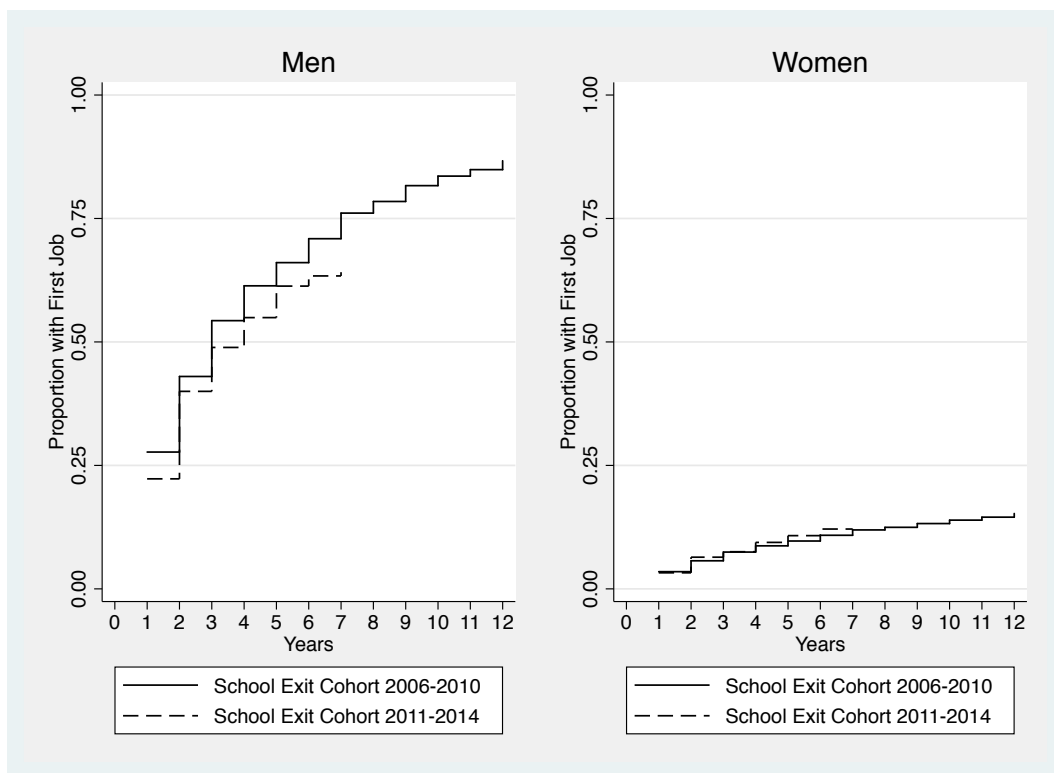
Note: Kaplan-Meier failure estimates. Standard market labor force definition.

⁸ This might be due to the small sample size of less educated women who experienced unemployment.

3.3. Time to first job

This section investigates the trends in time to first job by gender and educational attainment. Time to first job is the time (estimated in years) between the date of school exit⁹ and the date of start of the first job, which could either be spent in unemployment or in inactivity. Figure 18 shows that male job finding rates increased at a decreasing rate with years since school exit as reflected by the concavity of the curves in the left panel. Job finding follows a similar pattern across exit cohorts but with a slight deterioration among more recent graduates. For example, after 4 years from leaving school, 55 percent of the men from the older school cohort were employed compared to 51 percent of the men who graduated more recently. Female job finding rates increased almost linearly over the years from school exit but at much lower rates than for their male counterparts. Indeed, 4 years after leaving school only 9 percent of women have landed a job. A very slight improvement in the job finding rate can be observed for women who exited school more recently.

Figure 18: Proportion obtaining a first job by time to first job (years) by sex and school exit cohort, ever or never worked



Source: Authors' calculations based on ELMPS 2018

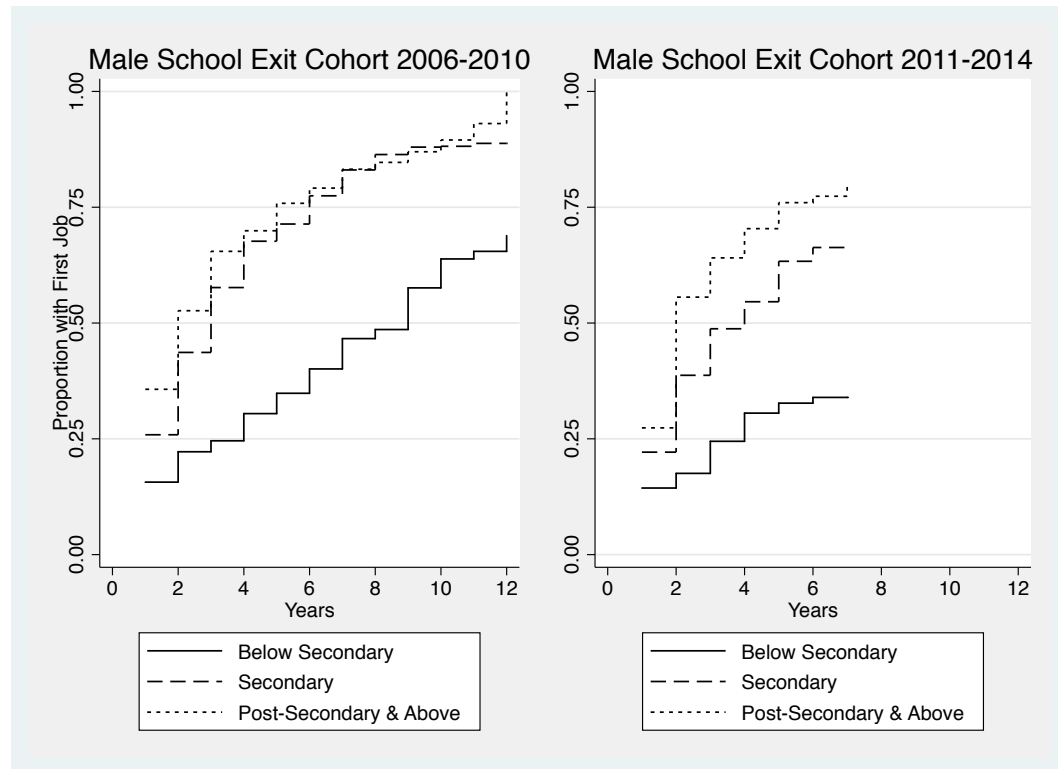
Note: Kaplan-Meier failure estimates. Standard market labor force definition.

⁹ Or at age 15 if the individual never went to school or dropped out from school before that age.

Figure 19a dissects the time to first job by level of education and school exit cohort for men, suggesting that job finding rates increase with education. Among those who exited school in 2006-2010, 4 years after leaving school around 58 percent of secondary-degree holders had found a job and 65 percent of post-secondary graduates, compared to only 25 percent of below-secondary graduates.

The most noticeable finding is that secondary-school graduates who exited school after 2010 seem to have been doing worse than their counterparts who graduated between 2006 and 2010. For instance, four years after leaving school, 55 percent of recent secondary graduates were employed as opposed to 67 percent of older secondary graduates. The job finding rates of the below-secondary and post-secondary graduates have not changed much across school exit cohorts.

Figure 19a: Male proportion obtaining a first job by time to first job (years) by school exit cohort and educational attainment, ever or never worked



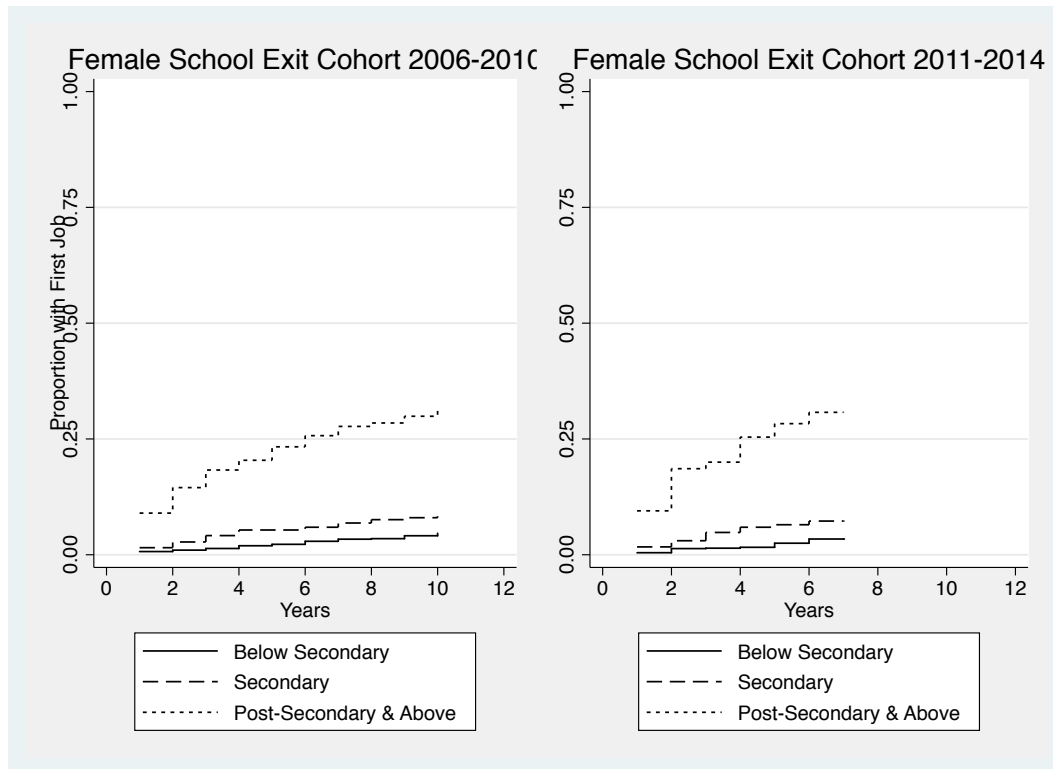
Source: Authors' calculations based on ELMPS 2018

Note: Kaplan-Meier failure estimates. Standard market labor force definition.

Figure 19b repeats the exercise for women, also revealing a larger gap in job finding rates between women with below versus above secondary education. Among the 2006-2010 school exit cohort, four years after graduation nearly 25 percent of women with a post-secondary diploma obtained a job compared to only 5 percent of women with a secondary degree and 2 percent of women with below-secondary education. Women with a post-secondary degree who

completed their education between 2011 and 2014 spent less time getting a job. The patterns of job finding rates were similar for women with secondary and below secondary education across school exit cohorts.

Figure 19b: Female proportion obtaining a first job by time to first job (years) by school exit cohort and educational attainment, ever or never worked



Source: Authors' calculations based on ELMPS 2018

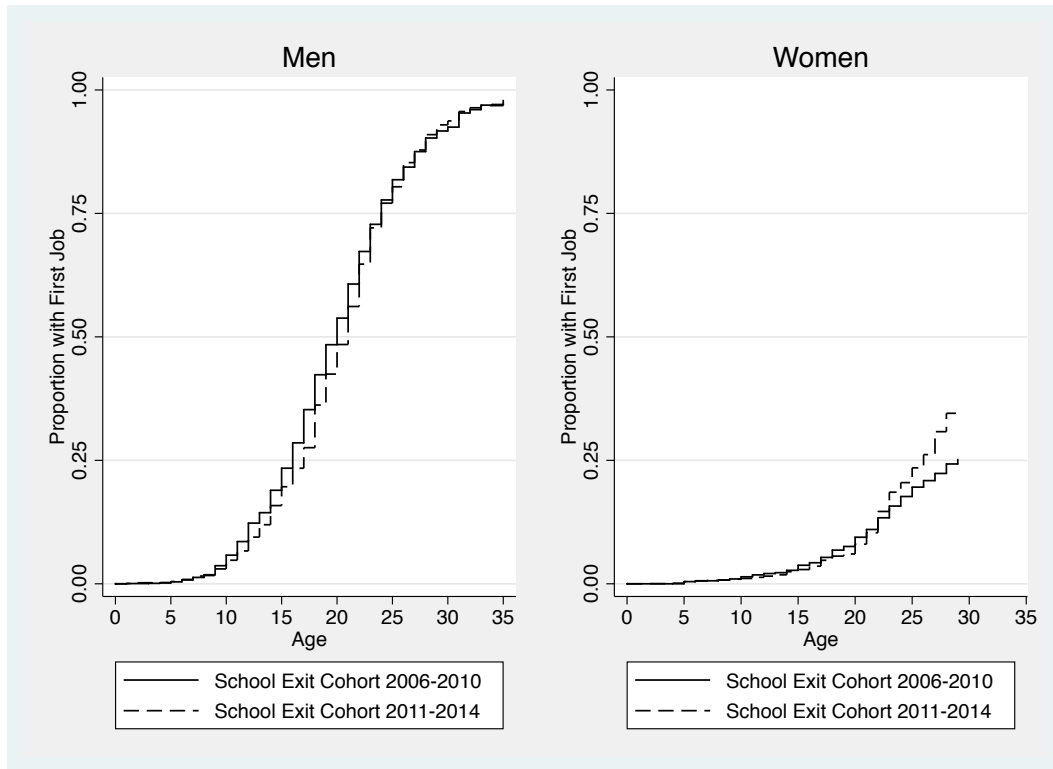
Note: Kaplan-Meier failure estimates. Standard market labor force definition.

3.4. Age at first job

Figure 20 depicts the proportion obtaining a first job by age, gender and school exit cohort. It shows that women tended to obtain their first job at an elder age than men. By the age of 30, more than 90 percent of men have obtained a job, regardless of their school exit cohort, whereas at the same age less than 30 percent of women were employed.¹⁰ The comparison of the two male cohorts shows no major difference, except that a smaller proportion of men who exited school between 2011 and 2014 entered the labor market between the ages of 10 and 25. But by the age of 25 both curves converge. Women who graduated more recently were slightly more likely to get a job than their older counterparts.

¹⁰ For women the figure presents the proportion obtaining a first job for ages 0-29 as beyond age 30 the number of observations is too small.

Figure 20: Proportion obtaining a first job by age, sex and school exit cohort, ever or never worked

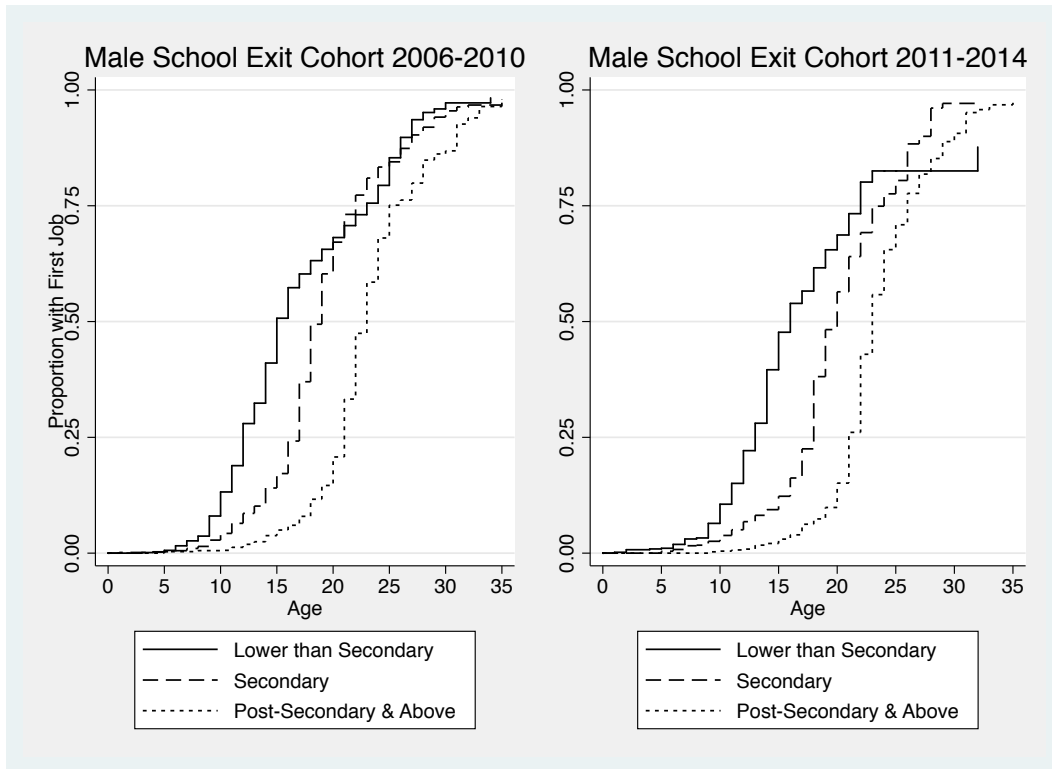


Source: Authors' calculations based on ELMPS 2018

Note: Kaplan-Meier failure estimates. Standard market labor force definition.

Figures 21a and 21b illustrate the proportion with a first job by age, educational attainment and school exit cohort for men and women. The more educated men were, the older they were when first employed as a result of pursuing longer studies. However, from the age of 18, the curves for men with secondary and with lower secondary education converge for the older cohort. The patterns of insertion into the labor market by age and education level differed only slightly by school exit cohort.

Figure 21a: Male proportion obtaining a first job by age, educational attainment and school exit cohort, ever or never worked

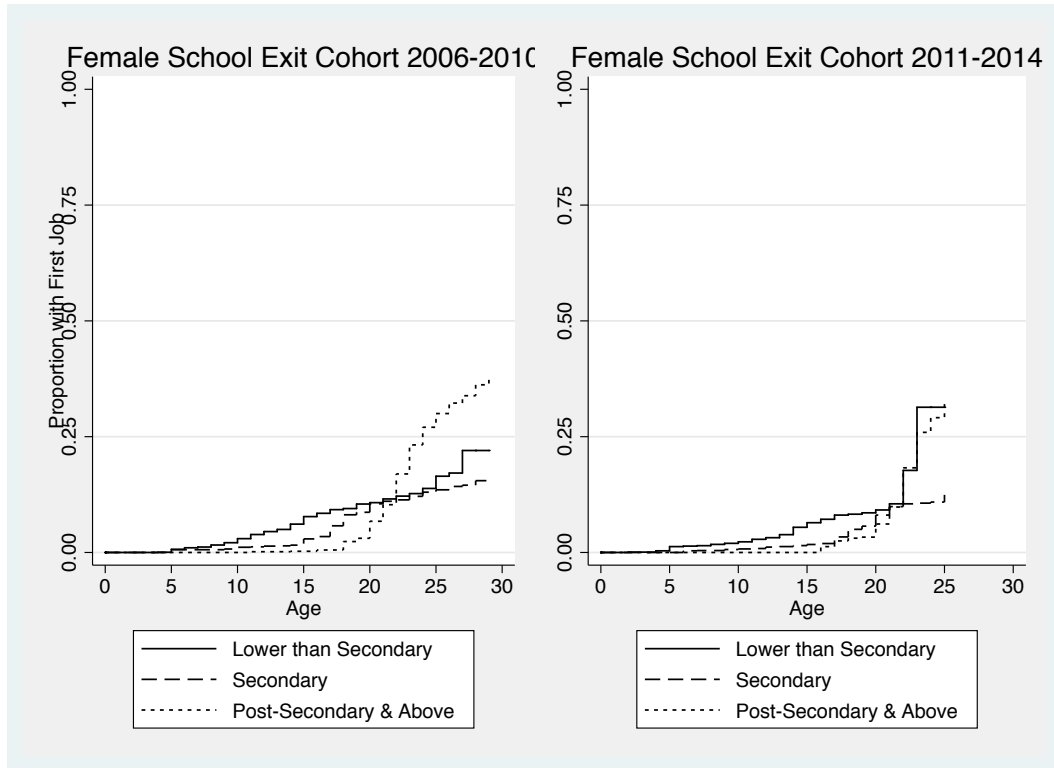


Source: Authors' calculations based on ELMPS 2018

Note: Kaplan-Meier failure estimates. Standard market labor force definition.

Figure 21b shows relatively different patterns for women. Until the age of 20-22 the more educated women were less likely to have worked due to longer studies. From the age of 22, the age at which university graduates typically complete their education, women with a post-secondary or university degree continued to find first jobs, while the proportion of less educated women getting a job increased very slightly or even stagnated. The patterns were similar across cohorts except that job finding rates were lower among women who graduated more recently.

Figure 21b: Female proportion obtaining a first job by age, educational attainment and school exit cohort, ever or never worked



Source: Authors' calculations based on ELMPS 2018

Note: Kaplan-Meier failure estimates. Standard market labor force definition.

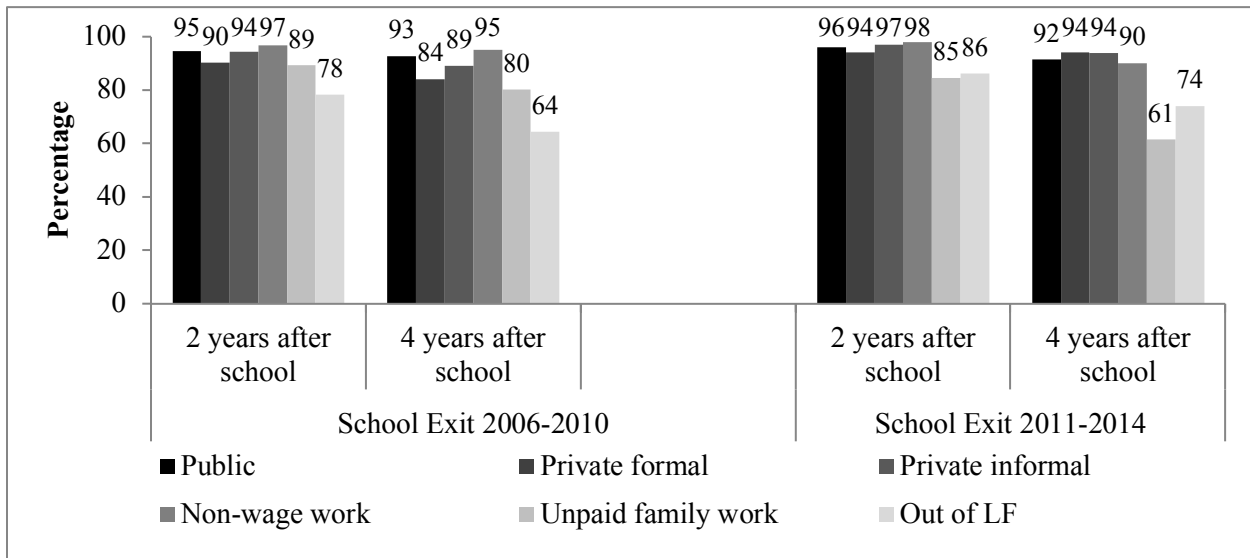
3.5. Nature of first job and mobility prospects

Building on labor market insertion patterns, this section focuses on labor market dynamics and job mobility by looking at changes in labor market status 2 and 4 years after school exit by gender and initial labor market status.

Due to a relatively small number of observations when breaking down transition rates by first labor market status, Figure 22a presents only male persistency rates (the percentage remaining in the same status) for those who were employed or inactive right after leaving school. Figure 22b presents male pathways from unemployment.

Figure 22a reveals a high degree of persistency in different labor market statuses. Even 4 years after school exit, over 90 percent of young men who started out as public, private formal or informal employees and as non-wage workers remained in the same type of employment. Albeit with smaller persistency rates (ranging between 60 and 80 percent), unpaid family work and inactivity were also quite stable. Only the transitions from inactivity to another employment status have enough observations to be commented on. When initially inactive men changed status it was to work as a private informal worker: 22 percent among the older school cohort and 17 percent among the more recent one. Overall, these results paint a very rigid picture of the Egyptian labor market, where individuals who began their career in one form of employment were unlikely to transition to another status, resulting in very low mobility rates.

Figure 22a: Male persistency rates (percentage) over 2 and 4 years from school exit by initial labor market status and year of exit from school

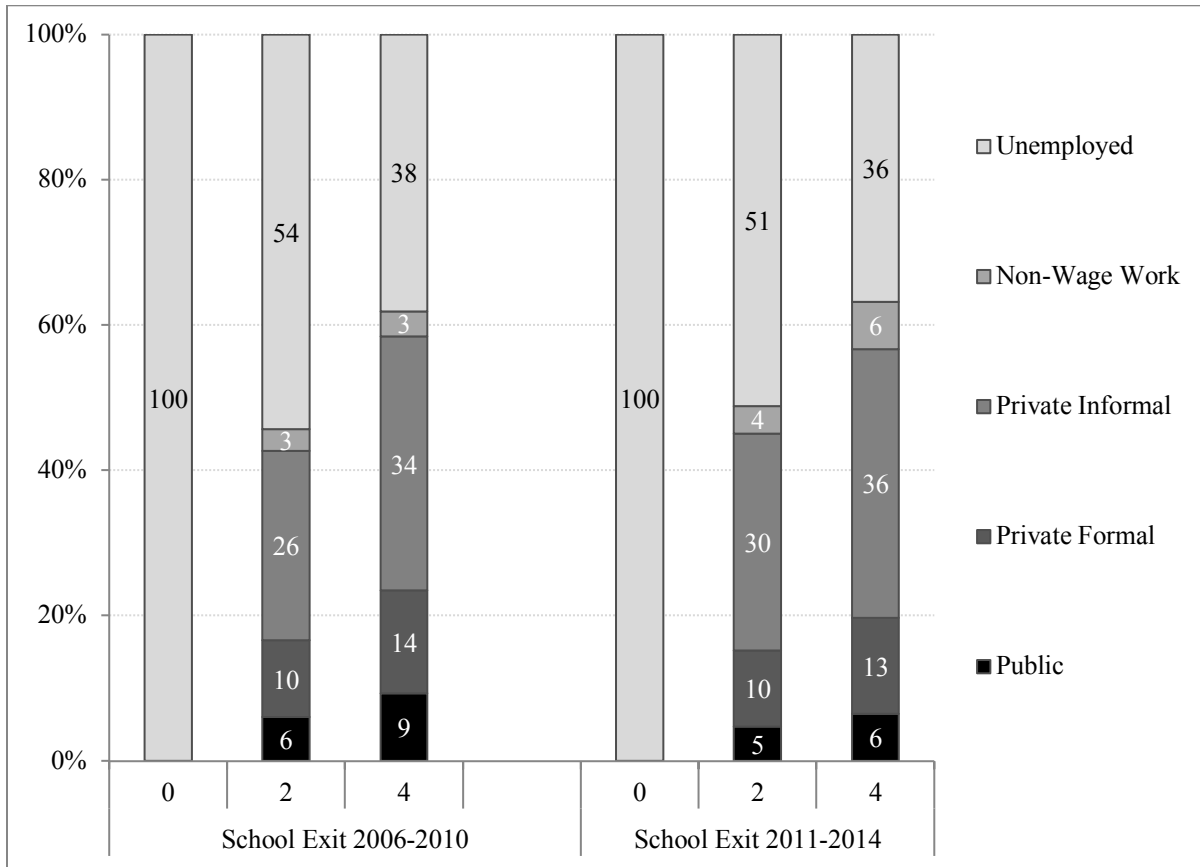


Source: Authors' calculations based on ELMPS 2018.

Note: standard labor market employment definition

When it comes to pathways from unemployment, however, transitions were more common (Figure 22b). Although more than one-third of men who were initially unemployed remained unemployed 4 years later, another one-third eventually found an informal private job and almost 20 percent found a formal job among those who graduated between 2011 and 2014. Compared to the older cohort, more recent male graduates tended to find less formal employment and more informal employment and non-wage employment. For instance, transitions from unemployment to informal work increased from 34 percent to 36 percent, transitions from unemployment to non-wage employment increased from 3 percent to 6 percent and those to formal employment fell from 23 percent to 19 percent.

Figure 22b: Male labor market statuses (percentages) over 2 and 4 years from school exit by year of exit from school, first status unemployment



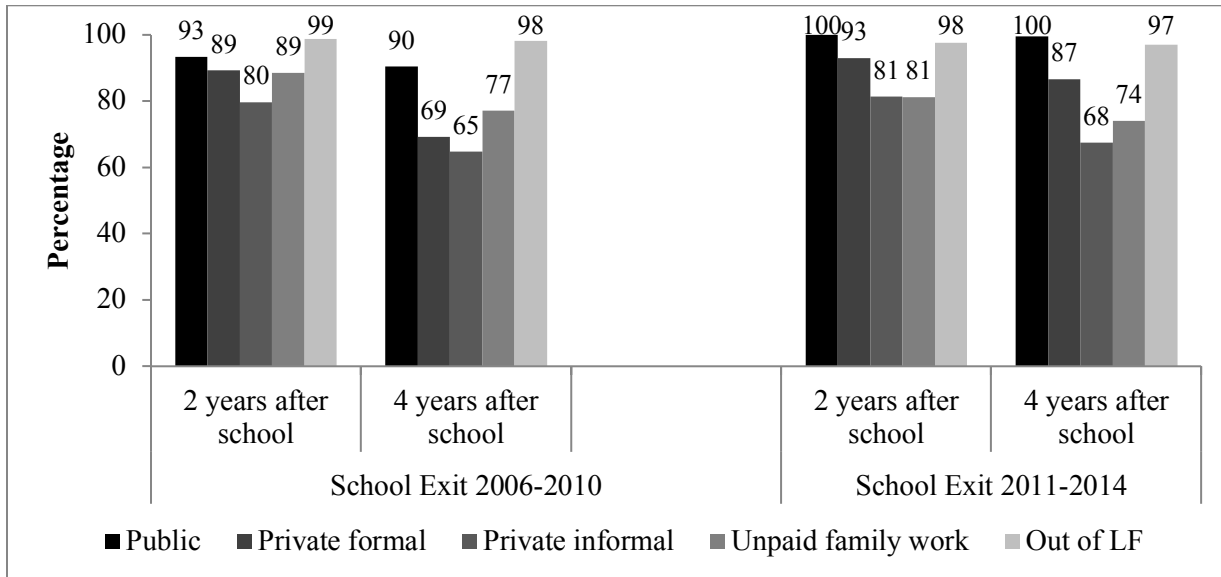
Source: Authors' calculations based on ELMPS 2018

Note: standard labor market employment definition

Likewise, the labor market for women is very rigid (Figure 23a). This is especially true for women who were initially employed or out of the labor force.¹¹ For women who started out in the public sector, Figure 23a shows a higher persistence of public sector employment over time for the 2011-2014 school exit cohort, with 100 percent of women staying in public employment after 4 years (compared to 93 percent in the 2006-2010 cohort). Higher persistence rates for formal private employment were also observed for the recent cohort, although the small sample size of women employed in this sector suggests that one should interpret these trends with caution. The persistency rate for women in private informal employment was lower than in formal employment (68 percent among the recent school cohort) and remained stable across school exit cohorts.

¹¹ Persistency rates for women who were initially non-wage workers are not displayed due to too few observations (less than 25).

Figure 23a: Female persistency rates (percentage) over 2 and 4 years from school exit by initial labor market status and year of exit from school

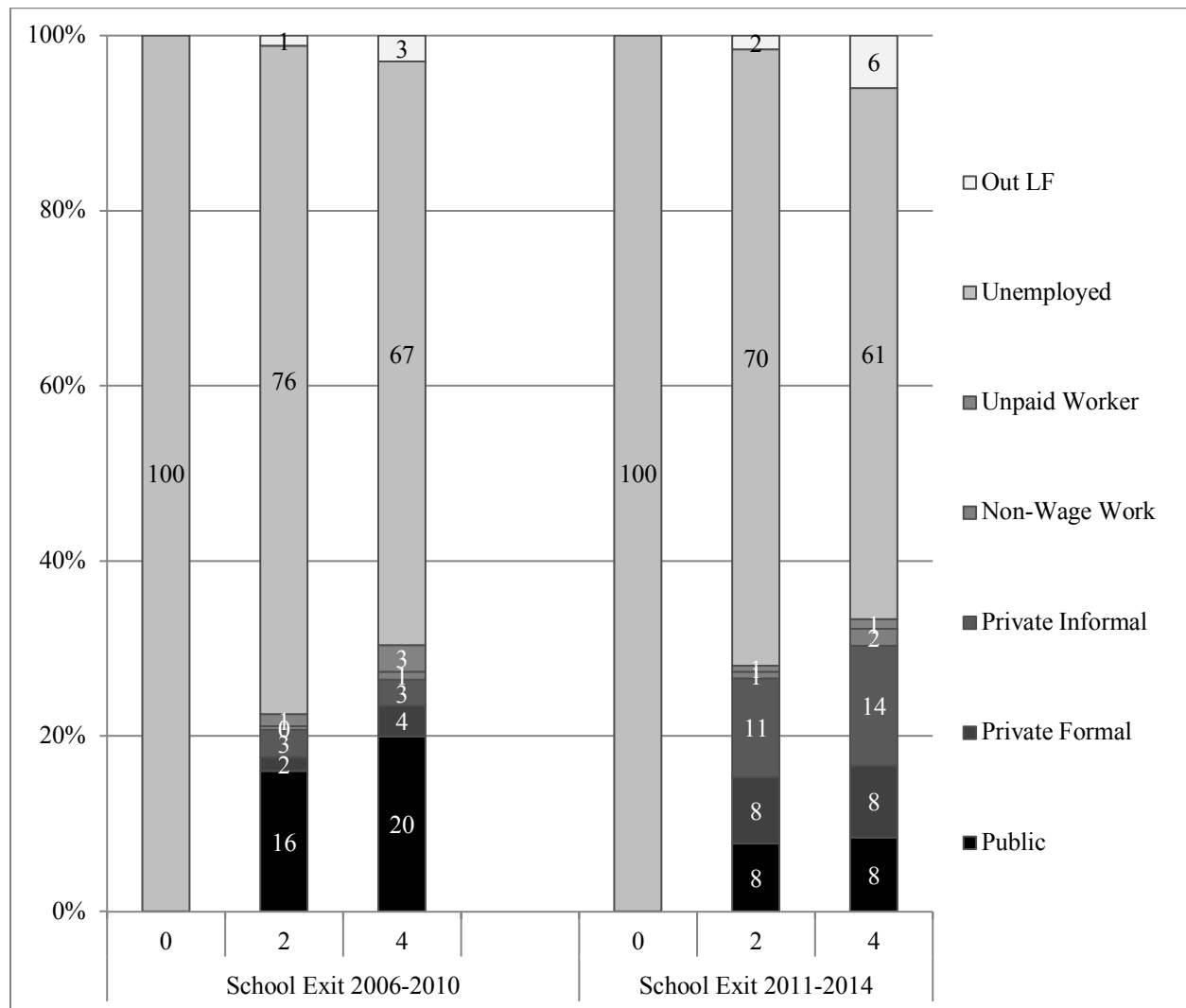


Source: Authors' calculations based on ELMPS 2018

Note: standard labor market employment definition

Figure 23b presents the transition patterns from unemployment for women, showing more transitions to the informal private sector in the 2011-2014 cohort relative to those who completed their education between 2006 and 2010. While only 3 percent of initially unemployed women from the older cohort ended up in informal private employment 4 years later, the corresponding rate for the younger cohort was 14 percent, reflecting a huge growth in informality and a fall in formal public and private employment among recent female graduates.

Figure 23b: Female labor market statuses (percentages) over 2 and 4 years from exit from school by year of exit from school, first status unemployment



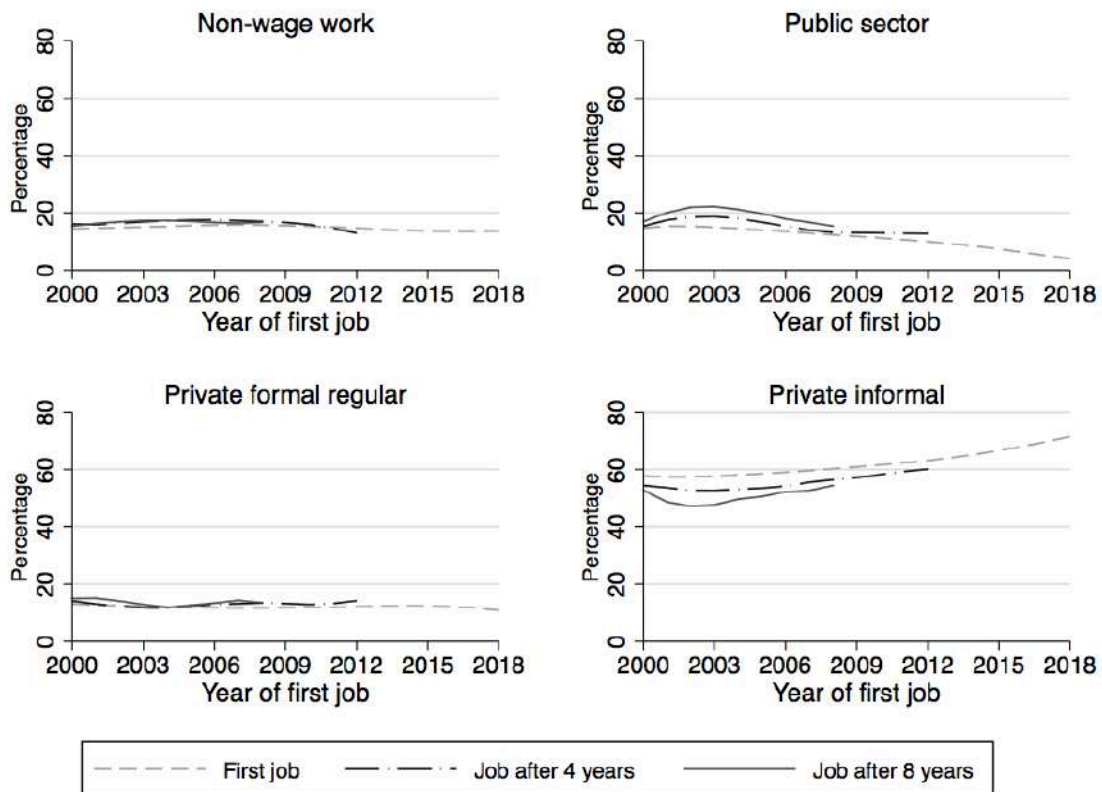
Source: Authors' calculations based on ELMPS 2018

Note: standard labor market employment definition

Alternatively, Figure 24 shows the status of first jobs as well as job status four and eight years later by year of entry into the first job among employed men who started their jobs between 2000 and 2010. In the top left panel, the share of non-wage work either as a first status or as a job status 4 and 8 years from job entry is more or less stable. In the top right panel, a decreasing trend appears in public sector employment especially among men who began their careers in more recent years. Trends in private formal jobs are depicted in the bottom left panel, revealing very little variation in the share of first jobs within the formal private sector by year of job start. The three curves depicting initial job status and job status 4 and 8 years into the future almost coincide, revealing little variation in the incidence of private formal employment at different points of young people's careers. Finally, the bottom right panel shows the trends for informal

private work. First, compared to other forms of employment, informal private jobs accounted for the majority of men's employment, exceeding 60 percent for new job-holders in recent years. Even among those who have already been working, informality has been on the rise. Interestingly, the curves depicting trends in this job status closely mirror those for public sector employment in the top right panel but move in the opposite direction, suggesting substitutability between the two sectors.

Figure 24: Employed men's first job and job status 4 and 8 years later (percentage) by start year of first job



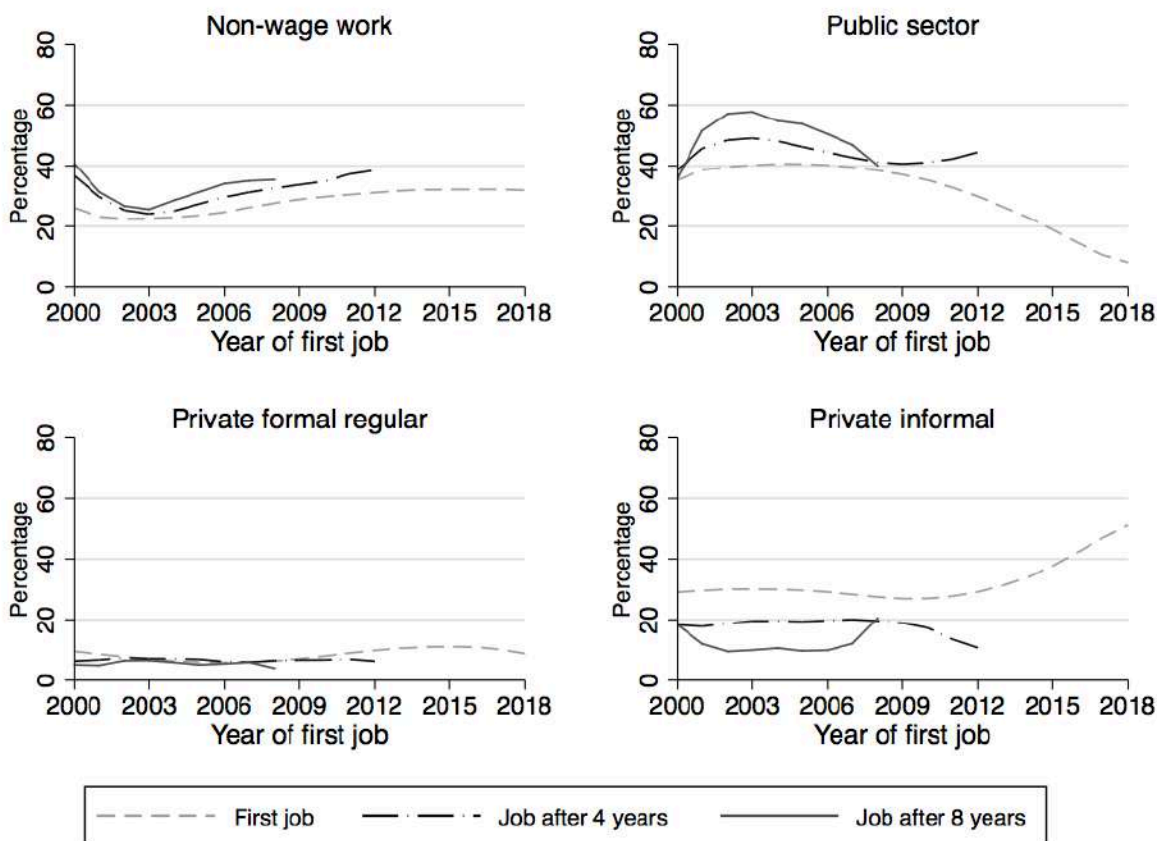
Source: Authors' calculations based on ELMPS 2018.

Note: market employment definition

Relative to the changes in job status over time for men, the trends observed for women were more volatile as evident in Figure 25. The top left panel shows an increase in non-wage work for women who started their jobs after 2003, which was true both for the newly employed (first status) and those already working (4 and 8 years later). This rise in non-wage work among women could potentially be a response to the decline in public sector employment which started around the same time (top right panel). Compared to men, it is worth noting that a larger percent of women were hired in the public sector. This sector is traditionally preferred by women due its stability and benefits, but is becoming less stable as reflected by the sharply declining share of public sector jobs. Moving to the bottom left panel, formal private employment shows a

stagnating share for different cohorts of job entry as is the case for men. Lastly, the bottom right panel plots the share of informal private employment among working women. Again, the increasing trend in informality closely matches the decreasing trend in public sector employment. The large decline in the share of public sector jobs documented in the top right panel is coupled with a substantial increase in informal private employment for the same cohorts of job entrants. This could suggest that the informal sector acts as the alternative form of employment for women who would have liked to work in the public sector but were unable to land a public sector job due to the decline in public sector hiring in recent years. Assaad, Krafft & Salemi (2019) argue that the shrinking of the public sector and the rigidity of the private formal sector have resulted in a limited supply of good jobs and that these jobs are increasingly allocated by socioeconomic status, an issue we discuss further in Section 5.

Figure 25: Employed women’s first job and job status 4 and 8 years later by start year of first job, market labor force definition



Source: Authors’ calculations based on ELMPS 2018.

Note: market employment definition

4. Jobs and Youth Economic Vulnerability

4.1. Informality and irregular employment

This section presents the trends in precarious employment among youth. In this paper we define precarious employment as a proxy of vulnerable employment situations such as the absence of a work contract or social security or the prevalence of work irregularity and unpaid work. We consider four forms of precarious work: private regular informal work which refers to a permanent or a temporary wage work without a written contract or social security coverage; private irregular wage work which concerns casual or seasonal work,¹² self-employment¹³ and unpaid family work.

Figures 26a and 26b show that precarious employment has become the norm for Egyptian youth. In 2018 it represented more than two-thirds and three-fourths of total young male jobs in urban and rural locations respectively, the majority of young female jobs in rural locations and 43 percent of young women's employment in urban areas.

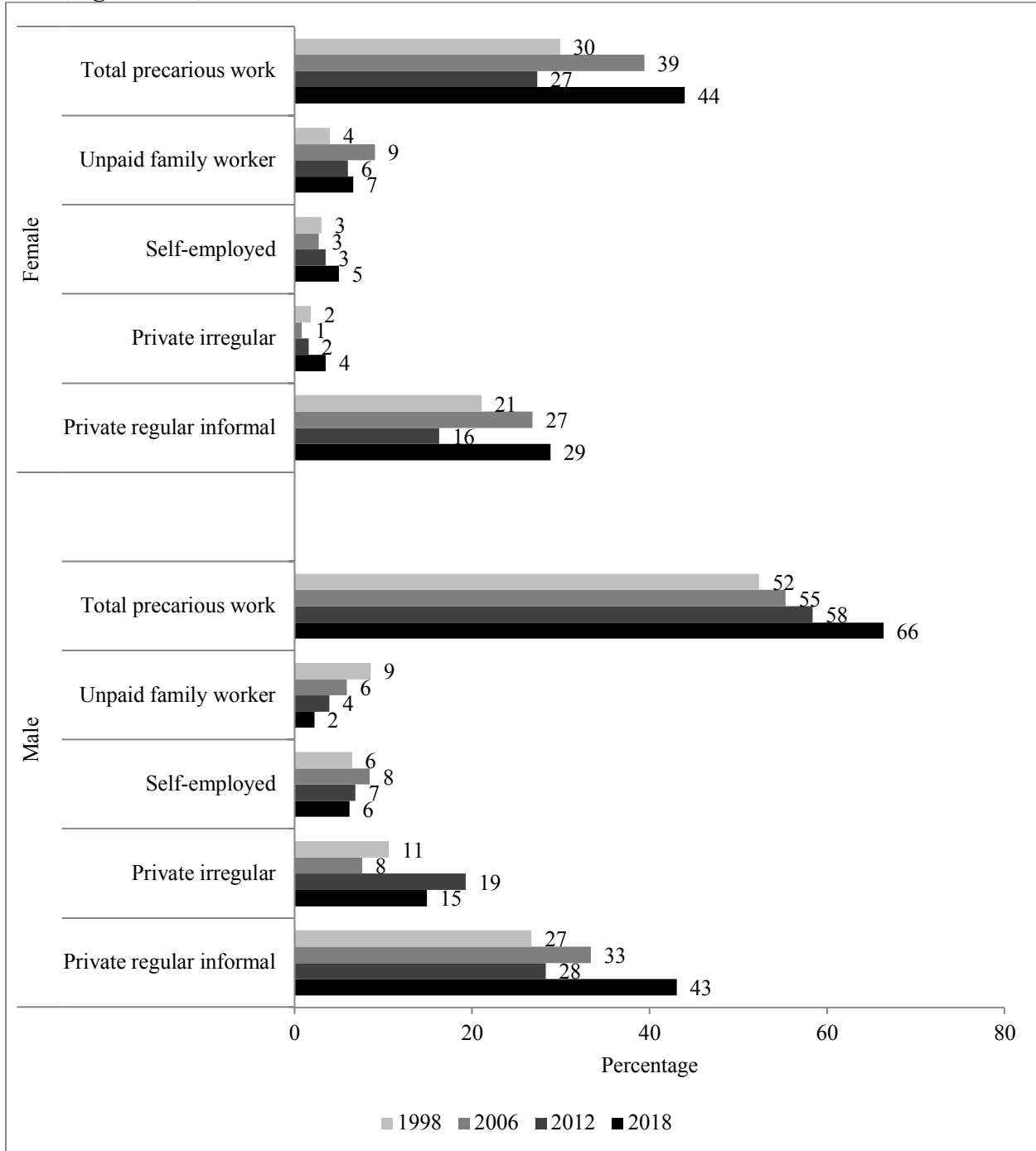
Private regular informal employment was the most common form of precarious employment for men in both urban and rural locations and for young women in urban areas. It reached 43 percent of total young male employment in urban areas and 35 percent in rural locations, 29 percent of total young female employment in urban areas and 16 percent in rural areas. Because of its agricultural nature and of social norms, unpaid family work was particularly present in rural areas and among young employed women. Irregular wage work was also important among young employed men, reaching 15 percent of total male employment in urban areas and 28 percent in rural areas. In 2018, self-employment was relatively marginal, accounting for 6-8 percent of youth male work in urban and rural locations and for 5 percent of young female employment in urban areas, as opposed to 14 percent of young female work in rural areas.

Precarious employment as a percentage of youth employment has greatly increased over the last two decades for both men and women and in both urban and rural areas. It has risen more sharply for women and in urban areas. The shares of all forms of precarious work in youth employment have increased except for male unpaid family work, male self-employment in urban areas and female irregular work in rural areas. The percentage of male irregular work, which has sharply risen between 2006 and 2012, has declined since, although it still remained at higher levels than in 1998.

¹² In more than 97% of the cases, irregular wage work was informal (without a written contract or social security coverage)

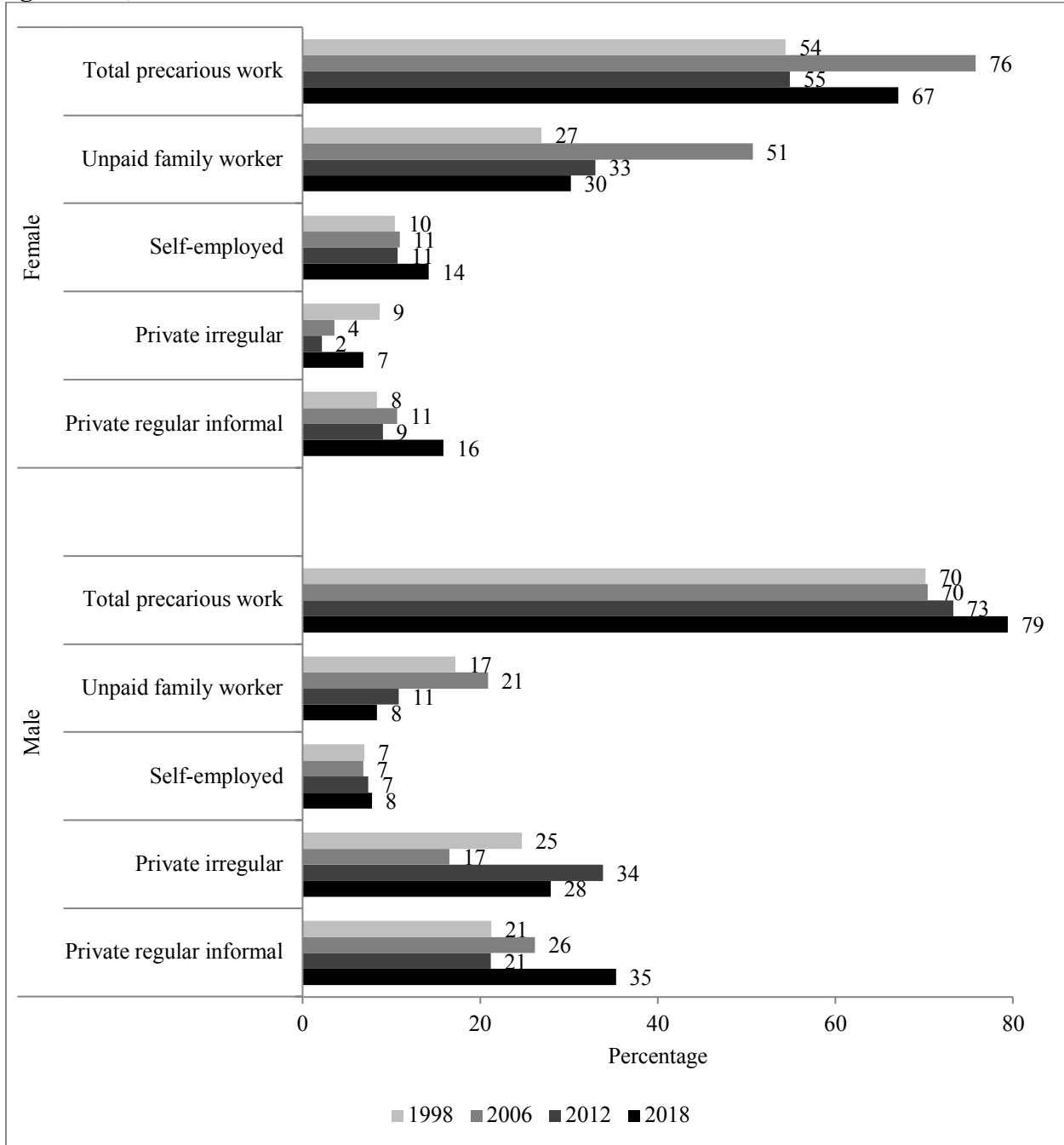
¹³ Although self-employment is a heterogeneous category, in most cases it represents a type of precarious employment.

Figure 26a: Percentage of precarious employment in total employment by gender, urban areas, ages 15-34, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: Market employment definition.

Figure 26b: Percentage of precarious employment in total employment, rural areas, ages 15-34, 1998-2018



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

Note: Market employment definition

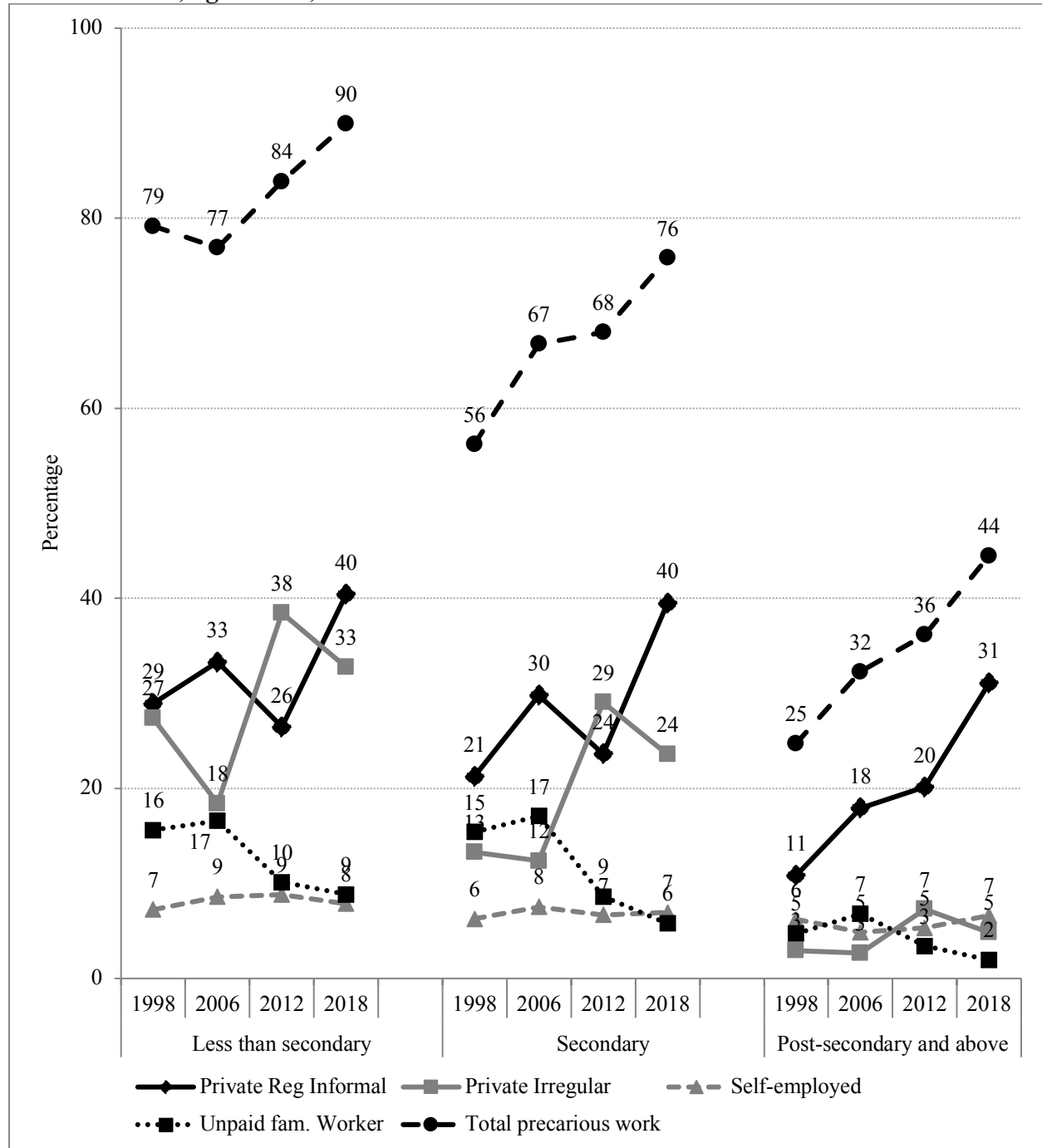
Figure 27a presents the percentage of precarious employment in total male youth employment by education level between 1998 and 2018. Higher levels of education were associated with lower shares of precarious employment. However, in 2018, although precarious employment was less important for the most highly educated young men relative to lower education groups,

it represented almost the majority of their employment. In 2018 the percentage of precarious work was 90 percent among the least educated, 76 percent among secondary graduates and 44 percent among university graduates. Informal employment was the most represented, regardless of the education level. It accounted for 40 percent of young male jobs with an education level of less than or equal to secondary and nearly one-third of male precarious jobs among university graduates.

The percentage and trend of different types of precarious work varied by education level; and in particular, according to whether young male workers had a degree lower or higher than secondary. In 2018, more than two-thirds of the least educated working young men (below or equal to secondary) were either in informal employment (40 percent) or in irregular employment (33 percent). Self-employment and unpaid jobs accounted each for less than 10 percent of jobs for these young men. In 2018, among university graduates the percentage of precarious employment constituted mainly informal jobs (31 percent); while the other forms of precarious employment were marginal.

Over the past two decades the share of precarious employment in total youth male employment has risen for all education levels. But it has progressed much faster among university graduates. Indeed, it increased by 14 percent for young men with less than secondary education, by 35 percent among secondary graduates and by 80 percent among university graduates. Between 1998 and 2018, all types of precarious employment increased with the exception of unpaid family work. The percentage of unpaid family work fell sharply for all young men regardless of their education level. The other three forms of precarious employment (informal, irregular work and self-employment) have increased substantially, and at a much higher rate for the most educated young men. Notably, between 1998 and 2018, the percentage of informal employment has tripled among university graduates.

Figure 27a: Percentage of male precarious employment in total employment by education level, ages 15-34, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: market employment definition

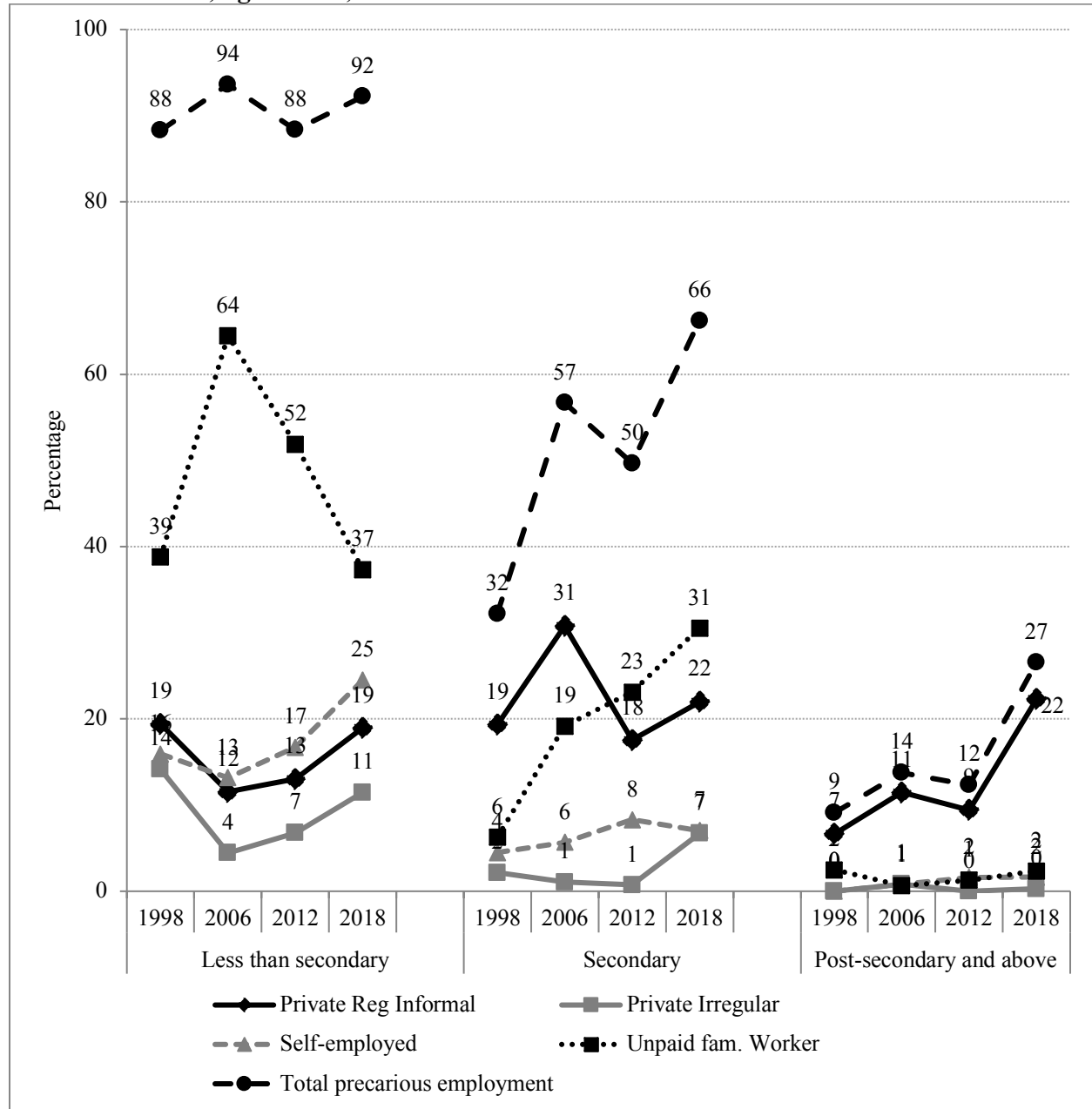
Figure 27b reports the trend in the percentage of female precarious employment by educational attainment from 1998 to 2018. This graph shows that in 2018 the share of precarious employment in total employment of young women correlated negatively with education level, as was the case for men. Precarious employment accounted for 92 percent of female

employment among below-secondary graduates, 66 percent among secondary graduates and 27 percent among university graduates. Not only was precarious employment less prevalent among young employed women with post-secondary education, but its composition also differed compared to their less educated counterparts. The less educated women were, the more they were confined to the most precarious forms of employment (unpaid family work and irregular work). In 2018, young employed women with less than secondary education were mainly unpaid family workers (37 percent) or self-employed (25 percent). Unpaid family work represented almost one-third of young women's employment with secondary education. Although irregular employment was quite minor across education levels it was more prevalent among young working women with less than secondary education (11 percent) or secondary education (7 percent) compared to employed young women with post-secondary education. In 2018, the precarious employment of young women with a tertiary degree consisted almost exclusively of informal employment.

The percentage of precarious employment progressed at different growth rates between 1998 and 2018 according to the level of education. In particular, more educated women faced a more rapid increase in precarious employment as a percentage of total employment over time.

While the percentage of precarious employment increased by 5 percent among the least educated young female workers, it doubled among young working women with secondary education and almost tripled among the most educated young female workers. Most of this growth occurred between 2012 and 2018. While the share of irregular employment rose sharply among young employed women with secondary education or less, the share of informal employment increased rapidly among women with tertiary education.

Figure 27b: Percentage of female precarious employment in total employment by educational level, ages 15-34, 1998-2018



Source: Authors' calculations based on ELMPS 1998, ELMPS 2006, ELMPS 2012 and ELMPS 2018
 Note: market employment definition

5. Risk factors: Family background and socioeconomic status

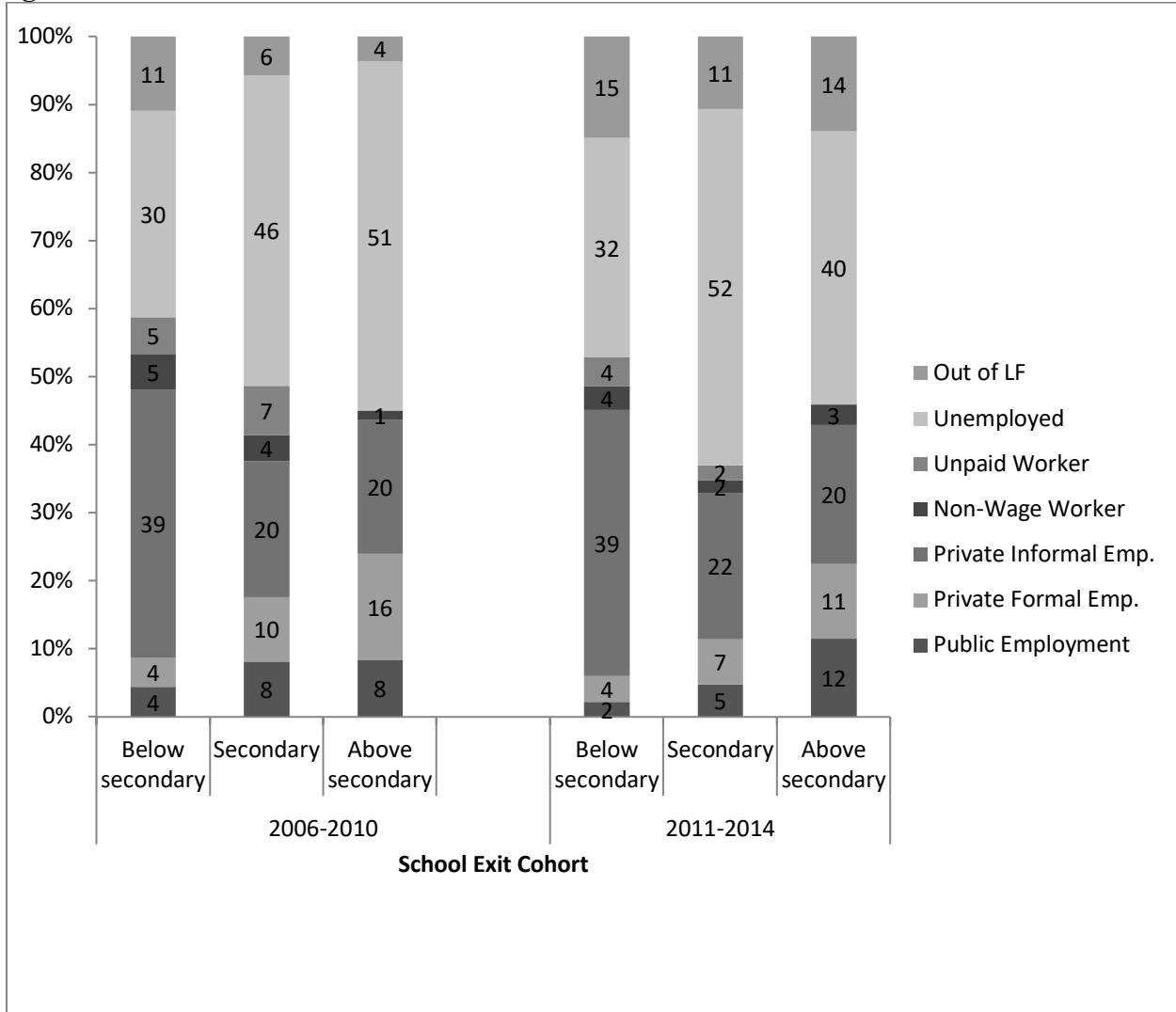
Previous research on Egyptian youth has shown that key transitions to adulthood including education, employment and marriage are highly dependent on social class and family background or privilege (Assaad & Krafft, 2014; Gebel & Heyne, 2014). To investigate the potential channels behind weak labor market opportunities and high economic vulnerability, we use two proxies for the social and economic background of the natal household in which the

individual was raised: (a) mother's educational attainment (defined in three categories: below secondary, secondary and above secondary) and (b) father's occupation (blue collar vs. white collar) when the individual was 15 years old. We then explore the correlation between these indicators and the person's own initial labor market outcomes. These variables are preferred to wealth status since they are predetermined and are therefore less likely to be endogenous to employment and earnings during the individual's working life.

5.1. First labor market status by mother's education

Figure 28a reveals a positive correlation between mother's education and male public sector employment as a first status, with the highest public sector employment rates observed among men with the most educated mothers, especially among the more recent cohort. On the contrary, there appears to be a negative relationship between informal private employment and mother's education, with this status being the dominant labor market state for men with the least educated mothers. Remarkably, the share of informal private employment is almost halved for those with mothers in the secondary education category. Regarding the differences by cohort, higher mother's education was associated with a steadily declining inactivity rate and rising unemployment rates in the older cohort, but the trend became less uniform in the younger cohort.

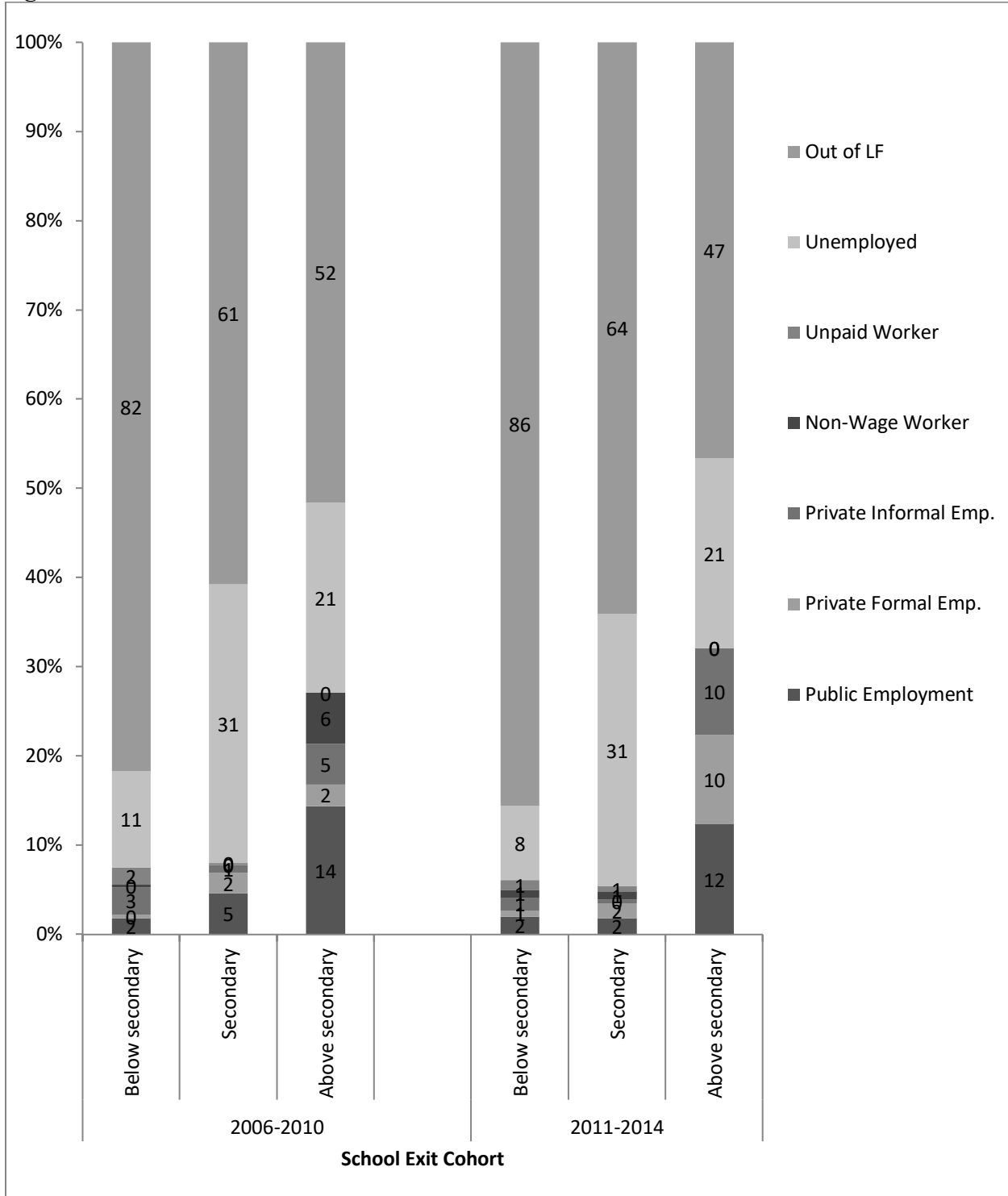
Figure 28a: Male first labor market status by mother's education (percentage), ages 15-34



Source: Authors' calculations based on ELMPS 2018
 Note: standard market labor force definition

Figure 28b shows the first labor market status for women by level of mother's education. Relative to men, women with first public sector jobs were more common among those with the most educated mothers, particularly in the older cohort. Moreover, higher mother's education is associated with lower initial inactivity rates. More than 80 percent of women with the least educated mothers were out of the labor force in both school exit cohorts. This share drops to around 60 percent in the intermediate mother's education group and about half of women with the most educated mothers. The comparison of both cohorts indicates a substantial increase in private (informal and formal) employment along with a decrease in inactivity and public employment among women whose mothers had a higher education degree.

Figure 28b: Female first labor market status by mother's education (Percentage), Ages 15-34



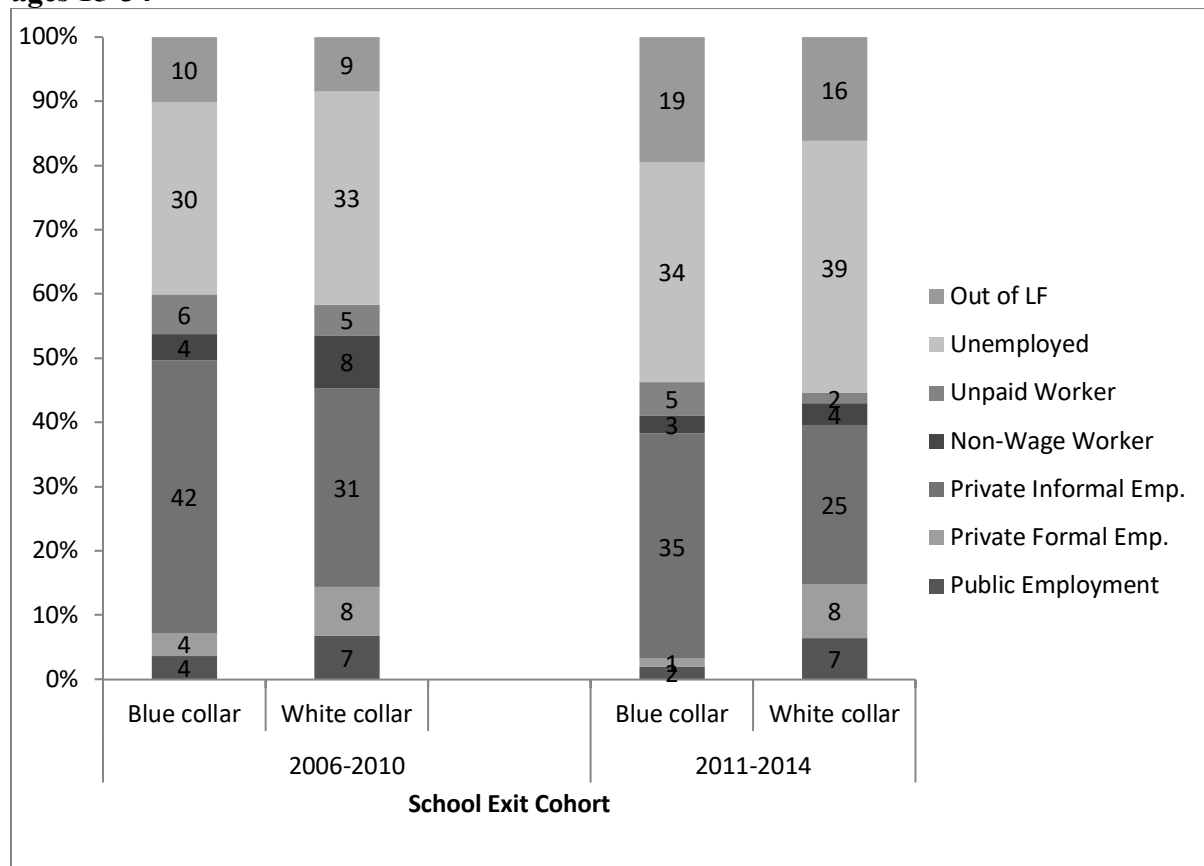
Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

5.2. First labor market status by father's occupation

Moving to first labor market status by father's occupation,¹⁴ Figure 29a shows that having a father with a white-collar job when the individual was 15 almost doubled the share of first public sector employment among men in the older school exit cohort and more than tripled it in the younger cohort. Similarly, informal employment was lower when having a white-collar father. Conversely, unemployment was slightly higher among men with fathers in white-collar occupations relative to blue-collar jobs, corroborating the argument that unemployment tends to be more common among the better-off in Egypt. Also, labor force participation was somewhat higher for men with white-collar fathers (reflected by the lower inactivity rates), suggesting a role for socioeconomic background in early labor market entry.

Figure 29a: Male First labor market status by father's occupation (percentage), ages 15-34



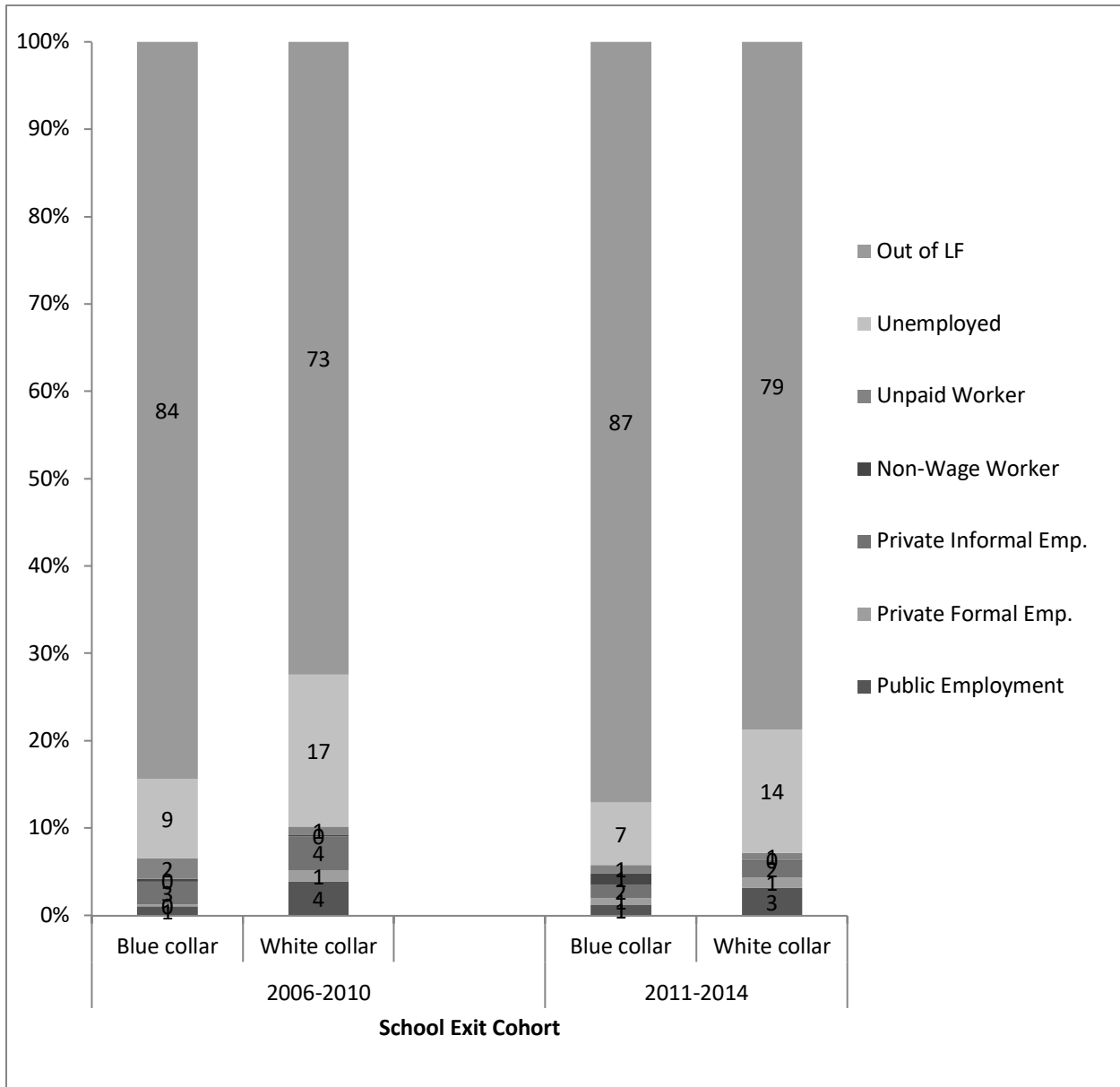
Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

¹⁴ White-collar occupations include managers, professionals, technicians & associate professionals, clerical support workers and service & sales workers, while blue-collar occupations include agricultural, forestry & fishery workers, crafts & related trades workers, plant & machine operators & assemblers and elementary occupations.

Figure 29b also documents a decrease in inactivity and an increase in public sector employment or unemployment as first statuses for women with fathers in white-collar jobs compared to blue-collar occupations. Relative to women with blue-collar fathers, the unemployment shares are almost doubled for women with white-collar fathers, again confirming a higher incidence of unemployment among those in higher socioeconomic brackets.

Figure 29b: Female First labor market status by father's occupation (Percentage), Ages 15-34



Source: Authors' calculations based on ELMPS 2018

Note: standard market labor force definition

6. Discussion and Conclusion

Despite its decreasing share in the total population, the Egyptian youth population continued to represent a substantial demographic weight that constitutes a pressure on the labor market. This paper highlights the difficulties young people faced when entering the labor market.

First, the decline in labor force participation continued for men and women, with a sharper drop between 2012 and 2018 for the 20-24 year-olds and among the most educated, especially women.

Second, the male unemployment rate has increased (especially among the less educated) and although the overall female unemployment rate has declined, it has increased for female university graduates. In addition, the duration of current unemployment has increased for women at all levels of education.

Third, the analysis of first labor market status clearly shows an increase in employment, and a decrease in unemployment and inactivity. However, the share of first informal jobs went up for both men and women. This rise in unprotected employment is particularly pronounced for the most educated women. And although the time to obtaining a first job has shrunk, it has led more and more to unprotected jobs.

Fourth, precarious employment has risen sharply, particularly in the form of informal employment (without social security coverage or a written contract) especially among the most educated.

Fifth, the section on labor market mobility over 2 and 4 years has shown that the Egyptian labor market is very rigid and has become increasingly so. All forms of employment were more persistent. Also, although unemployment has been less persistent, unemployment outflows are increasingly towards informal employment and less and less towards public employment or formal private employment, which were the main alternative exit destinations from unemployment.

Finally, in addition to the individual's education level, socioeconomic background shows a clearly positive association with better labor market outcomes. This could work via the individual's own human capital since more affluent parents tend to invest more in the education of their children giving them better opportunities later in life, but additional mechanisms could also be at work such as the direct influence of social status and networking. Eventually, the higher the family's socioeconomic background, the better the initial placement in the labor market, with fewer informal jobs and more public or formal private employment. In terms of policy relevance, this suggests the need for early interventions to bridge the gap between impoverished and better-off children early on, as there is evidence that these differences in initial conditions translate into magnified gaps in labor markets outcomes, which persist well into the future.

References

- Amer, M. (2015). "Patterns of Labor Market Insertion in Egypt: 1998-2012" in Ragui Assaad and Caroline Krafft (eds.) "The Egyptian Labor Market in an Era of Revolution". Oxford University Press.
- Assaad, R. and C. Krafft. (2014). "Why the Unemployment Rate is a Misleading Indicator of Labor Market Health in Egypt" Economic Research Forum Policy Perspective.
- Assaad, R. and C. Krafft. (2014). "Youth Transitions in Egypt: School, Work, and Family Formation in an Era of Changing Opportunities" Silatech Working Paper 14-1.
- Assaad, R. and C. Krafft, (2013). "The Evolution of Labor Supply and Unemployment in the Egyptian Economy: 1988-2012" Economic Research Forum, Working Paper No. 806.
- Assaad, R. and C. Krafft and C. Salemi (2019). "Socioeconomic Status and the Changing Nature of School-to-Work Transitions in Egypt, Jordan and Tunisia" Economic Research Forum, Working Paper No. 1287.
- Gebel, M., and S. Heyne (2014). "Transitions to Adulthood in the Middle East and North Africa: Young Women's Rising?" New York: Palgrave Macmillan.