ECONSTOR
Make Your Publications Visible.

A Service of

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Assaad, Ragui; Krafft, Caroline

Working Paper

Excluded Generation: The Growing Challenges of Labor Market Insertion for Egyptian Youth

GLO Discussion Paper, No. 110

Provided in Cooperation with:
Global Labor Organization (GLO)

Suggested Citation: Assaad, Ragui; Krafft, Caroline (2017) : Excluded Generation: The Growing Challenges of Labor Market Insertion for Egyptian Youth, GLO Discussion Paper, No. 110, Global Labor Organization (GLO), Maastricht

This Version is available at:
https://hdl.handle.net/10419/167706

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

Excluded Generation: The Growing Challenges of Labor Market Insertion for Egyptian Youth

By Ragui Assaad[1]
University of Minnesota and Economic Research Forum

and

Caroline Krafft[2]
St. Catherine University

Abstract

Youth in Egypt hold rising aspirations for their adult lives, yet face an increasingly uncertain and protracted transition from school to work and thus into adulthood. This paper investigates how labor market insertion has been evolving over time in Egypt and how the nature of youth transitions relates to gender and social class. We demonstrate that youth today face poorer chances of transitioning into a good job than previous generations, despite large increases in educational attainment. Social class is playing an increasing role in determining the success of the transition from school to work in Egypt. Whether youth successfully make transitions to formal jobs, embark on such transitions and fail, or pursue a traditional route to adulthood depends on a complex and changing interaction between their own educational attainment and the resources of their families. In light of these findings, we discuss the policies that can help facilitate successful transitions for struggling youth in Egypt.

JEL Keywords: I24, J24, J45, J46, J62, O15

Keywords: Transition from school to work; Youth, Adulthood; Life course; Egypt

[1] Humphrey School of Public Affairs, University of Minnesota, 301 19th Ave. S, Minneapolis, MN 55455, assaad@umn.edu
[2] Corresponding Author, Research conducted at: Department of Applied Economics, University of Minnesota, 1994 Buford Ave., Saint Paul, MN, 55108. Present address: Department of Economics, St. Catherine University, 2004 Randolph Ave., Saint Paul, MN, 55105

Excluded Generation: The Growing Challenges of Labor Market Insertion for Egyptian Youth

1 Introduction

In line with their rising educational attainment, Egyptian youth hold rising aspirations for their adult lives. Yet they are increasingly struggling to transition to adult roles and to fulfill these aspirations. Moving from adolescence to adulthood rests on three key life course transitions: education, employment, and family formation. High unemployment rates and rising levels of informality in employment, despite increasing educational attainment among Egyptian youth, are symptoms of the difficulties youth face in negotiating these transitions, particularly the transition from school to work. The uncertain and increasingly protracted nature of the transition to adulthood in Egypt and in other countries of the Arab world has been dubbed in the literature as "waithood," short for wait adulthood (Singerman, 2007; Salehi-Isfahani & Dhillon, 2008; Dhillon & Yousef, 2009).

The frustrations and anxiety associated with the transition to adult roles, especially the perception of a lack of social justice in the opportunities available to youth as they negotiate the transition, have undoubtedly been a potent force propelling the political events that have widely come to be known as the "Arab Spring." The increasing obstacles educated youth face in achieving their ambitions manifested themselves in the prominent role middle class youth have played in protest movements (Joffé, 2011; Kandil, 2012; Kuhn, 2012; Pace & Cavatorta, 2012; Malik & Awadallah, 2013; Moghadam, 2013; Richards, Waterbury, Cammett, & Diwan, 2014). This paper uses the case of Egypt to illustrate the nature of the waithood phenomenon and how it relates to social class, gender and educational attainment. Using a life course perspective, we

offer a typology of school to work transitions based on the process of transition itself and how it intersects with gender, education and family background.

The concept of the life course refers to the interlinked sequence of age-specific social roles that individuals experience as phases in life. The life course paradigm allows for the study of multiple key transitions and trajectories and their intersections with institutions and other contexts. This perspective allows us to understand how young people's lives unfold over time, in contrast to most research that focuses on experiences and statuses at a single point in time. A life course perspective also encourages understanding the interplay between multiple domains, for instance school and work, and how they intersect, rather than treating them as separate (Han & Moen, 1999; Mortimer & Shanahan, 2003). Throughout this paper, we draw on a life course perspective and related methods to understand the transitions and trajectories youth experience as they move into adult roles.

The inter-linkages between transitions, especially schooling, work, and family formation, are vitally important for understanding the trajectories of Egyptian youth as they move into adult roles. Previous research on Egypt and Jordan has demonstrated how employment transitions for youth are shaped by educational attainment and gender (Amer, 2009, 2015; Assaad & El-Hamidi, 2009; Angel-Urdinola & Semlali, 2010; Assaad, Hendy, & Yassine, 2014; Gebel & Heyne, 2014, 2016; Heyne & Gebel, 2016). Education and employment outcomes also intersect with marriage trajectories in ways that are fundamentally distinct along gender lines (Amin & Al-Bassusi, 2004; Singerman, 2007; Assaad, Binzel, & Gadallah, 2010; Gebel & Heyne, 2014, 2016; Salem, 2014, 2015; Assaad & Krafft, 2015a, 2015b). Most research focuses on one of these transitions at a time, but some previous works have examined multiple transitions as part of a single trajectory (Amin & Al-Bassusi, 2004; Dhillon, Dyer, & Yousef, 2009; Assaad, Binzel, &

Gadallah, 2010; Gebel & Heyne, 2014). An important element of adopting a life course perspective is understanding how the young person's family background, socio-economic class or privilege, and gender intersect with his or her trajectory. While previous research has noted the important role that education plays in youth inclusion or exclusion (Assaad & Barsoum, 2007; Heyne & Gebel, 2016), we examine the arguably growing role of socio-economic background in youth exclusion. Investigating the patterns and inter-linkages of different transitions and their intersection with social background is vital for understanding the challenges and frustrations youth face and designing policies and programs to promote more successful youth transitions.

This paper focuses on the case of youth transitions in Egypt, but draws comparatively on findings and literature from other countries. We examine the interplay between education and social class in shaping the transition from school to work and how it has changed across generations. Whether youth successfully make modern transitions, embark on such transitions and fail, or pursue a traditional route to adulthood depends on a complex interaction between their own educational attainment and the resources their families bring to bear to assist them with their transition. We provide a taxonomy of youth based on own education and family background to demonstrate how privilege or exclusion shape transitions across the life course. With increasing levels of education, youth in Egypt and throughout the Arab world have increasing expectations for modern living—modern jobs, and modern marriages. These expectations remain unmet for many youth, creating a source of frustration and anxiety. Unmet expectations also intersect with a sense of social injustice, as the success of youth in meeting these expectations is increasingly shaped by their socio-economic background. This dynamic has created an insider/outsider divide for youth in Egypt and elsewhere in the Arab world,

contributing to the sense of social injustice articulated by middle-class youth in the Arab uprisings of 2011.

2 Data and Methods

The analysis that follows relies principally on data from the 2012 wave of Egypt Labor Market Panel Survey (ELMPS 2012), which was implemented by the Economic Research Forum in cooperation with the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS) (OAMDI, 2016). The unique features of this data set that make this analysis possible are the fact that it includes detailed retrospective information describing the first job the individual obtained upon entry into the labor market as well as information about the individual's parents irrespective of whether or not they are co-resident in the household. These two features allow us to study the transition into first employment and the influence of social background on this transition for individuals of various age groups and educational backgrounds in 2012. The sample of the 2012 wave of the survey consists of 12,060 households. We limit ourselves to individuals 25 to 54 so as to ensure that most have had a chance to transition into first employment if they will actually ever do so and that recall problems are not so severe. This results in a working sample of 9,052 males and 8,937 females. Of those individuals, 214 males and 6,057 females had not yet worked by the time they were observed in the survey. We also draw occasionally on previous rounds of the same survey in 2006 and 1998 to observe the characteristics of individuals in their natal households as a way to validate their social class position.[3]

[3] All of the ELMPSs are nationally representative once sample weights are applied. We use weights for all our descriptive statistics. See Assaad & Krafft (2013) for more information on the ELMPS.

First, we classify individuals along a taxonomy of education and social class, which we describe in detail in the next section, and validate this taxonomy against other measures of privilege. Second, we define the type of first long-duration employment (six months or more), if any, that the individual obtains along a scale from most traditional/informal to most modern/formal. We create this taxonomy of employment types based on a combination of employment status (wage work, self-employment, unpaid family work), regularity of employment, formality of the employment relationship, formality of the firm the individual is employed in, and the sector of ownership. The type of employment that is at the most traditional end of our taxonomy is work in a family business as either an employer (which is very rare), a self-employed worker or an unpaid family worker. This is followed by irregular wage employment, which is defined as wage employment that is either intermittent or seasonal and offers limited attachment to a particular employer. Such employment is almost always informal. Regular wage employment is further subdivided into informal employment in informal private firms, informal employment in formal private firms, formal employment in private firms, and public sector employment, which includes employment in state-owned enterprises as well as the civil service. We classify public sector work as superior to private sector formal work, because it is the kind of work that is typically preferred by youth and their families (Barsoum, 2015). Formal wage work in the private sector is a viable alternative, as it still offers crucial benefits (that come along with a legal contract or social insurance), but averages longer hours of work (Assaad & Krafft, 2015c). As in other countries (Kogan, 2011), we show that such formal work is often hard to obtain without the requisite family connections.

The final category in the first employment taxonomy is "no work," which captures individuals who have not yet worked by the time of the survey. To ascertain changes in the

nature of the transition to first employment over time, we subdivide our sample into three cohorts by age, a young cohort, made up of those between the ages of 25 and 34 in 2012, a middle cohort, made up of those 35-44, and an old cohort, made up of those 45-54.[4]

Once we have established our educational/social class taxonomy and the type of employment outcomes we can observe, we begin with a descriptive analysis that examines the relationship between the two, separately for males and females, and comparatively for the young and the old cohorts. We then move to a multivariate analysis that relies on multinomial logit models to estimate the probability of transitions into various types of employment as a function of the educational/social class taxonomy, the age cohorts, and their interactions. This analysis allows us to predict how transition probabilities into various kinds of first employment are affected by the education/social class taxonomy and how this relationship changed across the three age cohorts. These models also allow us to conduct statistical tests of the effects of education/social class on the type of first employment obtained by the individual (if any) and of differences in these effects across cohorts.

3 A Taxonomy of Youth Based on Educational Attainment and Social Class

To understand the potential paths of youth transitions, we define a taxonomy of youth privilege based on own educational attainment and family background. The school and work phases of the life course mark important milestones in the transition to adulthood. They also tend to occur in sequence; the timing and success of education impacts the timing and success of the transition to work, and, in turn, these two transitions affect the timing and success of the transition to marriage and family formation.

[4] The analysis excludes individuals who are currently still in school, a very small percentage of those 25 and older.

Following previous work on youth transitions in the Arab World and cognizant of the risk of over-simplifying a complex phenomenon, we define two archetypal life courses for youth, one that we refer to as "traditional" and the other as "modern" (Dhillon, Dyer, & Yousef, 2009). The traditional life course involves early exit from school and an immediate and early transition to work with no unemployment nor extended job search. Work is typically in a family enterprise or farm, or as an irregular (or casual) wage worker. The modern life course involves more schooling, at least up to the upper secondary level, and a search for formal employment, which often involves a period of extended unemployment. Formal jobs play a particularly important role in the modern transition, as these jobs, which have typically been in the public sector, offer the benefits, job security and status that youth aspire to and are thus strongly preferred by youth (Barsoum, 2015). Formal jobs are the signal of a successful modern work transition that enables youth, young men in particular, to signal that they are economically ready for marriage (Assaad, Binzel, & Gadallah, 2010; Assaad & Krafft, 2015a; Krafft & Assaad, 2017).

Attaining upper secondary or higher education, the first step of the modern transition, has become increasingly common in Egypt. At the same time, formal jobs have become increasingly scarce as public sector hiring continues to decline without a commensurate increase in private formal employment (Assaad & Krafft, 2015c). This has created a pinch point or bifurcation among those attempting to make modern transitions. Youth with secondary or higher education have expectations of joining the middle class by accessing formal employment, but increasingly find themselves excluded from such employment, resulting in a protracted and often disappointing trajectory. We thus distinguish between two trajectories among those attempting a modern transition. Both start with a minimum level of educational attainment, but then diverge in their employment trajectories depending on the resources and privileges families bring to bear to

assist the young people in their transition. The privileged or successful modern transition may involve a period of unemployment, but this is typically followed by formal employment and thus a more favorable transition into adult roles. The struggling or failed modern transition may involve a period of unemployment, perhaps quite a lengthy one, but this is typically followed by either informal work (for men) or by withdrawal from the labor force (for women).

We distinguish between four different 'types' of youth based primarily on their own educational attainment, but also on socio-economic background, both of which shape the opportunities and expectations of youth. We consider both young people's own education and that of their fathers, using father's education as a proxy for the socio-economic status of youth, the expectations of their families, and the social connections that can be deployed to support their transitions. Youth are categorized as attaining: (i) less than a secondary education (ii) a secondary education (iii) higher education, but having a father with less than secondary education or (iv) higher education and having a father with a secondary education or higher. We hypothesize that those with less than secondary education are likely to expect and experience traditional transitions, but that those with secondary and higher education are much more likely to expect and attempt a modern transition, with varying degrees of success.

Figure 1 shows the distribution of individuals along this four-way taxonomy by sex and across the young and old cohorts in our sample. While 53 percent of males had less than secondary education the 45-54 year-olds, less than a third of the 25-34 year-olds had not attained a secondary degree. Secondary education has seen the greatest expansion across the two cohorts, with its share increasing from 24% to 43% of males. The share of males with higher education has shifted only slightly, from 22% to 25%, but, as expected, a greater share of younger males with higher education also have fathers with secondary education or higher. Females exhibit a

similar pattern, but have experienced a more dramatic shift into education, as indicated by the more rapid decline in the share of females with less than secondary education. While over two thirds of the older generation of women had less than secondary education, about the same proportion of the younger generation now has secondary education or higher. This dramatic shift in educational attainment across a single generation is undoubtedly a primary driver of the shift in expectations in favor of a modern transition to adulthood.

We argue that our taxonomy combining a youth's own education with the educational attainment of his or her father accurately captures the socio-economic gradient in Egypt. To demonstrate this, we examine in Figure 2 the degree to which our taxonomy correlates with parental wealth for individuals 25-34 in 2012 who were observed in their natal households in the 2006 wave of the ELMPS.[5] The vast majority (68%) of those with less than secondary education are from the bottom two wealth quintiles. Just 4% are from the richest fifth of households and 10% from the second richest wealth quintile. Youth with secondary education are mostly from the lower-middle of the wealth distribution, with 69% from the bottom three wealth levels, but 13% are from the richest fifth of households and 18% from the fourth wealth quintile. Individuals with higher education but less educated fathers are from the upper-middle end of the wealth distribution. Although 26% are from the bottom two wealth quintiles, the remaining 74% are fairly equally distributed across the top three wealth quintiles. Those with higher education

[5] We use parents' wealth in 2006 for individuals 25-34 in 2012 who were living with their parents and whose parents were heads of households in 2006 (when they would have been 19-28 years of age). About 56% of individuals 25-34 in 2012 who were present in both the 2006 and 2012 rounds of the ELMPS were living with their parents and their parents were the head of the household in 2006. We also check for similar patterns using 1998 parental wealth, when these individuals would have been 11-20, and 70% were living with their parents. Both instances provided a similar distribution of parental wealth by our proposed youth taxonomy. Wealth is based on a factor analysis of an asset index of durable goods, a common approach (Filmer & Pritchett, 2001). We do not use the contemporaneous wealth distribution of the individual's household since we wish to use wealth as a measure of social background rather than as an outcome of a youth's transition.

and more educated fathers are by far the most privileged segment of youth, with almost two-thirds (65%) coming from the richest wealth quintile, and 21% from the fourth wealth quintile. Only 10% are from the middle wealth quintile, 4% from the second, and less than 1% from the poorest wealth quintile. The education taxonomy we use thus represents a strong socio-economic gradient and demarcation of privilege for youth.

By construction, our higher education categories take into consideration parents' education. Nevertheless, because parents' education is highly predictive of their children's education, the lower categories in our educational taxonomy are also strongly associated with parental education as a measure of socio-economic class and privilege. Figure 3 shows the relationship between young people's own educational attainment and that of their father. Among youth with less than secondary, 74% had illiterate fathers, and most of the rest (16%) had fathers who were just literate, but had no formal educational certificate. Half of the youth with secondary education (49%) had illiterate fathers, 22% had fathers that could only read and write, 15% had fathers with basic education, and only 10% had fathers with a similar level of education (secondary). As youth almost always achieve an education level equal to or higher than that of their parents, only 4% of secondary educated youth have a father with higher than secondary education. Among youth with higher education but less educated fathers, 41% had illiterate fathers, 29% had fathers who could only read and write, and 31% had fathers with basic education. Most of those with higher education and more educated fathers had fathers with higher education (60%) and the remaining 40% had fathers with secondary education. Youth who completed higher education but have less educated fathers are fairly similar to those who

achieved secondary education in terms of father's education, although they tend to have somewhat wealthier parents.[6]

4 Transitions to First Employment and Privilege: A Descriptive Analysis

We examine in this section the patterns of school-to-work transitions along the taxonomy we constructed combining own education and father's education and along gender lines. We consider obtaining a first job that is formal—either in the public or private sectors—to be a successful modern transition. Informal wage work lacks the security or benefits of formal work. Individuals who start as informal but regular wage workers in informal firms have limited chances of formalizing over time, and can only do so by switching firms. In contrast, individuals who start as informal workers within formal firms have a much greater chance of later becoming formal (Roushdy & Selwaness, 2015). Therefore, while we consider first employment in informal wage work to generally be an unsuccessful modern transition, individuals who start in informal wage work but work in formal firms may in the long term have a good chance of securing formal employment and making a delayed but successful employment transition.

Own educational attainment and social class background are strongly associated with the type of first work a new entrant obtains. Education shapes both youth work aspirations and options; for instance, most formal work, especially public sector work, requires at least a secondary degree. For many years in Egypt, achieving secondary or higher education in fact guaranteed public sector employment for young people (Assaad, 1997, 2009; Amer, 2009). New labor market entrants with less than secondary education consistently engage in traditional employment trajectories, and this has remained the case across the young and old cohorts (Figure

[6] See Assaad (2013) for further evidence on the importance of family background in accessing higher education in Egypt.

4). Among the younger cohort, for males with less than secondary education 21% enter into family businesses or farms, 38% go into irregular wage work, and 32% find regular informal wage work in informal firms. In all, 93% enter into some kind of informal employment. The pattern of first employment was very similar among the older cohort of males with the same level of education: 30% in family businesses or farms, 30% in irregular wage work, and 29% in informal employment in informal firms. Females with less than secondary education generally do not engage much in market work, and again the pattern is quite similar across the two cohorts. As shown in Figure 4, 81% of the younger cohort and 77% of the older cohort of less educated females have never worked prior to the survey. Most of the remainder are in family businesses or farms. The less educated therefore continue to face essentially the same employment options across cohorts, informal employment for males and lack of participation in market work for females, with the exception of unpaid family work on family businesses and farms.

Individuals with secondary education used to have a substantial opportunity to access formal employment in their first jobs, but that opportunity has virtually vanished in recent years. As shown in Figure 4, 29% of males with secondary education among the older cohort were able to access public sector jobs and another 12% got formal private sector jobs. These proportions dwindled to 6% in public sector jobs and 8% in formal private sector jobs for the younger generation. Among females with secondary education, as much as 53% were able to get public sector jobs among the old cohort and an additional 4% got private formal jobs. These shares dwindled 6% for public sector jobs and 3% for private formal jobs among the younger cohort. The employment pattern for the secondary educated is now looking increasingly similar to that of individuals with less than secondary education for both males and females.

New entrants with higher education among the older cohort appear to have had similar labor market prospects, irrespective of their social class background. As shown in Figure 4, males with higher education but less educated fathers among the older cohort had a 46% chance of obtaining a public sector job and a 12% chance of obtaining a formal private sector job, with a total probability of formal employment of 58%. Those with more educated fathers had a similar total probability of formal employment of 65%, but had notably greater access to the formal private sector. For that cohort, the public sector appeared to serve as a class equalizer, somewhat counteracting the tendency of the formal private sector to discriminate by social class. The picture is quite different among the younger cohort of males with higher education. Those with less educated fathers have only a 35% chance of ending up in a formal job, as compared to 52% chance among those with more educated fathers. For this cohort, the chances of joining both the public and private formal sectors are lower for those with less educated fathers. This shows that while the formal private sector is still favoring graduates from a higher social class, the public sector is no longer playing the equalizing role it used to play for the older cohort. Other work has demonstrated that there are direct effects of social background in the labor market, even after accounting for potential differences in the type or quality of human capital (Assaad, Krafft, & Salehi-Isfahani, 2014). This direct labor market impact of social background is likely to present a substantial and ongoing challenge to socio-economic mobility as the economy continues to shift toward greater reliance on the private sector for employment creation.[7]

Employment outcomes of females with higher education also differ substantially across cohort and by social class. As shown in Figure 4, nearly two-thirds of higher educated females

[7] See Barsoum (Barsoum, 2004) for a discussion of how private sector employers in Egypt use class markers as indicators of worker quality.

from the older cohort ended up in public sector jobs, irrespective of the education of their fathers. Only 4% ended up in private formal employment, a share that does not vary by father's education either. The picture looks very different for those from the younger cohort. The proportion obtaining public sector jobs declined by half for those with more educated fathers and by nearly two thirds for those with less educated fathers. While the proportion ending up in the private formal sector increased from 4% to 11% for those with more educated fathers, it remained at 4% for those with less educated fathers. The private sector has thus partially made up the decline in public sector opportunities for those of higher social class, but has not played any such role for those from lower social classes. Informal employment has not changed much across cohorts for either group, so, in effect, the reduction in formal sector opportunities turned into reduced employment overall.

With the decline in public sector employment opportunities, there has been a substantial contraction in formal employment opportunities for youth, especially for youth with secondary education, and those with higher education but from less privileged backgrounds. Education has been devalued in the face of a rapidly increasing supply of educated individuals[8] and limited expansion in demand for educated labor.[9] This is partly manifested in the substantial declines in returns to schooling in Egypt over time (Salehi-Isfahani, Tunali, & Assaad, 2009; Said, 2015).

[8] From 1980 to 2010, the average number of years of schooling increased from 2.7 to 7.1 in Egypt, which counts among the top 20 largest increases in average years of schooling in the world in that 30-year period (Campante & Chor, 2012).

[9] Migration may provide a potential route for men to (temporarily) improve their employment opportunities and facilitate a more modern transition, but opportunities to migrate are limited and cannot fully offset unequal opportunities within Egypt (Assaad & Krafft, 2014; Wahba, 2015).

5 Multivariate Analysis of Differences in First Employment Outcomes Across the Educational/Social Class Taxonomy and Across Cohorts

In this section, we move to the estimation of multivariate models of the school-to-work transition process and its education and social class determinants. Because our outcome variable is categorical, we estimate a multinomial logit regression model for the probability of various employment statuses in the first job (if any). As in the descriptive analysis, the categories of the outcome variable are (i) work in a family business as a self-employed worker or unpaid worker, (ii) irregular wage work, (iii) regular but informal private wage employment in informal firm, (iv) regular but informal private wage employment in formal firm, (v) formal private wage employment, (vi) public sector wage employment, and (vii) not having worked yet. For men, individuals who have the last outcome – not having worked yet – which is quite rare for the age groups we are considering are excluded from the analysis. For men, "work in family business" is the base outcome for the regression. For women, we lump together "work in family business" and "irregular wage work," which together become the base outcome. We also lump together regular informal wage work in formal and in informal enterprises, because the cell counts in each of the two categories can be quite small for some education categories and age groups.

The following variables are used as regressors: (i) the educational taxonomy, with the same distinction we made earlier between those with father less than secondary and father secondary and above among those with higher education and above, (ii) the age group (25-34, 35-44, 45-54). The reference category for the educational taxonomy is "higher education with father secondary and above" and the reference category for age group is 45-54. Recall, that since it is the first transition to employment that is being observed for all age groups, the age group variable is meant to capture cohort effects rather than age effects.

The exponentiated coefficient estimates from the multinomial logit regressions are shown in Table 1 (for men) and Table 2 (for women). These exponentiated coefficients show the odds ratio of transitioning into the work state indicated in the column relative to transitioning into a family business, with ratios larger than one indicating higher odds and ones less than one indicating lower odds than the reference category. The main effects shown for categories of the educational taxonomy are therefore those of the 45-54 age group. The main effects for age group are for those with higher education whose fathers have a secondary education and above. Additional effects are indicated by the interaction terms of education and age group. To facilitate the interpretation of the regressions, we predict the probability of transition into each labor market state for each value of the educational taxonomy and by age cohort, for men and women separately. These predictions are shown in the set of plots presented in Figure 5 and Figure 6. We conduct a series of statistical tests to investigate whether the probability of transition into the various labor market states varies by the educational taxonomy for each cohort (shown in Table 3 for males and Table 5 for females). We also conduct tests to examine whether the probabilities of transition differ across cohorts for the same educational categories (shown in Table 4 for males and Table 6 for females).

We begin by discussing the results for males. As shown in Figure 5, the probability of entering first employment in a family business or farm generally declines with the educational taxonomy, but has remained roughly the same across cohorts. There seems to be no statistical significant differences in the probability of joining a family business by social class for the higher educated. The probability of entering into irregular wage employment declines even more sharply with education and is higher for the middle and younger cohorts than for the older cohort. Statistical tests shown in Table 3 show that the odds of entering into irregular

employment are significantly lower for secondary educated workers compared to those with less than secondary education, but only for the young cohort. There are significantly lower for those with higher education and father less than secondary than for those with secondary education for both the young and middle cohorts. They are also significantly lower for those with higher education and educated fathers than for their counterparts with less educated fathers, but only for the older cohort. The tests reported in Table 4 show that the odds of irregular wage work have increased steadily for younger cohorts, with significant differences across the three cohorts among those with less than secondary, across the old and young and the old and middle for those with secondary education, across the middle and young and the old and middle for those with higher education and father less than secondary, and across the old and young and old and middle among those with higher education and father secondary and above. Given its gradient with education and social class, irregular wage work appears to be the employment state most associated with disadvantage in Egypt and its appears to have increased significantly at least from the old cohort to the middle and young cohorts. The statistical tests in Table 3 indicate that the difference across educational categories is only significant between secondary and higher education with father less than secondary for the young cohort and between secondary and higher education with father secondary and above for the middle cohort. The tests in Table 4 show the odds of informal employment in informal firms have increased significantly across the middle and young and the old and young cohorts among those with less than secondary education and those with higher education and fathers less than secondary. They have also increased across the old and young and the old and middle cohorts among those with higher education and fathers with secondary and above. Thus, like irregular employment, informal

employment in informal firms is associated with disadvantage and has become more prevalent among younger cohorts of Egyptian males, regardless of educational attainment.

Informal employment in formal firms is a fairly low probability occurrence compared to the other employment states considered. Its likelihood appears to be increasing with educational attainment, but not with social class for the higher educated. As indicated in Table 3, the increase in the odds of informal employment in formal firms by education appears to be statistically significant from less than secondary to secondary for all three cohorts, and from secondary to higher education, father less than secondary for the young and middle cohorts, and by social class for higher educated workers, but only for individuals in the middle cohort. Table 4 shows that the odds of informal employment in formal firms increased significantly between the old and the other two cohorts for those with less than secondary and those with higher education father secondary and above, and between the middle and young cohorts for those with higher education and father less than secondary. Although informal employment in formal firms is more desirable than other forms of informal employment because it holds a greater promise of subsequent formalization, it has been increasing over time as private sector employers are increasingly using it as a trial form of employment for new entrants.

Despite the substantial transformation of the Egyptian economy from state-led growth to market led growth, the odds of formal private employment appear not to have changed much across cohorts at a given level of educational attainment. They do increase weakly with educational attainment, but much more strongly with social class for higher educated workers. As shown in Table 3 formal private sector employment is significantly associated with rising education, with the exception of going from secondary to higher education among the old cohort. It is also significantly associated with social class for the higher educated, again, with the

exception of the old cohort. This suggests that social class might be becoming increasingly salient for private sector employment over time. Table 4 confirms that the odds of private formal employment have not increased much across cohorts, except for a difference between the old and young cohorts at the secondary level.

Finally we examine the odds of public sector employment as the first employment of Egyptian males across cohorts and educational attainment. First, as shown in Figure 5 and as expected, the odds of such employment rise strongly with education. The odds appear to decline with social class for the higher education, with the possible exception of those in the young cohort, where it is rising. This suggests that the equalizing role public sector employment used to play for members of the older and middle cohorts has now been reversed for members of the young cohort. As shown in Table 3, most of the differences across the education social/class taxonomy are statistically significant. In a reflection of the declining role of the public sector in the Egyptian labor market, the odds of public sector employment appear to have dropped significantly across cohorts at all educational levels. Table 4 confirms that the odds of public sector employment have fallen significantly across cohorts at various education levels. The main exception appears to be for those with higher education and father secondary and above, where there is no significant difference across cohorts.

Now we turn to the results for women shown graphically in Figure 6. Recall than in the case of women, we define the base category as including both employment in a family business/farm and irregular wage employment, since the latter is quite rare among women in Egypt. As shown in the top left hand panel of Figure 6, the probability of this category of employment is declining with education, but is not changing appreciably across cohorts. Recall, we also merge informal wage employment in informal and formal firms into a single category.

The probability of this kind of employment increases with education. As shown in Table 5, the odds of informal wage employment relative to working in a family business increase significantly from less than secondary to secondary for all cohorts and from secondary to higher education, father less than secondary for the young and middle cohorts. Table 6 shows that the odds of informal wage work have only increased significantly across cohorts for those with less than secondary education.

The probability of formal private wage work is almost zero for women with less than secondary education and increases steadily with education thereafter. As shown in Table 5, the increase with education is statistically significant for all cohorts from less than secondary to secondary and for the young and middle cohorts, from secondary to higher education, father less than secondary. The increase in the odds of formal private wage employment is significant across social class for higher educated women only for the young cohort. Therefore, like in the case of men, social class is becoming increasingly salient for women to access formal private sector employment. Table 6 shows that the odds of entering into formal private sector employment are only increasing significantly across cohorts for women with secondary education.

As in the case of men, access to public sector employment in the first job for women is strongly predicated on educational attainment and has been declining strongly over time. As shown in Figure 6, women with less than secondary have virtually no access to such employment and access increases steadily with education from that point on. Social class did not have an effect on access to public employment for the older cohort, but appears to have increasing effects for younger cohorts, again confirming the diminishing role of the public sector as a class equalizer. Table 6 confirms the statistically significant decline in the odds of public sector

employment across cohorts for women at the secondary level, and between the old cohorts and the other two cohorts at the higher education level, for women with fathers with less than secondary education. For those with fathers with secondary education and above the decline across cohort is not significant, confirming that young privileged young women continue to be able to access public sector jobs. The end result of these changes in access to employment is that women educated at the secondary level and those with higher education but with less privileged backgrounds are increasingly excluded from employment. This can be clearly seen in Figure 6 as the probability of not having worked yet increases significantly among the young cohort among these educated but less privileged women.

Overall, whether youth meet their aspirations for modern transitions to adulthood or fail to meet them increasingly depends on their socio-economic background and less on their own educational attainment. Even youth with the same level of education experience very different labor market outcomes depending on their class background, measured here by father's education.

6 Conclusions

Youth in Egypt are increasingly attaining high levels of education and have rising expectations for achieving middle class status primarily by accessing formal employment. Some Egyptian youth continue to experience traditional transitions from school to work, but those who attain secondary education or above and who strive to achieve a modern transition to adulthood are increasingly struggling. We have illustrated, for the case of Egypt, using a life course perspective, how the inter-linkages between different transitions and the transitions themselves are mediated by gender and privilege. The low quality of human capital, the disinterest of youth

in the private sector, and the political orientations and economic policies that have precluded the growth of a robust private sector have left Egypt with a shrinking pool of desirable jobs at a time of rising expectations. In this increasingly pressurized environment family resources and connections play a decisive role in whether the aspirations of youth are achieved, evidenced here and elsewhere as a decline in social mobility (Binzel, 2011). This trend contributed to the sense of social injustice articulated in the Arab Spring and the involvement of middle class youth in protest movements (Joffé, 2011; Kandil, 2012; Kuhn, 2012; Pace & Cavatorta, 2012; Binzel & Carvalho, 2013; Malik & Awadallah, 2013; Richards, Waterbury, Cammett, & Diwan, 2014).

As youth in Egypt have achieved higher educational attainment, their ability to undertake successful transitions to adulthood that live up to their heightened aspirations continues to be strongly conditioned on gender and social class. Much of the focus of public discourse in recent years has been on youth unemployment, which neglects the experiences of youth who do not or cannot afford to search for modern employment. More attention needs to be paid to the experiences of youth continuing to experience a more traditional transition pattern, or those obtaining higher levels of education but losing hope of being able to transform their education into higher quality employment. This is especially true of young women who are increasingly giving up on employment altogether.

Particularly important in promoting the wellbeing of youth is improving employment opportunities through more dynamic, growing economies that can be globally competitive. It is also necessary to reform the many institutions—especially in the education system and the labor market—that have limited opportunities for youth and confined success to those with more family resources and privilege. The structures that have limited access to higher education to privileged youth and emphasized credentials and social networks in the labor market at the

expense of skills, ability and effort have contributed to this state of affairs. Ultimately, however, it will not be sufficient to simply redistribute access to existing opportunities, but it is also imperative that the Egyptian economy creates more and better opportunities for youth by becoming more dynamic and globally competitive.

References

Amer, M. (2009). The Egyptian Youth Labor Market School-to-Work Transition, 1988-2006. In R. Assaad (Ed.), *The Egyptian Labor Market Revisited* (pp. 177–218). Cairo, Egypt: The American University in Cairo Press.

Amer, M. (2015). Patterns of Labor Market Insertion in Egypt, 1998-2012. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 70–89). Oxford, UK: Oxford University Press.

Amin, S., & Al-Bassusi, N. H. (2004). Education, Wage Work , and Marriage: Perspectives of Egyptian Working Women. *Journal of Marriage and Family*, *66*(5), 1287–1299.

Angel-Urdinola, D. F., & Semlali, A. (2010). *Labor Markets and School-to-Work Transition in Egypt: Diagnostics, Constraints, and Policy Framework*. Munich, Germany: MPRA Paper 27674, University Library of Munich.

Assaad, R. (1997). The Effects of Public Sector Hiring and Compensation Policies on the Egyptian Labor Market. *The World Bank Economic Review*, *11*(1), 85–118.

Assaad, R. (2009). Labor Supply, Employment, and Unemployment in the Egyptian Economy, 1988-2006. In R. Assaad (Ed.), *The Egyptian Labor Market Revisited* (pp. 1–52). Cairo, Egypt: The American University in Cairo Press.

Assaad, R. (2013). Equality for All? Egypt's Free Public Higher Education Policy Breeds Inequality of Opportunity. In A. Elbadawy (Ed.), *Is There Equality of Opportunity under Free Higher Education in Egypt? (Arabic)* (pp. 83–100). New York, NY: Population Council.

Assaad, R., & Barsoum, G. (2007). *Youth Exclusion in Egypt: In Search of "Second Chances." The Middle East Youth Initiative Working Paper No. 2*. Washington, DC: Wolfensohn Center for Development & Dubai School of Government.

Assaad, R., Binzel, C., & Gadallah, M. (2010). Transitions To Employment and Marriage Among Young Men in Egypt. *Middle East Development Journal*, *2*(1), 39–88.

Assaad, R., & El-Hamidi, F. (2009). Women in the Egyptian Labor Market: An Analysis of Developments, 1988-2006. In R. Assaad (Ed.), *The Egyptian Labor Market Revisited* (pp. 219–258). Cairo, Egypt: The American University in Cairo Press.

Assaad, R., Hendy, R., & Yassine, C. (2014). Gender and the Jordanian Labor Market. In R. Assaad (Ed.), *The Jordanian Labour Market in the New Millennium* (pp. 105–143). Oxford, UK: Oxford University Press.

Assaad, R., & Krafft, C. (2013). The Egypt Labor Market Panel Survey: Introducing the 2012 Round. *IZA Journal of Labor & Development*, *2*(8), 1–30.

Assaad, R., & Krafft, C. (2014). *Youth Transitions in Egypt: School, Work, and Family Formation in an Era of Changing Opportunities*. *Silatech Working Paper No. 14-1*. Doha, Qatar: Silatech.

Assaad, R., & Krafft, C. (2015a). An Empirical Analysis of the Economics of Marriage in Egypt, Morocco, and Tunisia. In C. Monga & J. Y. Lin (Eds.), *The Oxford Handbook of Africa and*

Economics: Policies and Practices (Vol. 2). Oxford, UK: Oxford University Press.

Assaad, R., & Krafft, C. (2015b). The Economics of Marriage in North Africa: A Unifying Theoretical Framework. In C. Monga & J. Y. Lin (Eds.), *The Oxford Handbook of Africa and Economics: Contexts and Concepts* (Vol. 1). Oxford, UK: Oxford University Press.

Assaad, R., & Krafft, C. (2015c). The Structure and Evolution of Employment in Egypt: 1998-2012. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 27–51). Oxford, UK: Oxford University Press.

Assaad, R., Krafft, C., & Salehi-Isfahani, D. (2014). *Does the Type of Higher Education Affect Labor Market Outcomes? A Comparison of Egypt and Jordan*. *Economic Research Forum Working Paper Series No. 826*. Cairo, Egypt.

Barsoum, G. (2004). *The employment crisis of female graduates in Egypt: an ethnographic account*. Cairo, Egypt: American University in Cairo Press.

Barsoum, G. (2015). Young People's Job Aspirations in Egypt and the Continued Preference for a Government Job. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 108–126). Oxford, UK: Oxford University Press.

Binzel, C. (2011). *Decline in Social Mobility: Unfulfilled Aspirations among Egypt's Educated Youth*. *IZA Discussion Paper Series No. 6139*. Bonn, Germany.

Binzel, C., & Carvalho, J. (2013). *Education, Social Mobility and Religious Movements: A Theory of the Islamic Revival in Egypt*. *IZA Discussion Paper Series No. 7259*. Bonn, Germany.

Campante, F. R., & Chor, D. (2012). Why Was the Arab World Poised for Revolution? Schooling, Economic Opportunities, and the Arab Spring. *Journal of Economic Perspectives*, *26*(2), 167–188.

Dhillon, N., Dyer, P., & Yousef, T. (2009). Generation in Waiting: An Overview of School to Work and Family Formation Transitions. In *Generation in Waiting: The Unfulfilled Promise of Young People in the Middle East* (pp. 11–38). Washington, DC: The Brookings Institution.

Dhillon, N., & Yousef, T. (2009). *Generation in Waiting: The Unfulfilled Promise of Young People in the Middle East*. Washington, DC: Brookings Institution Press.

Filmer, D., & Pritchett, L. H. (2001). Estimating Wealth Effects Without Expenditure Data--Or Tears: An Application to Educational Enrollments in States of India. *Demography*, *38*(1), 115–132.

Gebel, M., & Heyne, S. (2014). *Transitions to Adulthood in the Middle East and North Africa: Young Women's Rising?* New York: Palgrave Macmillan.

Gebel, M., & Heyne, S. (2016). Delayed Transitions in Times of Increasing Uncertainty: School-to-Work Transition and the Delay of First Marriage in Jordan. *Research in Social Stratification and Mobility*, *46*(A), 37–49.

Han, S.-K., & Moen, P. (1999). Work and Family Over Time: A Life Course Approach. *The Annals of the American Academy of Political and Social Science*, *562*, 98–110.

Heyne, S., & Gebel, M. (2016). Education Effects on the School-to-Work Transition in Egypt: A

Cohort Comparison of Labor Market Entrants 1970 – 2012. *Research in Social Stratification and Mobility*, *46*, 37–49.

Joffé, G. (2011). The Arab Spring in North Africa: Origins and Prospects. *The Journal of North African Studies*, *16*(4), 507–532.

Kandil, H. (2012). Why Did the Egyptian Middle Class March to Tahrir Square? *Mediterranean Politics*, *17*(2), 197–215.

Kogan, I. (2011). When Informal Is Normal... On the Role of Credentials and Contacts for the Job Entry in Serbia. *Research in Social Stratification and Mobility*, *29*(4), 445–458.

Krafft, C., & Assaad, R. (2017). *Employment's Role in Enabling and Constraining Marriage in the Middle East and North Africa*. *Economic Research Forum Working Paper Series No. 1080*. Cairo, Egypt.

Kuhn, R. (2012). On the Role of Human Development in the Arab Spring. *Population and Development Review*, *38*(4), 649–683.

Malik, A., & Awadallah, B. (2013). The Economics of the Arab Spring. *World Development*, *45*, 296–313.

Moghadam, V. M. (2013). What Is Democracy? Promises and Perils of the Arab Spring. *Current Sociology*, *61*(4), 393–408.

Mortimer, J. T., & Shanahan, M. J. (Eds.). (2003). *Handbook of the Life Course*. New York, NY: Springer.

OAMDI. (2016). OAMDI, 2016. Labor Market Panel Surveys (LMPS). Version 2.2 of Licensed Data Files; ELMPS 2012. Cairo: Economic Research Forum.

Pace, M., & Cavatorta, F. (2012). The Arab Uprisings in Theoretical Perspective – An Introduction. *Mediterranean Politics*, *17*(2), 125–138.

Richards, A., Waterbury, J., Cammett, M., & Diwan, I. (2014). *A Political Economy of the Middle East* (3rd ed.). Boulder, CO: Westview Press.

Roushdy, R., & Selwaness, I. (2015). Duration to Coverage: Dynamics of Access to Social Security in the Egyptian Labor Market in the 1998-2012 Period. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 241–258). Oxford, UK: Oxford University Press.

Said, M. (2015). Wages and Inequality in the Egyptian Labor Market in an Era of Financial Crisis and Revolution. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 52–69). Oxford, UK: Oxford University Press.

Salehi-Isfahani, D., & Dhillon, N. (2008). *Stalled Youth Transitions in the Middle East: A Framework for Policy Reform*. *Middle East Youth Initiative Working Paper No. 8*.

Salehi-Isfahani, D., Tunali, I., & Assaad, R. (2009). A Comparative Study of Returns To Education of Urban Men in Egypt, Iran, and Turkey. *Middle East Development Journal*, *1*(2), 145–187.

Salem, R. (2014). Trends and Differentials in Jordanian Marriage Behavior: Timing, Spousal Characteristics, Household Structure and Matrimonial Expenditures. In R. Assaad (Ed.),

The Jordanian Labour Market in the New Millennium (pp. 189–217).

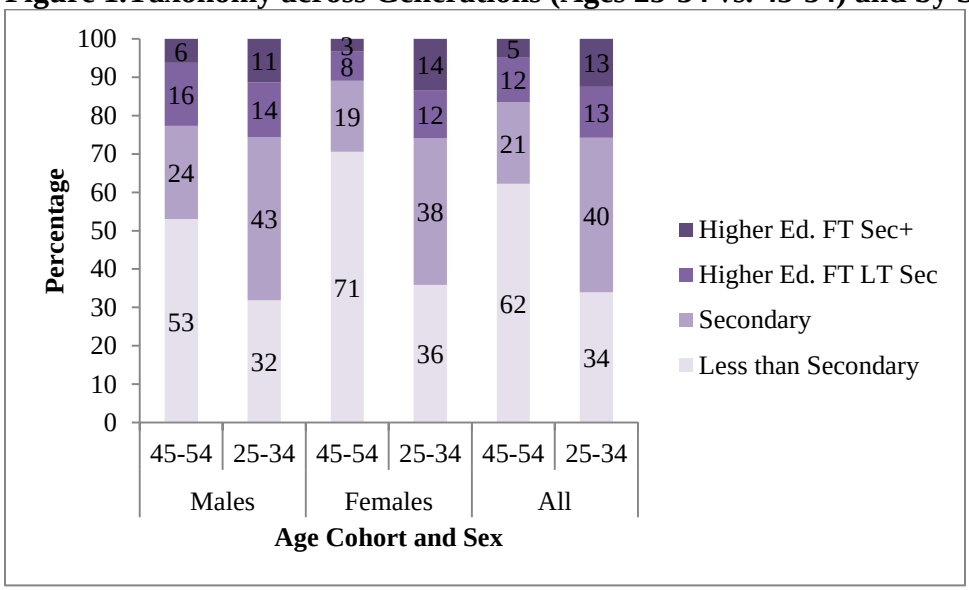
Salem, R. (2015). Changes in the Institution of Marriage in Egypt from 1998 to 2012. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 162–181). Oxford, UK: Oxford University Press.

Singerman, D. (2007). *The Economic Imperatives of Marriage: Emerging Practices and Identities Among Youth in the Middle East*. *Middle East Youth Initiative Working Paper No. 6*.

Wahba, J. (2015). Through the Keyhole: International Migration in Egypt. In R. Assaad & C. Krafft (Eds.), *The Egyptian Labor Market in an Era of Revolution* (pp. 198–217). Oxford, UK: Oxford University Press.

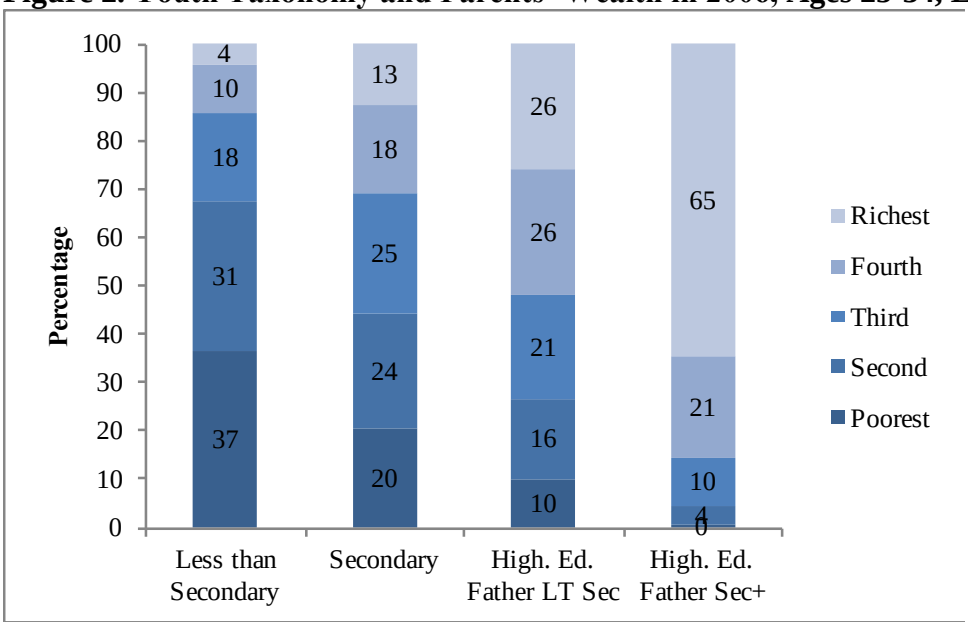
Figures

Figure 1.Taxonomy across Generations (Ages 25-34 vs. 45-54) and by Sex, Egypt, 2012



Source: Authors' calculations using ELMPS 2012

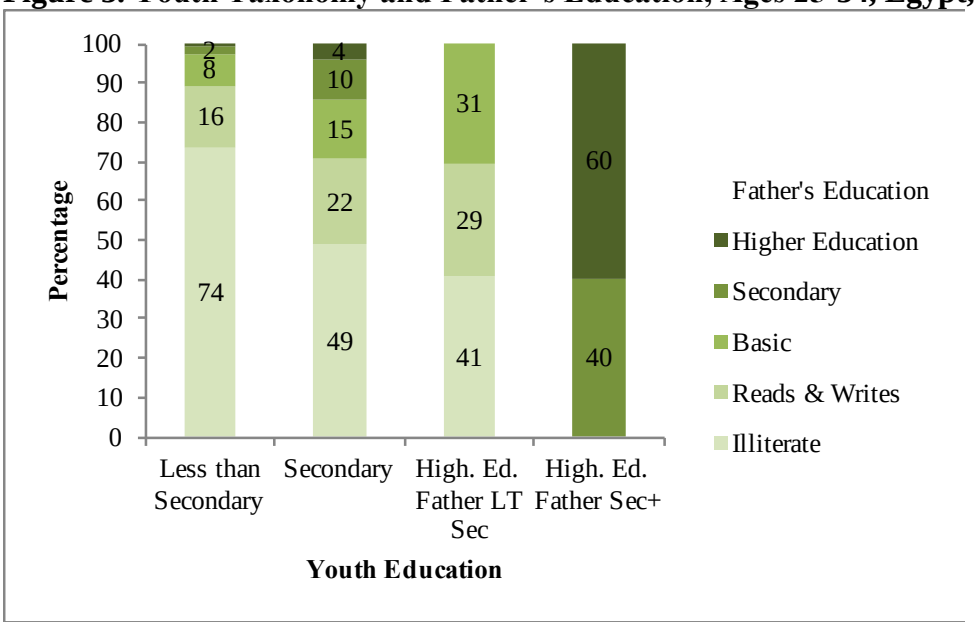
Figure 2. Youth Taxonomy and Parents' Wealth in 2006, Ages 25-34, Egypt, 2012



Source: Authors' calculations using ELMPS 2006, 2012

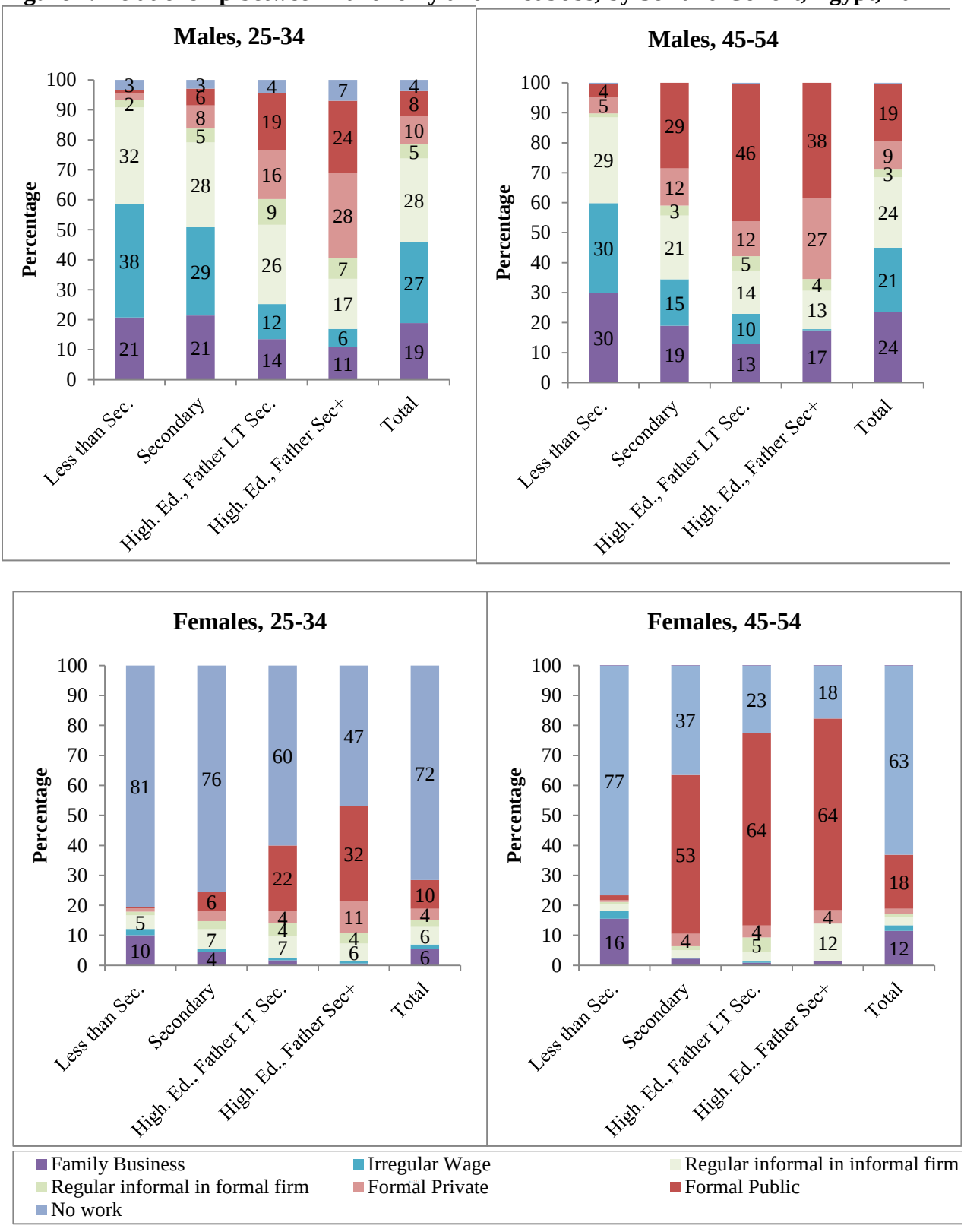
Notes: Youth 25-34 in 2012, restricted to youth who were living with their parents and whose parents were household heads in 2006.

Figure 3. Youth Taxonomy and Father's Education, Ages 25-34, Egypt, 2012



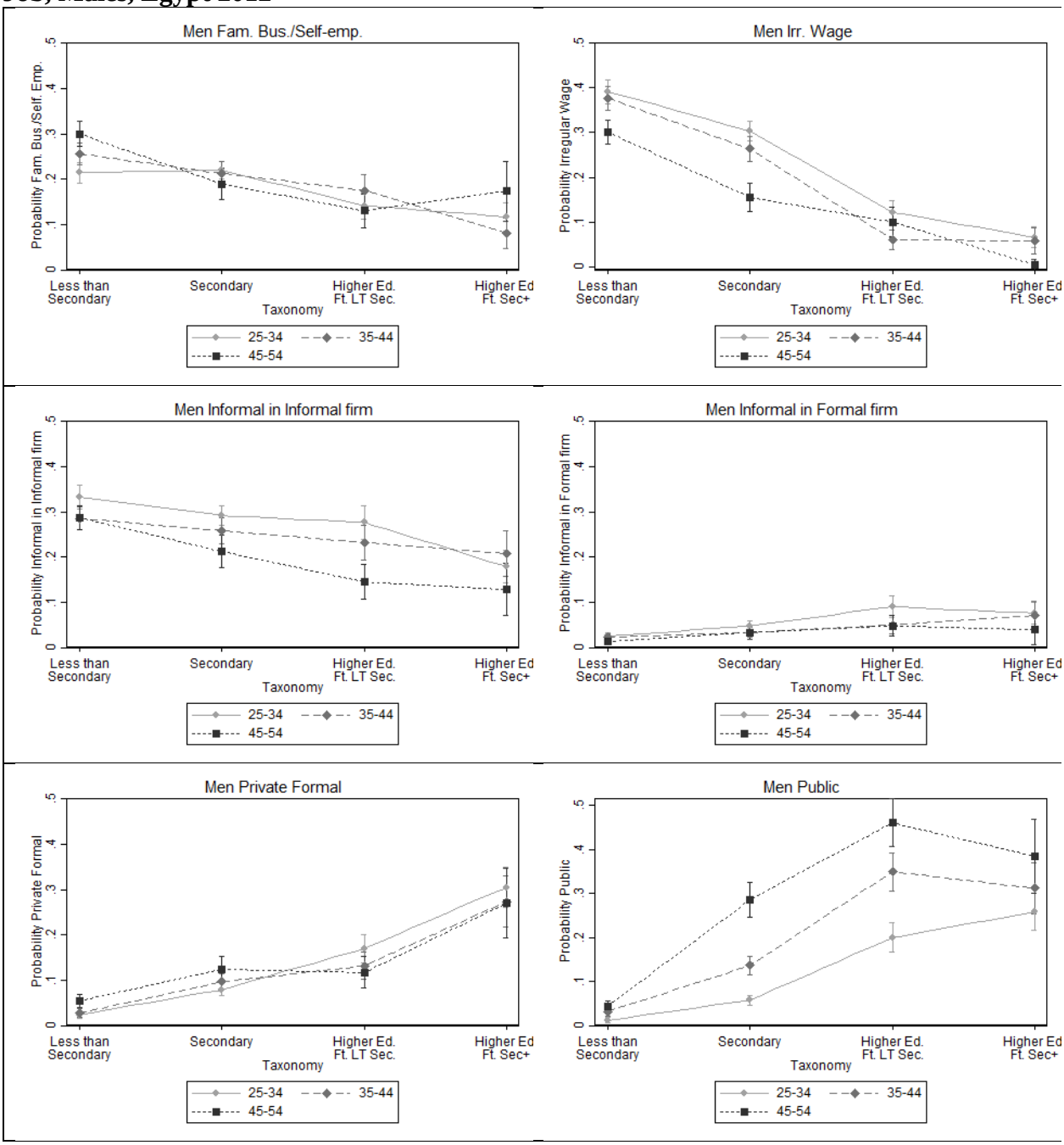
Source: Authors' calculations using ELMPS 2012

Figure 4. Relationship between Taxonomy and First Jobs, by Sex and Cohort, Egypt, 2012



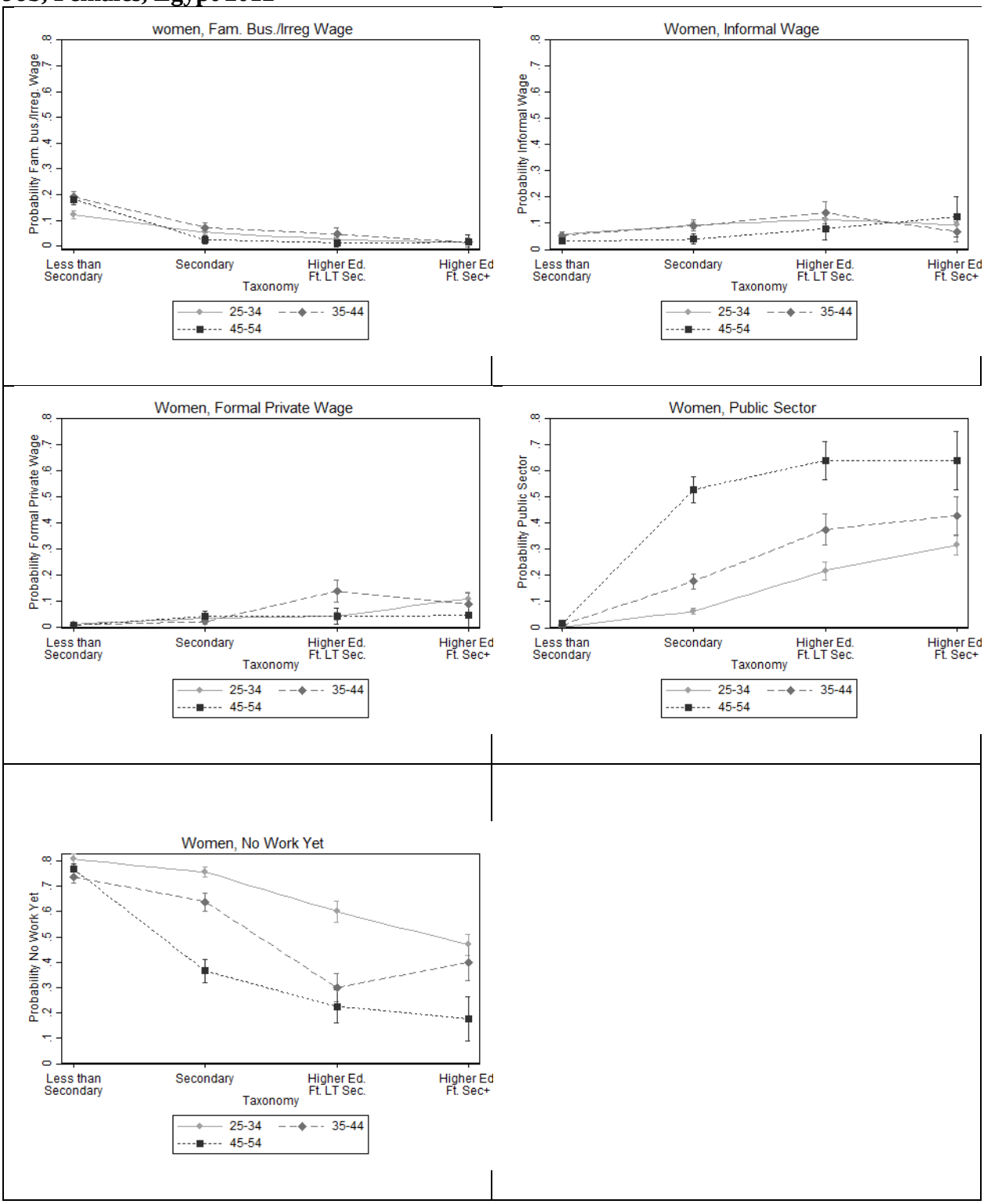
Source: Authors' calculations using ELMPS 2012

Figure 5. Predicted Probabilities of Transition into Various Employment States in the First Job, Males, Egypt 2012



Source: Authors' calculations using models in Table 1.

Figure 6. Predicted Probabilities of Transition into Various Employment States in the First Job, Females, Egypt 2012



Source: Authors' calculations using models in Table 2.

Table 1. Multinomial logistic regression of the probability of transition into various employment states in the first job, males, Egypt, 2012.

	Irregular Wage Emp.	Reg. Informal Wage in Inf. Firm	Reg. Informal Wage in Formal Firm.	Formal Private Wage	Formal Public
Education taxonomy (Higher Ed., Ft. Sec.+ Omitted)					
<Secondary	38.520**	1.300	0.196**	0.117***	0.067***
	(51.645)	(0.439)	(0.112)	(0.036)	(0.020)
Secondary	31.354*	1.521	0.786	0.422**	0.683
	(42.246)	(0.544)	(0.445)	(0.135)	(0.198)
Higher Ed., FT <Sec	29.396*	1.513	1.639	0.579	1.601
	(39.933)	(0.590)	(0.950)	(0.204)	(0.497)
Age Group (45-54 Omitted)					
25-34	21.530*	2.081	2.891	1.685	1.000
	(29.256)	(0.779)	(1.581)	(0.539)	(0.308)
35-44	27.213*	3.521**	3.939*	2.201*	1.762
	(37.657)	(1.487)	(2.357)	(0.827)	(0.637)
Ed. Taxon. * Age Group					
<Sec*25-34	0.085	0.779	0.917	0.364*	0.371*
	(0.115)	(0.304)	(0.587)	(0.146)	(0.162)
<Sec*35-44	0.054*	0.331*	0.505	0.266**	0.478
	(0.075)	(0.145)	(0.348)	(0.118)	(0.206)
Secondary*25-34	0.078	0.569	0.427	0.325**	0.174***
	(0.107)	(0.231)	(0.266)	(0.122)	(0.062)
Secondary*35-44	0.056*	0.308**	0.225*	0.314**	0.241***
	(0.078)	(0.140)	(0.154)	(0.135)	(0.097)
Higher Ed. FT <Sec*25-34	0.052*	0.844	0.598	0.797	0.399*
	(0.072)	(0.381)	(0.387)	(0.334)	(0.153)
Higher Ed. FT <Sec*35-44	0.017**	0.338*	0.197*	0.381*	0.320**
	(0.024)	(0.167)	(0.139)	(0.178)	(0.135)
Number of Observations			8,765		

Notes: *p<0.05; **p<0.01 ***p<0.001. Base outcome is family business/self-employment.
Source: Authors' calculations using ELMPS 2012

Table 2. Multinomial logistic regression of the probability of transition into various employment states in the first job, females, Egypt, 2012.

	Regular Informal Wage in Any Firm	Formal Private Wage	Formal Public	No Work Yet
Education taxonomy (Higher Ed., Ft. Sec.+ Omitted)				
<Secondary	0.021***	0.117***	0.002***	0.358
	(0.021)	(0.036)	(0.002)	(0.361)
Secondary	0.187	0.422**	0.495	1.233
	(0.206)	(0.135)	(0.509)	(1.304)
Higher Ed., FT <Sec.	0.728	0.579	1.144	1.458
	(0.918)	(0.204)	(1.369)	(1.790)
Age Group (45-54 Omitted)				
25-34	0.790	1.685	0.520	2.790
	(0.859)	(0.539)	(0.540)	(2.970)
35-44	0.555	2.201*	0.689	2.313
	(0.684)	(0.827)	(0.802)	(2.750)
Ed. Taxon. * Age Group				
<Sec*25-34	3.481	0.364*	0.613	0.560
	(3.849)	(0.146)	(0.702)	(0.599)
<Sec*35-44	2.954	0.266**	0.905	0.393
	(3.690)	(0.118)	(1.099)	(0.469)
Secondary*25-34	1.399	0.325**	0.105*	0.342
	(1.635)	(0.122)	(0.115)	(0.383)
Secondary*35-44	1.445	0.314**	0.168	0.260
	(1.895)	(0.135)	(0.205)	(0.323)
Higher Ed. FT LT Sec*25-34	0.950	0.797	0.341	0.496
	(1.282)	(0.334)	(0.437)	(0.648)
Higher Ed. FT LT Sec*35-44	0.902	0.381*	0.242	0.163
	(1.330)	(0.178)	(0.337)	(0.232)
Number of Observations		8,859		

Notes: *p<0.05; **p<0.01 ***p<0.001. Base outcome is family business/self-employment or irregular wage work.
Source: Authors' calculations using ELMPS 2012

Table 3. Tests of Statistical Significance of Differences Across the Educational Taxonomy in the Odds of Various Transitions to First Employment Relative to Working in a Family Business for Different Age Cohorts (Old, Middle and Young), Males, Egypt 2012

Education Taxonomy Comparisons	Irregular Wage Work	Regular informal work in informal firm	Regular informal work in formal firm	Formal private sector wage work	Public sector work
[HE Ft Sec+] - [< Sec] for O	**	n.s.	**	***	***
[HE Ft Sec+] - [< Sec] for M	*	**	***	***	***
[HE Ft Sec+] - [< Sec] for Y	***	n.s.	***	***	***
[HE Ft Sec+] - [Sec] for O	**	n.s.	n.s	**	n.s.
[HE Ft Sec+] - [Sec] for M	n.s.	**	***	***	***
[HE Ft Sec+] - [Sec] for Y	***	n.s	***	***	***
[HE Ft Sec+] - [HE Ft < Sec] for O	*	n.s.	n.s.	n.s.	n.s.
[HE Ft Sec+] - [HE Ft < Sec] for M	n.s.	*	**	***	*
[HE Ft Sec+] - [HE Ft < Sec] for Y	n.s.	n.s.	n.s.	***	*
[HE Ft <Sec] - [Sec] for O	n.s.	n.s	n.s.	n.s.	***
[HE Ft <Sec] - [Sec] for M	***	n.s.	*	*	***
[HE Ft <Sec] - [Sec] for Y	**	**	***	***	***
[HE Ft <Sec] - [< Sec] for O	n.s.	n.s.	***	***	***
[HE Ft <Sec] - [< Sec] for M	***	n.s.	***	***	***
[HE Ft <Sec] - [<Sec] for Y	***	n.s.	***	***	***
[Sec] - [< Sec] for O	n.s.	n.s.	***	***	***
[Sec] - [< Sec] for M	n.s.	n.s	*	***	***
[Sec] - [< Sec] for Y	**	n.s.	**	***	***

Notes:
O = old (45=54), M = middle (35-44), Y = young (25-34)
F-tests of statistical significance based on coefficient estimates derived from multinomial logit regressions shown in Table 1.
*p<0.05, **p<0.01, ***p<0.001, n.s. = not significant
Grey shading indicates difference due to moving one step in educational taxonomy

Table 4. Tests of Statistical Significance of Differences Across Cohorts in the Odds of Various Transitions to First Employment Relative to Working in a Family Business for Individuals at Different Points in the Educational Taxonomy, Males, Egypt 2012

Cohort Comparisons	Irregular Wage Work	Regular informal work in informal firm	Regular informal work in formal firm	Formal private sector wage work	Public sector work
O-Y [HE, Ft Sec+]	*	*	*	n.s.	n.s.
O-M [HE, Ft Sec+]	*	**	*	*	n.s.
M-Y [HE, Ft Sec+]	n.s.	n.s.	n.s.	n.s.	n.s.
O-Y [HE, Ft <Sec]	n.s.	*	n.s.	n.s.	***
O-M [HE, Ft <Sec]	*	n.s.	n.s.	n.s.	**
M-Y [HE, Ft <Sec]	***	*	**	*	n.s.
O-Y [Sec]	**	n.s.	n.s.	**	***
O-M [Sec]	*	n.s.	n.s.	n.s.	***
M-Y [Sec]	n.s.	n.s.	n.s.	n.s.	***
O-Y [< Sec]	***	***	**	*	**
O-M [< Sec]	***	n.s.	*	*	n.s.
M-Y [< Sec]	*	**	n.s.	n.s.	**

Notes:
O = old (45=54), M = middle (35-44), Y = young (25-34)
F-tests of statistical significance based on coefficient estimates derived from multinomial logit regressions shown in Table 1.
*p<0.05, **p<0.01, ***p<0.001, n.s. = not significant

Table 5. Tests of Statistical Significance of Differences Across the Educational Taxonomy in the Odds of Various Transitions to First Employment relative to Working in a Family Business for Different Age Cohorts (Old, Middle and Young), Females, Egypt 2012

Education Taxonomy Comparisons	Regular informal in formal or informal firm	Formal private sector wage work	Public sector work	No yet worked
[HE Ft Sec+] - [< Sec] for O	***	***	***	n.s.
[HE Ft Sec+] - [< Sec] for M	***	***	***	**
[HE Ft Sec+] - [< Sec] for Y	***	***	***	***
[HE Ft Sec+] - [Sec] for O	n.s.	n.s.	n.s.	n.s.
[HE Ft Sec+] - [Sec] for M	n.s.	***	***	n.s.
[HE Ft Sec+] - [Sec] for Y	***	***	***	*
[HE Ft Sec+] - [HE Ft < Sec] for O	n.s.	n.s.	n.s.	n.s.
[HE Ft Sec+] - [HE Ft < Sec] for M	n.s.	n.s.	n.s.	*
[HE Ft Sec+] - [HE Ft < Sec] for Y	n.s.	**	*	n.s.
[HE Ft <Sec] - [Sec] for O	n.s.	n.s.	n.s.	n.s.
[HE Ft <Sec] - [Sec] for M	*	***	***	n.s.
[HE Ft <Sec] - [Sec] for Y	**	**	***	n.s.
[HE Ft <Sec] - [< Sec] for O	***	***	***	*
[HE Ft <Sec] - [< Sec] for M	***	***	***	n.s.
[HE Ft <Sec] - [< Sec] for Y	***	***	***	***
[Sec] - [< Sec] for O	***	***	***	***
[Sec] - [< Sec] for M	***	***	***	***
[Sec] - [< Sec] for Y	***	***	***	***

Cohort Comparisons	Regular informal in formal or informal firm	Formal private sector wage work	Public sector work	No yet worked
O-Y [HE, Ft Sec+]	n.s.	n.s.	n.s.	n.s.
O-M [HE, Ft Sec+]	n.s.	n.s.	n.s.	n.s.
M-Y [HE, Ft Sec+]	n.s.	n.s.	n.s.	n.s.
O-Y [HE, Ft < Sec]	n.s.	n.s.	*	n.s.
O-M [HE, Ft < Sec]	n.s.	n.s.	*	n.s.
M-Y [HE, Ft < Sec]	n.s.	n.s.	n.s.	**
O-Y [Sec]	n.s.	*	***	n.s.
O-M [Sec]	n.s.	***	***	n.s.
M-Y [Sec]	n.s.	*	***	*

O-Y [< Sec]	***	*	*	***
O-M [< Sec]	*	n.s.	n.s.	n.s.
M-Y [< Sec]	**	*	n.s.	***

Notes:
O = old (45=54), M = middle (35-44), Y = young (25-34)
F-tests of statistical significance based on coefficient estimates derived from multinomial logit regressions shown in Table 2.
*p<0.05, **p<0.01, ***p<0.001, n.s. = not significant
Grey shading indicates difference due to moving one step in educational taxonomy

Table 6. Tests of Statistical Significance of Differences Across Cohorts in the Odds of Various Transitions to First Employment relative to Working in a Family Business for Individuals at different points in the Educational Taxonomy, Females, Egypt 2012

Cohort Comparisons	Irregular Wage Work	Regular informal work in informal firm	Regular informal work in formal firm	Formal private sector wage work	Public sector work
O-Y [HE, Ft Sec+]	*	*	*	n.s.	n.s.
O-M [HE, Ft Sec+]	*	**	*	*	n.s.
M-Y [HE, Ft Sec+]	n.s.	n.s.	n.s.	n.s.	n.s.
O-Y [HE, Ft <Sec]	n.s.	*	n.s.	n.s.	***
O-M [HE, Ft <Sec]	*	n.s.	n.s.	n.s.	**
M-Y [HE, Ft <Sec]	***	*	**	*	n.s.
O-Y [Sec]	**	n.s.	n.s.	**	***
O-M [Sec]	*	n.s.	n.s.	n.s.	***
M-Y [Sec]	n.s.	n.s.	n.s.	n.s.	***
O-Y [< Sec]	***	***	**	*	**
O-M [< Sec]	***	n.s.	*	*	n.s.
M-Y [< Sec]	*	**	n.s.	n.s.	**

Notes:
O = old (45=54), M = middle (35-44), Y = young (25-34)
F-tests of statistical significance based on coefficient estimates derived from multinomial logit regressions shown in Table 2.
*p<0.05, **p<0.01, ***p<0.001, n.s. = not significant