

Socioeconomic Status and the Changing Nature of School-to-Work Transitions in Egypt, Jordan, and Tunisia

Abstract

The Middle East and North Africa region struggled to meet the employment aspirations of its increasingly educated youth in the aftermath of structural reforms. This paper examines the evolution of initial labor market outcomes across pre- and post-reform cohorts of school leavers by education and socioeconomic status (SES) in Egypt, Jordan, and Tunisia. The results show that formal jobs for educated new entrants are increasingly allocated according to SES, as measured by parents' education and father's occupation, in Egypt and Tunisia, but not in Jordan. In Egypt and Tunisia, the quality of initial jobs deteriorated for educated new entrants, particularly among those with lower SES. This rising tide of inequality of opportunity in employment may have contributed to the Arab Spring uprisings and remains an important source of frustration for youth and their families to this day.

Keywords: School-to-work transition; Youth; Adulthood; Egypt; Jordan; Tunisia

JEL codes: J62, J21, J24

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The transition from school to work has grown increasingly challenging for youth in many developing countries. Educational attainment rose across cohorts, raising aspirations for employment. Yet structural adjustment policies in the late 20th century, which privatized state-owned enterprises and reduced government spending, led to fewer public sector jobs for educated entrants. The private sector failed to provide formal, quality jobs for this increasingly educated population. Consequently, young people face greater challenges transitioning from school to work compared to earlier generations. With fewer opportunities for quality employment, educated youth must increasingly choose between accepting an undesirable job or delaying entry into employment in the hope of getting a more desirable one. Research shows that the school-to-work transition is the longest in the Middle East and North Africa (MENA) region (Manacorda et al. 2017).

Youth-led demands for social justice were a prominent feature of the Arab Spring protests in the MENA region (Diwan 2013). Yet by standard measures of inequality, the region was not particularly unequal, nor was inequality rising (Belhaj Hassine 2015). The contradiction between the perceived rise in inequality and the stagnation in standard measures of inequality has been termed the “Arab inequality puzzle” (World Bank 2015). We posit that the effects of structural adjustment on occupational mobility may help explain this puzzle. While we do not attempt to explain why the Arab Spring happened, we tackle a related phenomenon—increasing inequality in occupational mobility—which may have contributed to the perception of rising inequality that fueled protests.

The specific question we investigate is: Is the more limited pool of good jobs post-structural adjustment being increasingly allocated on the basis of socioeconomic status (SES)? This growing dependence of school-to-work transitions on SES may have increased both the reality and perception of inequality in ways not captured in standard inequality measures. We specifically

explore whether the duration and quality of school-to-work transitions in MENA may have become increasingly dependent on SES (as measured by parents' education and father's occupation) for post-structural reform cohorts. We focus on how school-to-work transitions have changed for educated workers whose pre-reform experiences led to expectations of formal employment, often in the public sector. Our purpose is not to formally test the differential effects of structural adjustment programs, but rather to understand the implications of these programs on the occupational mobility of educated youth. We also examine gender differences in transitions, given the different social expectations about the necessity of employment for men and women and thus their different fallback positions in the context of the region's male breadwinner/female homemaker norm.

The lengthy school-to-work transitions and low quality of eventual employment in MENA are well-documented in the literature (Manacorda et al. 2017). While changes in the relationship between SES and labor market insertion across cohorts have been previously investigated in Egypt (Binzel and Carvalho 2017; Assaad and Krafft 2021), this paper's comparison across Egypt, Jordan, and Tunisia allows us to investigate how inequality in access to good jobs is linked to different degrees of labor market reform induced by structural adjustment. In all three cases, public sector employment was central to the post-independence social contract (Assaad 2014). Structural reforms broke these social contracts (El-Haddad 2020). Egypt's and, to a lesser extent, Tunisia's structural reforms reduced public sector hiring, while Jordan continued to have a sizable share of employment in the public sector. We thus investigate whether SES has played an increasing role in school-to-work transitions in Egypt and Tunisia post-reforms, in comparison to Jordan. We use comparable labor market surveys to estimate multinomial logit models of initial labor market status and how these statuses may increasingly depend on SES for more recent cohorts.

Background and Conceptual Framework

Background

With the expansion of education and job opportunities in the public sector post-independence, young people in MENA aspired to attain modern transitions to adulthood, where they complete a secondary or higher education and search for formal wage employment (Assaad and Krafft 2021). These modern transitions contrast with the traditional transitions of previous generations and those of the less educated, who tend to go to work immediately after limited (if any) schooling, typically working in a family business or farm, or as informal wage workers (Assaad and Krafft 2021). The social contract of the post-independence era supported rising aspirations for modern transitions, as it included free public services, such as education, and government job guarantees for graduates, in exchange for political acquiescence to authoritarianism (Desai, Olofsgård, and Yousef 2009; Assaad 2014; El-Haddad 2020).

Yet educational attainment outpaced the public sector's ability to absorb graduates, and structural adjustment policies led to a retrenchment of the role of the state in MENA economies, as was the case in other developing countries (Haque 2000). Jordan initiated structural reforms starting in mid-1989, completing the main reforms in 1992 (World Bank 1996). Egypt officially began structural adjustment in 1991, but had been curtailing public sector hiring since the late 1980s (Bromley and Bush 1994; Assaad 1997). Tunisia's structural adjustment plan for 1987-1991 included substantially shrinking the public sector (Saghir 1993), but this does not appear to have happened until at least the second half of the 2000s. Post-structural adjustment, the social contract was broken; economic reforms yielded crony capitalists and a private sector that failed to provide enough of the formal jobs young people aspired to (Malik and Awadallah 2013; Richards et al. 2014; Devarajan and Ianchovichina 2018; El-Haddad 2020; Hinnebusch 2020; Ibrahim 2021).

Social connections, referred to as *wasta*, played an increasingly important role in the economy and society (Binzel and Carvalho 2017).

As in other parts of the world, school-to-work transitions in MENA were characterized by lengthening periods of unemployment as educated youth queued for increasingly scarce public sector jobs and formal private sector jobs (Assaad 1997; Manacorda et al. 2017; Nilsson 2019). This prolonged and more uncertain transition has been termed “waitthood,” short for wait adulthood (Dhillon and Yousef 2009). With anemic growth in private formal employment, the slowdown in public sector hiring meant that educated youth were ultimately forced to settle for less-than-desirable jobs in the informal economy or, in the case of young women, withdraw from the labor force altogether (Assaad et al. 2020).

In contrast to Egypt and Tunisia, Jordan maintained a relatively higher level of public sector employment, despite undertaking structural reforms. As shown in Figure 1, the share of public sector employment in total employment was initially much higher in Egypt and Jordan than in Tunisia. Despite the adoption of a structural adjustment program in Egypt in 1991 (Bromley and Bush 1994; Assaad 1997), the share of the public sector in employment remained high until 2003, after which it declined rapidly, except during a short period following the January 2011 uprisings. In Tunisia, the public sector share declined slightly in the early 1980s, remained fairly stable from the late 1980s to mid 2000s, declined substantially in the second half of the 2000s, increased after the Arab Spring uprisings, and resumed its decline starting in 2015.

In Jordan, the share of the public sector in employment, after some fluctuations in the mid 1990s to early 2000s, increased substantially from 2005 to 2015 and remained high through 2021. There are two reasons why Jordan has maintained a large public sector despite structural adjustment.

First, as a way of promoting political stability, the Jordanian monarchy has used public sector jobs as a form of patronage for the Transjordanian population, which is a crucial political constituency (Yom 2013). Additionally, Jordan's foreign aid inflows have risen with the growing refugee population. This "refugee rentierism" has helped Jordan offset public sector budget deficits (Kelberer 2017). Compared to Tunisia and Egypt where public sector employment is limited to educated groups, public sector employment in Jordan includes sizeable employment in the security services (Assaad and Salemi 2019), which are more accessible to youth from a variety of educational backgrounds.

According to prevailing gender norms in MENA, men are expected to be the breadwinners and must therefore find employment, whereas women can fall back on their normative role as homemakers (Hoodfar 1997; Assaad and Krafft 2015). Pre-structural reform, youth in MENA often queued in unemployment, seeking public sector jobs (Assaad 1997). The post-structural reform increasing inability to translate educational attainment into good jobs manifests itself differently for men and women and across different country contexts. In the absence of their preferred jobs in the public sector or the formal private sector, educated men's fallback position is low-quality informal employment, particularly in Egypt, where decreasing chances of private formal or public sector jobs have led to male youth more rapidly transitioning to informal employment (Assaad, AlSharawy, and Salemi 2022; Krafft, Assaad, and Keo 2022). Educated women who cannot find jobs that meet their, their families', or society's reservation working conditions (Dougherty 2014) fall back instead on non-participation. Women may therefore queue in unemployment until marriage and then withdraw from the labor force altogether if an appropriate job cannot be found (Krafft, Assaad, and Keo 2022). In certain contexts, such as Tunisia, educated men unable to obtain good jobs may also resort to *waithood*, substantially

delaying marriage (Krafft and Assaad 2020). Tunisia’s job market is characterized by a much higher proportion of formal private sector jobs than Egypt’s (El Lahga, Ghali, and Helel 2021; Assaad, AlSharawy, and Salemi 2022), and public sector recruitment rules there favor the long-term unemployed, exacerbating queuing for such jobs (World Bank 2014).

Conceptual Framework

A variety of underlying economic, social, and political forces have been identified as drivers of the Arab Spring (Costello, Jenkins, and Aly 2015; Cammett and Diwan 2018). Individuals – particularly middle class youth – in Egypt and Tunisia called for jobs and social justice (Diwan 2013). Researchers were surprised by the emphasis protesters placed on inequality, since by standard metrics the Arab region was not particularly unequal nor had inequality increased over time (Belhaj Hassine 2015; Assaad et al. 2018). Yet the perception was that inequality was rising, a perception sufficiently at odds with standard measures to be termed the “Arab inequality puzzle” (World Bank 2015). In this paper, we argue that an increasing inability of youth from lower socioeconomic backgrounds to translate education into labor market success post-structural reform may help explain the Arab inequality puzzle.

The effects of structural adjustment programs on inequality are debated in the literature. Proponents of structural reform argue that such reforms will yield a better functioning economy and growth will reduce poverty (Momani 2010). However, critics of structural reform argue that such reforms exacerbate inequality (Haque 2000). The empirical evidence on inequality and structural reform is mixed (Ferreira 1996; Ocampo 2004). The effects of structural reform on intergenerational occupation mobility remain an unanswered question, but one on which we hope to shed some light on for MENA.

The inability to translate educational mobility into socioeconomic advancement was one explanation for the Arab Spring. Binzel and Carvalho (2017) show how increases in intergenerational educational mobility in Egypt did not translate into occupational mobility. They theorize that unfulfilled expectations of social mobility can potentially lead to increased religiosity, such as the Islamic revival that happened in Egypt since the 1970s. Campante and Chor (2012) argue that the expansion of education in the Arab World, coupled with the increasingly poor labor market prospects of graduates, led to increased political activism and ultimately the Arab Spring protests. Although we do not directly test the link between changes in school-to-work transitions and the Arab Spring, our work on the changing role of SES in the school-to-work transition can shed light on potential drivers of the Arab Spring.

This paper focuses on how occupational mobility has changed post-structural adjustment. Our main hypotheses are as follows:

H1: Cohorts of educated graduates who enter the labor market post-structural adjustment will experience a greater role of SES in obtaining good (formal) jobs in Egypt and Tunisia but not in Jordan.

H2: The inability to get good jobs for educated youth of lower SES backgrounds post-structural adjustment will manifest itself differently, as informality for men in Egypt and as waithood in Tunisia and for women in Egypt.

H1 examines whether educational mobility is, post-reform, increasingly less likely to deliver occupational mobility in Egypt and Tunisia (but not Jordan), with important implications for the grievances experienced by recent cohorts and their proclivity to engage in political protests. Jordan acts as an important point of comparison for Egypt and Tunisia, as it did not, ultimately,

substantially reduce public sector hiring, and, perhaps not coincidentally, did not experience substantial Arab Spring protests.

H2 explores how youth who are facing increasingly difficult transitions respond in the face of different chances of obtaining formal employment. Whether youth queue for formal jobs or just accept informal jobs will depend on the relative availability of formal jobs and what their fallback position is. In Egypt where formal jobs are increasingly scarce, we hypothesize that male youth will enter more quickly into informal employment, whereas in Tunisia, where formal jobs are a larger part of the job mix, youth will more likely queue for them. With a different fallback position for women in Egypt, increasingly difficult transitions for them translate into more waithood (and ultimately non-participation).

Data

Surveys

The data requirements to assess the relationship between school-to-work transitions and SES over time (pre- and post-structural reform) are substantial. We need data on school leaving and initial labor market transitions for different cohorts as well as data on natal household SES even for those who have left their natal households. In MENA, only the Labor Market Panel Surveys (LMPSs) meet those data requirements. The LMPSs have been fielded in Egypt, Jordan, and Tunisia. Our focus on these countries is due primarily to data availability. Results do not necessarily generalize to all countries in the region – indeed, we show substantial and important variation post-structural reform between Egypt, Jordan, and Tunisia. These comparisons have important implications for constructing new social contracts in the MENA region and understanding the implications of structural reform for social contracts elsewhere as well.

The LMPSs are the creation of the Economic Research Forum (ERF) and are fielded by national statistical offices. These household surveys have full educational and labor market histories, as well as information on parents' education and employment (when the respondent was 15) even if parents are no longer in the respondent's household. These household surveys collect detailed individual data with very similar questions, allowing for comparisons across countries.

Our analysis uses the Egypt LMPS 2012 (ELMPS 2012), Jordan LMPS 2016 (JLMPS 2016),¹ and the Tunisia LMPS 2014 (TLMPS 2014). The ELMPS 2012 is the third wave of a panel and the JLMPS 2016 the second wave, while TLMPS 2014 is the base wave of a planned panel. Since we exploit the retrospective data, we do not make use of previous waves of the panels except in validating our measure of SES for the youngest cohorts in Egypt and Jordan. ELMPS 2012 sampled 12,060 households and 49,186 individuals. JLMPS 2016 sampled 7,229 households and 33,450 individuals. TLMPS 2014 sampled 4,521 households and 16,430 individuals.

The data are nationally representative after weighting. Weights are used throughout our analyses. Weights account for initial sample design of the base wave, and for the Jordan and Egypt panels they also account for attrition, split households, and the design of refresher samples. From 2006 to 2012 in Egypt, 17.3 percent of households attrited (Assaad and Krafft 2013). From 2010 to 2016 in Jordan, 38.1 percent of households attrited (Krafft and Assaad 2021). All three surveys have been validated against countries' censuses and other national surveys, showing generally high rates

¹ We only include Jordanians in our analyses, since transitions for refugees or other migrant groups are likely to be shaped by conflict and migration.

of consistency on demographic and labor market measures (Assaad and Krafft 2013; Assaad et al. 2016; Krafft and Assaad 2021).²

Outcome

Our outcome variable is an individual's initial labor market status, the first job, if any, within three years after school exit or age 15, whichever comes later. We set the bound of three years to give an adequate span to capture most initial transitions, to have a consistent time window after school exit across cohorts, and still be able to look at recent school leaving cohorts. We create the labor market status variable using retrospective information about first employment status (wage work vs. non-wage work), the sector of employment (public vs. private), and the formality of employment (covered by social insurance or a formal contract or not). If the individual has not yet worked three years after school exit (or age 15), she or he is assigned the status "not yet worked."

There are thus five initial labor market statuses that we observe: (1) employment in family businesses or farms, which includes unpaid family workers, self-employed individuals, and employers, (2) informal private sector wage work, where informality is defined as having neither social insurance coverage nor a written contract, (3) formal private sector wage work, defined as wage work covered by either a written contract, social insurance coverage, or both, (4) a public sector job (in government or state-owned enterprises), or (5) having not yet worked. Not yet worked identifies individuals who did not ever work as well as those who started to work more than three years after "school exit" and thus had a protracted transition to work. We interpret changes in the share of those who have not yet worked across cohorts as evidence of changes in

² For more information on ELMPS 2012 see Assaad and Krafft (2013); JLMPS 2016 see Krafft and Assaad (2021); TLMPS 2014 see Assaad et al. (2016). Data from all three countries are publicly accessible through www.erfdataportal.com (OAMDI 2018).

the prevalence of waithood. We do not distinguish between unemployment and being out of the labor force, since waithood might take either form and unemployment is difficult to distinguish from non-participation in retrospective data (Assaad, Krafft, and Yassin 2018). We refer to employment in a family business or farm as a traditional transition. Formal private sector wage work and public sector jobs are successful modern transitions, whereas informal private sector wage work (particularly for the educated) or not yet working signal failed modern transitions. We undertake our analyses separately by sex, since school-to-work transitions are highly gendered in MENA. Since few women work, we have smaller samples of women transitioning to employment and we are therefore forced to reduce the number of employment categories for women in order to avoid small cell sizes. Also, the dominant gender norm of a female homemaker does not compel women who are unable to make successful modern transition to take up low-quality informal work. Given the inhospitability of the private sector to married women in all three countries, the formal/informal distinction within private sector work is less salient for women.³ Our labor market statutes for women are therefore: (1) private sector work (including both wage and non-wage work), (2) public sector, and (3) not having yet worked.

Covariates

Our analysis examines how school-to-work transitions have changed across cohorts of school leavers. We are particularly interested in comparing cohorts who entered the labor market pre- and post-structural reform. If we simply examined birth cohorts, they would be transitioning under different labor market conditions depending on their educational attainment, confounding attainment and shifts in the labor market. To avoid this bias, our cohorts are defined based on the

³ For example, among the oldest cohort of Jordanian women, only 5 transitioned to informal private sector wage employment. Among Jordanian women in the middle cohort, only 13 transitioned to such employment.

year of school exit.⁴ For those who exited school before turning age 15 (or never went to school), we classify their year of school exit as the year they turned 15.

We define three cohorts of school exit (Table 1). Given that we identify work within three years of school exit, we start our school exit cohorts three years prior to each survey (e.g. in 2009 for ELMPS 2012) and move backwards by decades (e.g. 2000-2009 is the youngest cohort in Egypt). The exact years bounding the cohorts depend on the timing of the survey. We refer to the cohorts as the youngest (most recent school exit), middle, and oldest (school exit back into the 1980s). The transition of the oldest cohort would have generally preceded the structural reforms that reduced public sector hiring of graduates, while the middle and youngest cohorts would have entered after reforms were adopted.

[[Table 1 near here]]

H1 is focused on how changes in the school-to-work transition may have evolved over time, from pre- to post-reform, to increasingly depend on SES for educated new entrants. Therefore, we construct an education and SES taxonomy, hereafter referred to as “the taxonomy,” defined as: (1) low education, (2) intermediate education, (3) high education and low SES, and (4) high education and high SES. Since individuals who do not complete high levels of education are mostly from low SES backgrounds, we only distinguish by SES among the high education group. Because of differences in historical levels of educational attainment across countries, we define these categories somewhat differently in Egypt and Jordan than in Tunisia.

⁴ In the supplemental online appendix, Tables A8 and A9, we provide results using birth cohorts instead; results are substantively similar.

For Egypt and Jordan, low education is defined as having less than upper secondary attainment, intermediate education as having an upper secondary certificate, and high education as having tertiary attainment. The SES groups are defined based on parents' characteristics.⁵ For Jordan and Egypt, high SES means that both parents had at least basic education or that the father was in a high-status occupation.⁶ Low SES is defined as one or both parents not having basic education and the father not having a high-status occupation.⁷

Because increases in educational attainment are more recent in Tunisia, educational attainment is lower among older cohorts than in Egypt and Jordan. We therefore define low education in Tunisia as having less than a basic education, intermediate education as having a basic education, and high education as having attended upper secondary school or higher.⁸ Additionally, we consider individuals with one or both parents with a basic education as high SES, while those for whom neither parent finished basic schooling are considered low SES. We do not consider father's occupation in Tunisia, since having a parent with a basic education in Tunisia already constitutes

⁵ Youth in MENA typically do not leave their natal household until they marry (Assaad and Krafft 2015). The school-to-work transition typically precedes marriage, as marriage is dependent on employment (for men; and if women work they tend to do so before marriage) (Krafft and Assaad 2020; Krafft, Assaad, and Keo 2022).

⁶ High-status occupations include professional, managerial, technical, clerical, or sales occupations. Fathers who work in the armed forces in Jordan are also considered high status.

⁷ Figure A1 in the supplemental online appendix demonstrates the correlation between the youngest generation's SES and their natal household wealth quintile, as observed in the preceding wave for Egypt and Jordan, for those still in their natal household with parents as head of household. The majority (78% in Egypt, 83% in Jordan) of youth were successfully observed and there is a clear correlation between our SES measure and household wealth. We also examine school-to-work transitions based on a taxonomy where SES is defined only as a father having a high-status occupation (Tables A12 and A13 in the Appendix). The distributions are similar to our main results. In some cases, the cell counts using this distribution are quite small (see Appendix tables), leading us to prefer our main education-SES taxonomy.

⁸ Among older cohorts so few completed upper secondary or higher in Tunisia that we defined "high education" as those who even attended upper secondary school but did not necessarily complete it.

a very select group.⁹ Table A1, in the appendix, presents these taxonomy categories and sample sizes by cohort, sex, and country.

Methods

We initially present descriptive statistics on the evolution of the taxonomy across school exit cohorts by sex in each country. We then model for individual i how the relative probability of initial labor market status j depends on taxonomy, x , cohort, c , and their interaction, using a multinomial logit model. The model assumes that the probability of initial labor market status j , p_j , relative to the probability of the base labor market status, p_0 , is given by:

$$\ln\left(\frac{p_j}{p_0}\right) = \alpha_j + \sum_{k=1}^3 \beta_{kj} x_{ki} + \sum_{l=1}^2 \gamma_{lj} c_{li} + \sum_{k=1}^3 \sum_{l=1}^2 \delta_{klj} x_{ki} \times c_{li} + \varepsilon_{ij}$$

where the taxonomy, x , varies across four categories and is thus represented by three dummy variables ($k = 1, 2, 3$), with the reference state being “high education, high SES.” Cohort c varies across three categories and is represented by two dummy variables ($l = 1, 2$), with the reference being the oldest cohort (pre-reform). We conduct our multivariate analysis for men and women from each country separately. For men, we use public sector work as the base outcome, and for women, we use not having yet worked as the base outcome, as these are the most common labor market statuses for men and women.

Our appendix tables present exponentiated coefficients, which can be interpreted as odds ratios. In addition, we use our multinomial logit estimates to predict the probabilities for all j outcomes (including the base category) across cohorts and the taxonomy. Since our model includes main effects and interactions for the taxonomy and cohorts, these predicted probabilities are the same

⁹ In the supplemental online appendix, Table A10 and A11, we undertake an alternative approach to addressing the size and shifting relative position of parental education over time; we add parental years of schooling and take the top 10% of parental education in each generation (and country) as “high SES.” Results are substantively similar.

as the (descriptive) proportion of men or women who transitioned to each outcome by cohort, taxonomy, sex, and country. We plot these predicted probabilities with their 90 percent confidence intervals for each initial labor market status.

We then use a series of Wald tests to test our hypotheses. We specifically test whether the difference by SES in the predicted probability of an outcome for the high education group has changed for post-reform cohorts (middle or youngest school exit cohorts) as compared to the oldest (pre-reform) cohorts. That is, we test where there are significant changes in differences by SES across cohorts. For H1, we focus on the potentially increasing role of SES in obtaining good jobs (public sector and private formal sector wage work). For H2, we focus on whether low SES youth shift into informal work or queueing/waiting.

Results

Taxonomy across cohorts

Figure 2 displays the distribution of the taxonomy by cohort, sex, and country. There have been substantial increases in education across cohorts in all three countries. High levels of education (tertiary in Egypt and Jordan; entering secondary in Tunisia) expanded across cohorts. The increases in Egypt and Tunisia were particularly pronounced, with a rise from 16 percent in Egypt in the oldest cohort to 28 percent in the youngest cohort (a 75 percent increase), and in Tunisia, from 34 percent in the oldest cohort to 52 percent in the youngest cohort (a 53 percent increase). Jordan's expansion was more moderate in both relative and absolute terms, from 24 percent to 34 percent (a 42 percent increase). Educational gains were most pronounced for women in all three countries. Similarly, high education, high SES had relatively larger increases in all three countries across cohorts. This shift is due to both expansions in what we define as high levels of education and increases in parental education across cohorts.

[[Figure 2 near here]]

Models of initial labor market statuses

We discuss the results of our models in terms of the predicted probabilities of different initial labor market statuses across the taxonomy and cohorts. These predicted probabilities are identical to the descriptive proportion of individuals who transition to different initial labor market statuses by cohort, taxonomy, sex, and country. We present our results separately for men and women. Within a country, sex, and taxonomy group the probabilities of different labor market statuses sum to one. We examine first how outcomes are different across the taxonomy for each country, focusing on the youngest cohort. Second, we examine how the relationship between taxonomy and initial labor market status has evolved across cohorts. We test whether the differences by SES for the high educated in the probabilities of an initial labor market status are different for the young or middle cohorts (post-reform) versus the oldest cohort (pre-reform) (testing H1 and H2). The multinomial logit results, in terms of odds ratios, are shown in Appendix Tables A2 and A3 in the online appendix. Tables A6 and A7 present the descriptive probabilities (as percentages).

Men: Differences across the Taxonomy

In this section we briefly establish the differences across the taxonomy for men, focusing on the youngest cohort. In Egypt and Tunisia, there is a moderate chance of the youngest cohort having an initial labor market status of family business or farm, more so for the less educated and lower SES (Figure 2). For Jordan's youngest cohort, the probability of initially working in a family business or farm never rises above 5 percent. In all three countries, there is a strong relationship between informal private sector wage work and the taxonomy (Figure 4). Egypt has the highest prevalence of informal private sector wage work, followed by Tunisia and Jordan. While these

may be relatively traditional transitions for the less educated, they are likely failed modern transitions for the educated.

[[Figure 3 near here]]

[[Figure 4 near here]]

Men with better backgrounds have more successful transitions to formal jobs in the private sector (Figure 5). In Egypt, the probability of formal private sector jobs increases sharply across the taxonomy from 1 percent for the low education group to 22 percent of the high educated with high SES in the youngest cohort (similarly from 3 to 16 percent in Tunisia). Formal private sector employment is more prevalent and relatively more equitable in Jordan. Even some of the low educated men in the youngest cohort (8 percent) enter such employment but still more (25 percent) of the high educated at both SES levels.

Access to public sector jobs (Figure 6), although mostly restricted to the high educated, is more equitable than formal private wage employment in Egypt, where 25 percent of the high education low SES group and 20 percent of the high education high SES group enter the public sector in the youngest cohort. There is a weak gradient by education in Jordan for access to public sector jobs. For the youngest cohort, 23 percent of men with low education and 38-40 percent of those with intermediate or higher education (of either SES level) enter the public sector. In Tunisia, in the youngest cohort, the probability ranges from 1 to 5 percent across low, intermediate, and high education low SES, with only those with high education high SES reaching 16 percent.

[[Figure 5 near here]]

[[Figure 6 near here]]

In line with H2, waithood is fairly limited among men in Egypt, with relatively few men having not yet worked within three years after school exit and only small differences across the taxonomy (Figure 7). There is a strong education gradient in Jordan in terms of waithood. A majority – 51 percent – of those with low education in the youngest cohort have not yet worked, but only 22-24 percent of the high education groups. Among Tunisia’s youngest cohort, 48-58 percent across groups (high educated low SES is the highest) have not yet worked after three years. Thus, while the less educated also struggle to find good jobs and experience waithood, the high educated low SES youth face particularly lengthy transitions in Tunisia.

[[Figure 7 near here]]

Men: Changes across cohorts

We now turn to how the relationships between the taxonomy and initial labor market status have changed across cohorts (youngest and middle [post-structural adjustment] versus oldest [pre-structural adjustment]). We particularly highlight changes across cohorts for the educated by SES (testing H1 and H2). Statistical tests are shown in Appendix Table A4. In Egypt, the probability of informal wage work rose significantly across cohorts, particularly for the high education low SES group (Figure 4). The results corroborate H2; in Egypt’s labor market, difficult transitions for men of high education and low SES are primarily manifesting as informal work. In Jordan, the probability of such informal work was consistently low. In Tunisia, the probability of informal wage work grew for the less educated, but remained well below that of Egypt, and only one of the two post-reform cohorts had a significant difference with the pre-reform cohort, without a clear pattern.

There have not been significant or substantial changes in transitions to formal private wage work across cohorts in Egypt (Figure 5). In contrast, the share transitioning to formal private sector wage work in Jordan has grown substantially across cohorts, particularly from the oldest to the middle, and especially for the high educated. Increases in formal private sector wage work were, however, SES neutral among the educated (no significant differences) in line with H1. The likelihood of transitioning into formal private sector work in Tunisia fell significantly for the high education low SES group over time and actually rose somewhat for the youngest and middle compared to oldest among the high education high SES group. This statistically significant increasing dependence on SES corroborates H1.

In Egypt, the largest change across cohorts has been in public sector employment. The probability of a public sector transition dropped significantly and substantially for the high education low SES groups (the latter corroborating H1, see Figure 6). While the role of the public sector declined for Jordan's middle cohort, in line with the trends shown in Figure 1, it rose among the youngest cohort to above the levels of the oldest cohort, especially for the low SES groups (differences are significant). The probability of public sector work dropped across cohorts in Tunisia, particularly for the high education low SES group. School-to-work transitions to the public sector are becoming increasingly dependent on SES in Tunisia (corroborating H1; significant differences for the middle cohort).

In Egypt, there are relatively small and not significant differences across cohorts for the not yet worked state (Figure 7). This result is consistent with H2, in that failed modern transitions for men in Egypt primarily manifest as informal work. In Jordan, the probability of not yet working has dropped over time especially for the high education low SES group (but differentials are not significant). In Tunisia, the high educated low SES are increasingly experiencing waitthood

(significant differences). This finding in Tunisia is consistent with H2, with difficult transitions manifesting as waithood in Tunisia as low SES educated youth increasingly queue for formal jobs.

Comparing across statuses, Egypt's structural reform and public sector retrenchment strongly affected young men with high education but low SES (consistent with H1), and formal private sector employment remained limited and the purview of the high educated high SES group. This shift led to a rise in informal wage employment, which became the main fallback option for educated Egyptian men with low SES (consistent with H2). In Jordan, the private formal sector expanded, and access to it was not particularly dependent on SES (as per H1). After a reversal, the public sector also expanded, and was not dependent on SES (as per H1). In Tunisia, opportunities worsened substantially for men with high education and low SES (consistent with H1). The high educated low SES men moved to very high levels of waithood (consistent with H2).

Women: Differences across the Taxonomy

In this section we briefly describe differences across the taxonomy for the youngest cohort of women, before turning to how these differences have changed over time. Among the youngest cohort of Egyptian women, the probability of transitioning to private sector work (which includes both wage and non-wage work) does not vary much across the taxonomy (Figure 8). In Jordan, among the youngest cohort, women with low or intermediate levels of education have a very low probability of transitioning into private sector work (3-4 percent), compared to a higher probability (15-19 percent) for those with high education, irrespective of SES. In Tunisia, within the youngest cohort, only 10 percent of low educated women transitioned to the private sector, compared to 23 percent of the intermediate educated and 24 percent of the high educated low SES. The probability of private sector work falls back to 14 percent for the high educated high SES, primarily because of their greater access to the public sector.

[[Figure 8]]

There is a substantial gradient across the taxonomy in the probability of an initial transition to public sector work (Figure 9). Women from the youngest cohort with low or intermediate education levels have a at most 4 percent chance of obtaining public sector work in Egypt, Jordan, or Tunisia. In Egypt, this rises to 20 percent for high education and low SES, and 26 percent for high education and high SES. In Tunisia, chances for the high educated are lower but also depend on SES, 7 percent of the high education low SES and 12 percent of the high education high SES. In Jordan, high educated women transition into public sector employment irrespective of SES (13-14 percent).

[[Figure 9 near here]]

The residual state of not yet worked (and for women, may never work) varies by education and SES in Egypt, ranging in the youngest cohort from 85-86 percent for the low and intermediate education groups to 67 percent for high education low SES, and 58 percent for high education high SES (Figure 10). In Jordan, 97 percent of low educated and 93 percent of intermediate educated women had not yet worked, compared to 68 percent of high education low SES and 71 percent of high education high SES women. While 90 percent of low educated Tunisian women have not yet worked in the youngest cohort, 77 percent of intermediate education women, 69 percent of high education low SES women, and 75 percent of high education high SES women have not yet worked.

[[Figure 10 near here]]

Women: Changes across cohorts

We now turn to how the relationship between the taxonomy and labor market status has changed over time. In Egypt, we find modest increases in women's initial transition to private sector employment across cohorts (Figure 8). The differences by SES across cohorts are not significant (see Appendix Table A5 for statistical tests). In Jordan, the probability of private sector work has risen across cohorts, particularly at the high education level and for women of low SES (but again changes in differences by SES are not significant) (Figure 8). In Tunisia, there has been a substantial increase in private sector work for women across cohorts, particularly at the high education low SES levels (Figure 8), with young versus oldest differences by SES statistically significant.

Regarding transitions to the public sector in Egypt, there has been a large drop across cohorts for intermediate through high education, sharpening the SES gradient among the high education group (but changes in differences by SES are not significant) (Figure 9). Public sector work has remained almost constant in Jordan (consistent with H1 for Jordan) (Figure 9). In Tunisia, as in Egypt, there was relatively more public sector work retained for high education, high SES, than low SES, but changes were not significantly different by SES.

Not yet working has risen across cohorts of women in Egypt, particularly for the educated (no differentials are significant) (Figure 10). Thus, for women in Egypt, increasingly difficult transitions manifested primarily as waithood (consistent with H2). In Jordan, across cohorts, an initial status of not yet working has declined (and relatively invariant to SES consistent with H1), largely driven by increases in the probability of private sector work and a stability in access to public sector work (no significant differentials). The not-yet-worked category among women in

Tunisia has fallen slightly across cohorts, particularly for the high education low SES groups, who are increasingly taking up private sector jobs (counter to H2).

Comparing across countries, while Jordan has low probabilities of transitions to employment for women, the trend across cohorts is more promising among those with high education and is primarily driven by growing opportunities in the private sector and the relative stability of the public sector. Likewise, in Tunisia the private sector has contributed to increases in transitions to work, particularly for women with high education but low SES. In contrast, Egyptian women have become less able to make the transition to work across cohorts, due to the large drop in public sector opportunities being met with only a very slight increase in private sector opportunities.

Discussion

This paper undertakes a comparative approach, estimating how SES and education shape initial labor market outcomes across countries pre- and post-structural reform. We posit that a rising role of SES in labor market transitions post-reform may help explain the high perceived, but low measured inequality that characterized the “Arab inequality puzzle.” We specifically demonstrate that the ability of education to translate into better occupational outcomes is increasingly dependent on SES in Egypt and Tunisia, but not Jordan (H1). We find this result for men, but not for women (who largely do not ever work). This research builds on previous work in Egypt by Binzel and Carvalho (2017) and Assaad and Krafft (2021), who had demonstrated declining socioeconomic mobility in Egypt.

Why did Jordan have a different trajectory of socioeconomic mobility? In Jordan, public sector employment remained broadly available, across education and SES, despite structural reform, and in part due to the important role of the security services in public sector hiring of young men

(Assaad and Salemi 2019). Structural adjustment programs in Egypt and Tunisia led to substantial decreases in the role of the public sector in the labor market prospects of educated workers.¹⁰ The “social contract” that traded subsidized services and public sector jobs for political acquiescence ended with structural reforms (Richards et al. 2014; El-Haddad 2020; Hinnebusch 2020; Ibrahim 2021). The breakdown of the social contract and loss of public sector employment opportunities may have contributed to the sense of injustice articulated in the Arab Spring in Egypt and Tunisia.

Another important contrast between countries is in terms of the nature of their private sectors. Formal private sector jobs are most available in Jordan, followed by Tunisia, and least available in Egypt, where such employment is largely informal. One reason why the private formal sectors in Jordan and Tunisia have been more able to absorb educated new entrants may be the relative costs of formality. Social insurance costs are much higher in Egypt; 41 percent of the basic wage¹¹ compared to 18 percent of the wage in Jordan and 26 percent in Tunisia (Roushdy and Selwaness 2015; Alhawarin and Selwaness 2018; Mehdi and Marouani 2016).

Good jobs for the high-educated in Jordan are also not demarcated by SES in the private sector. In contrast, private formal jobs are strongly dependent on SES among the educated in Egypt and Tunisia (consistent with H1). This may be because networks play a larger role in educated entrants’ job search in Egypt than Jordan (Assaad, Krafft, and Salehi-Isfahani 2018). Weak information on the skills of candidates may lead to hiring through networks or using SES as a proxy for skills (Assaad, Krafft, and Salehi-Isfahani 2018).

¹⁰ The rapid increase in the share of educated workers in Tunisia makes it much less likely that each of these workers will obtain a public sector job.

¹¹ Egypt has a lower ceiling for the pensionable wage, 875 EGP for the monthly basic wage (Roushdy and Selwaness 2015). The median monthly wage in Egypt in 2012 was 900 EGP and 700 EGP for youth aged 15-24 (Said 2015). Thus, new entrants would generally be facing this higher social insurance cost, although some high-earners might have an effective rate below 41 percent.

The higher prevalence of waitthood in Tunisia (consistent with H2) may be because the option of obtaining formal employment is greater than in Egypt, and that the long-term unemployed receive priority for public sector jobs (World Bank 2014), encouraging young men to search longer for such work rather than fall back on informal employment.

Besides differences across countries we also note important differences by gender. An inability to obtain a good job (usually in the public sector) for educated women does not necessarily translate into informalization of employment as it does for men, since men and women have different fallback positions. Given prevailing social norms, women in Egypt tend to fall back on waitthood or non-participation in employment when their preferred job options are no longer available. As in Egypt, educated women with low SES in Tunisia have been increasingly relegated to waitthood and non-participation, but in this they are not all that different from their male counterparts who are also taking longer to transition into employment. Conversely, with an increasing ability to obtain private formal employment and more stability in public employment opportunities, educated women in Jordan are more able to enter into employment than their older counterparts.

Limitations

Our paper focuses on how the relationship between SES and initial labor market status has evolved over time and across countries for educated new entrants. The results are specific to Egypt, Jordan, and Tunisia, and do not necessarily generalize to the MENA region or other countries. Indeed, the contrasts between countries are a critical finding of our work. These contrasts can help inform our understanding of the breakdown of old social contracts and potential for new social contracts in the region, as well as implications of structural reform for social cohesion outside the region.

One concern with our data would be the use of retrospective information on family SES and initial labor market status. Research on the LMPSs comparing retrospective data consistency over waves and with contemporaneous panel data shows generally good consistency on these key variables (Assaad, Krafft, and Yassin 2018; Krafft and Assaad 2021), but measurement error remains a concern, particularly if it is systematic.

We cannot be certain whether differences are causal; it could be, for example, that the relationship between ability (which relates to education in the taxonomy but is unobserved) and initial labor market status is what is changing over time. Reverse causality is unlikely, since parental SES and education are pre-determined relative to initial labor market status. It is, however, possible that individuals make different educational investment choices depending on returns in the labor market. Furthermore, although we are observing pre- and post-structural reform generations, we cannot directly test a causal relationship between structural reform and labor market insertion. The results nonetheless underscore important and evolving inequality by SES in labor market outcomes.

Areas for future research

While we have proposed an explanation for the Arab inequality puzzle based on the evolution of the relationship between SES and initial labor market status across countries, this is also an important area for future research. Empirically assessing whether rising inequality along SES lines contributes to feelings of injustice and political action might be done through public opinion data. Further research on the consequences of these shifts is also needed, although causal identification is challenging.

Another critical area for future research is investigating how to address waithood and the rising role of SES in youth labor market outcomes. The weak information provided by the education system on graduates' skills and the role of networks in hiring in the private sector (Assaad, Krafft, and Salehi-Isfahani 2018) point to two important areas for intervention to reduce the role of SES: (1) better signals of skills and (2) incentivizing public posting of job vacancies. Overall weak labor demand in the region has many fundamental structural causes, such as crony capitalism (Richards et al. 2014), that need to be addressed.

Conclusions

In this paper, we demonstrated that in Egypt, Jordan, and Tunisia, educated youth who exited school pre-structural reform were mostly able to undertake modern school-to-work transitions by entering into public sector employment and to a lesser extent private formal employment. With structural reform, as public sector opportunities declined and education expanded, the transition from school-to-work for educated youth became more protracted and uncertain, as well as more dependent on SES in Egypt and Tunisia, but not Jordan.

The increasing importance of SES in Egypt and Tunisia, but not Jordan, may illustrate the potential for rising economic inequality to contribute to additional social and political challenges in contexts with insufficient good jobs. The Arab inequality puzzle, whereby perceived inequality has risen, but not standard measures of inequality, may be related to the increasing role of SES in access to good jobs. While we are not directly testing for the effect of these changes on the Arab Spring uprisings, and although there are a variety of competing theories as to their cause, some theories have links to the patterns observed here. For instance, a broken social contract is cited as a key potential cause of the Arab Spring (Devarajan and Ianchovichina 2018; El-Haddad 2020). Equitable and middle-class access to public sector jobs was, historically, part of that social

contract. The increased role of SES in accessing good jobs in Egypt and Tunisia, but not Jordan, may have played a role in the involvement of middle-class youth in the Arab Spring protests in Egypt and Tunisia. Others have emphasized the inability to translate educational mobility into economic mobility as a driving force behind the Arab Spring uprisings (Campante and Chor 2012; Binzel and Carvalho 2017). Ongoing efforts to provide equitable economic opportunities and establish a new social contract (El-Haddad 2020) will have to address the fundamental economic and social problems leading to increasingly difficult and inequitable school-to-work transitions.

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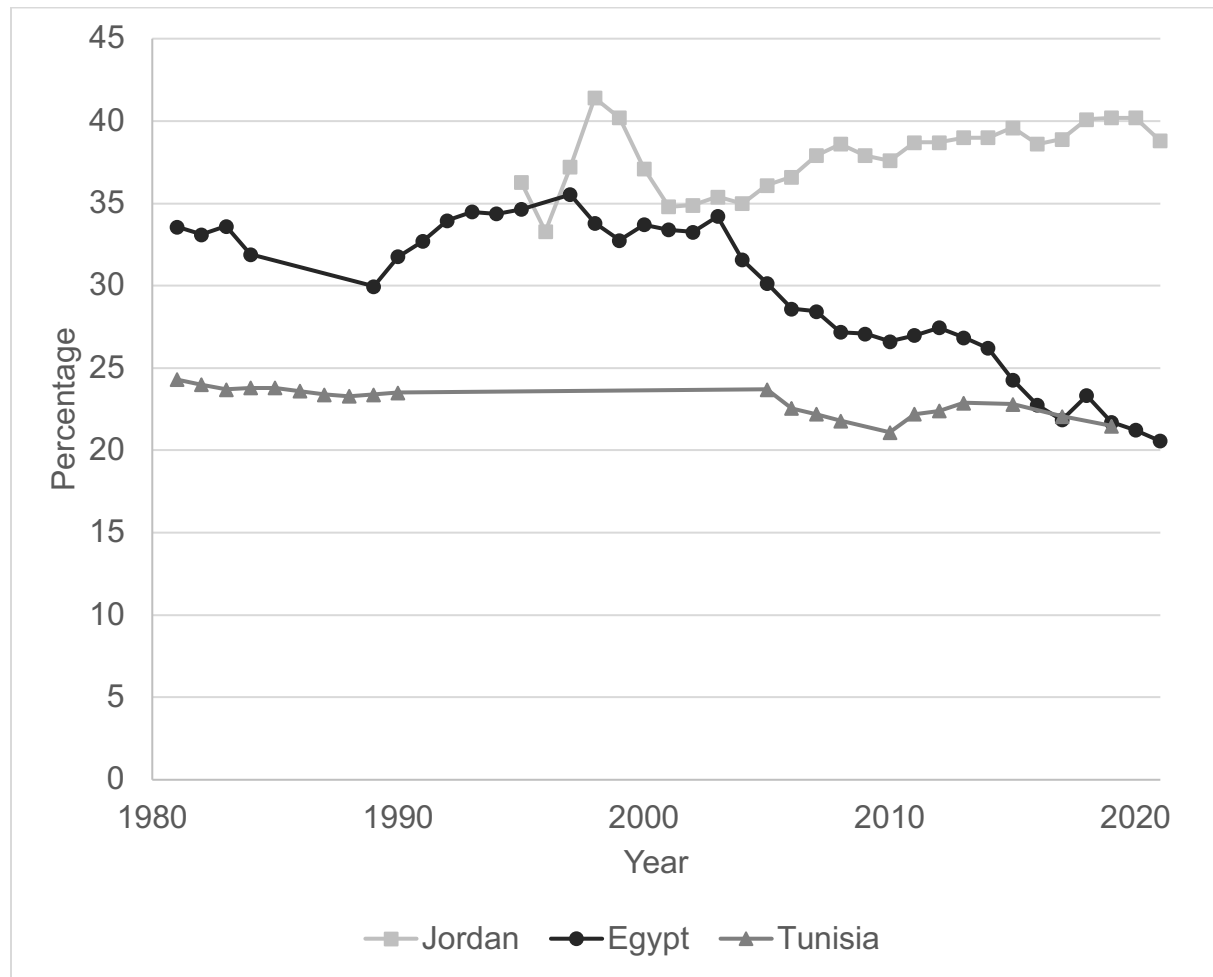
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Figure 1: Public Sector Employment as a Percentage of Total Employment, by Country, 1981-2021

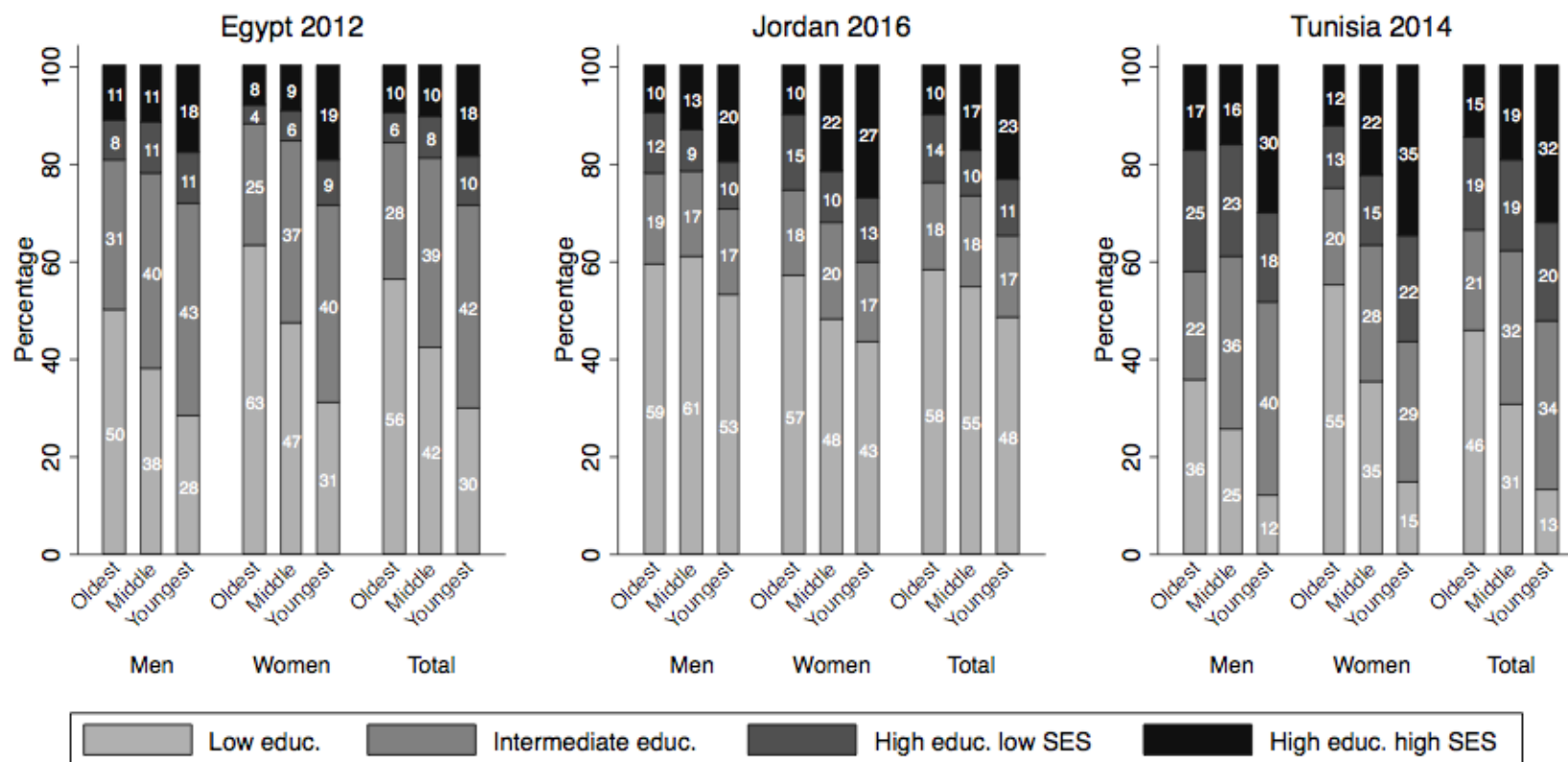


Sources: Authors’ construction based on available data (Central Agency for Public Mobilization and Statistics (CAPMAS); Department of Statistics (Jordan) 2022; Assaad and Amer 2008; El Lahga, Ghali, and Helel 2021; ILO STAT 2022).¹²

Note: Age groups vary over time and across sources.

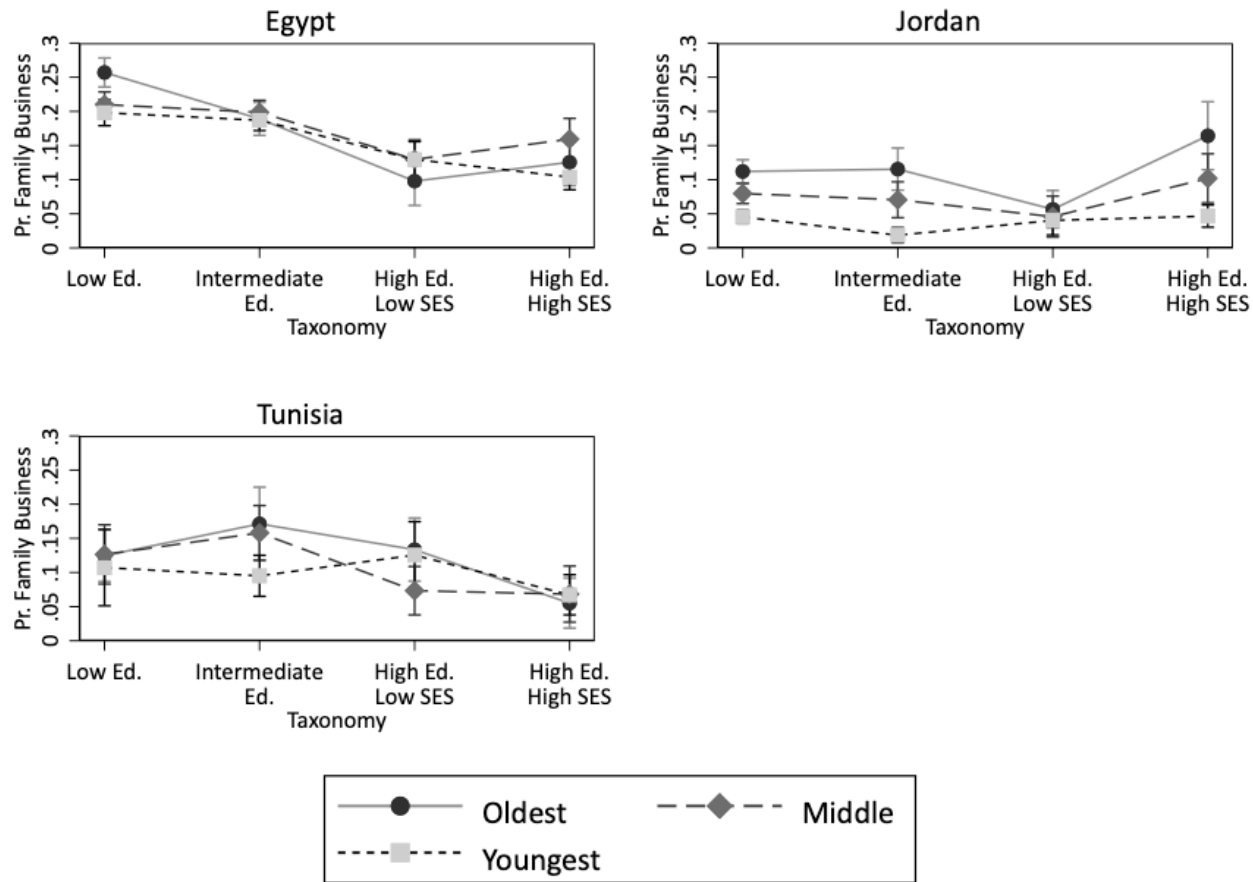
¹² Additional Tunisian data from correspondence with the Tunisian Institute of Competitiveness and Quantitative Studies.

Figure 2: Education and Taxonomy by Cohort, Sex, and Country (Percentage)



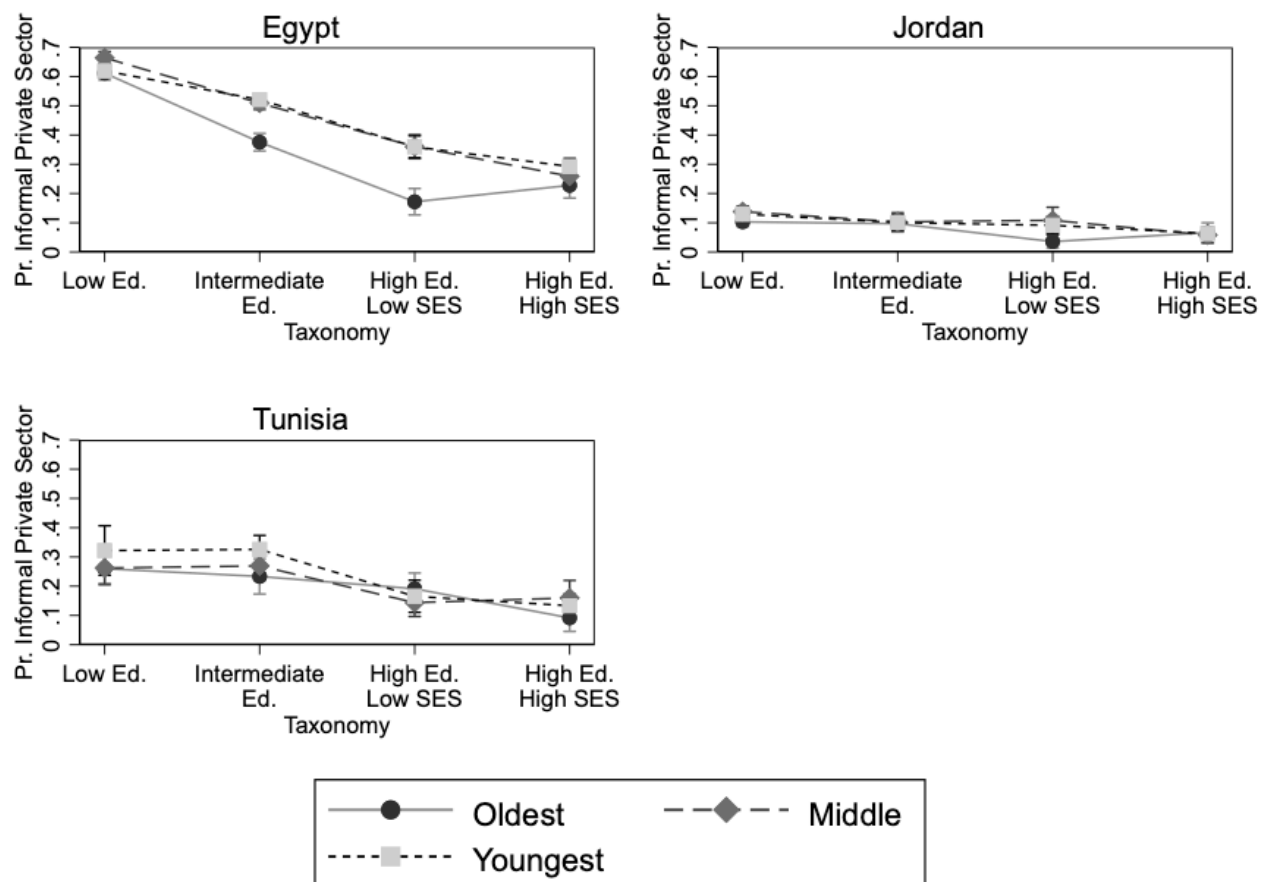
Source: Authors' calculations based on ELMPS 2012, TLMPS 2014, JLMPS 201

Figure 3: Predicted Probability of Initial Labor Market Status of Family Business by Cohort, Taxonomy, and Country, Men



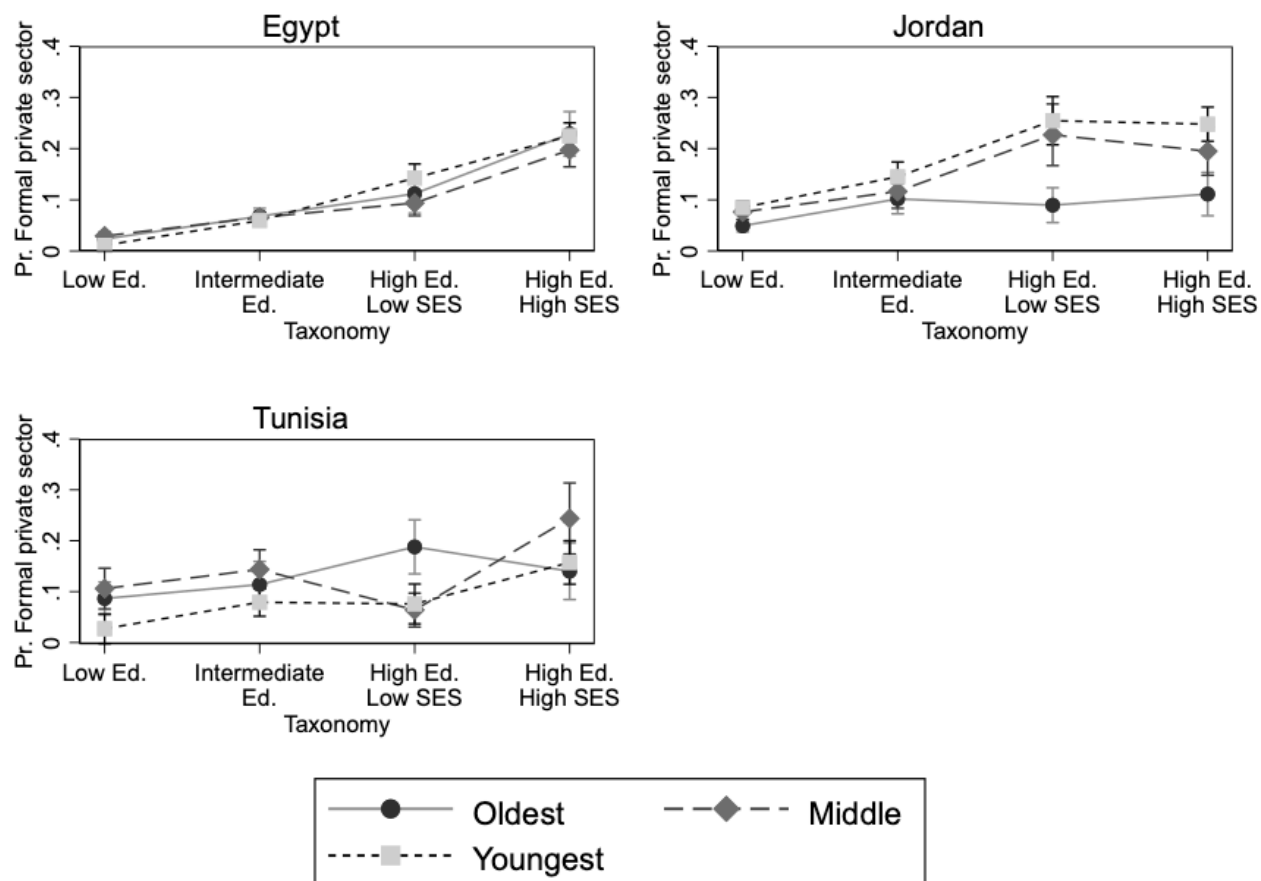
Source: Authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 4: Predicted Probability of Initial Labor Market Status of Informal Private Sector Wage Work by Cohort, Taxonomy, and Country, Men



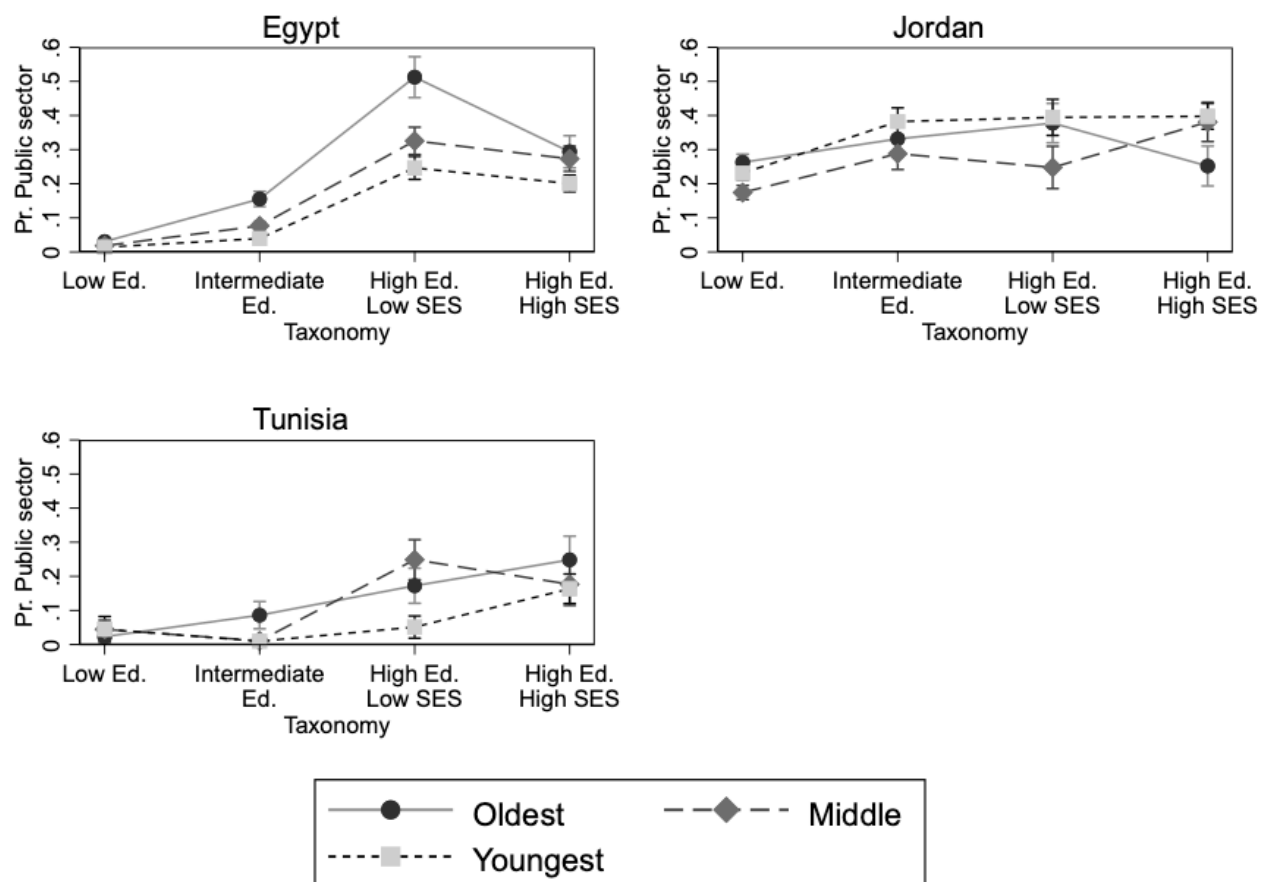
Source: Authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 5: Predicted Probability of Initial Labor Market Status of Formal Private Sector Wage Work by Cohort, Taxonomy, and Country, Men



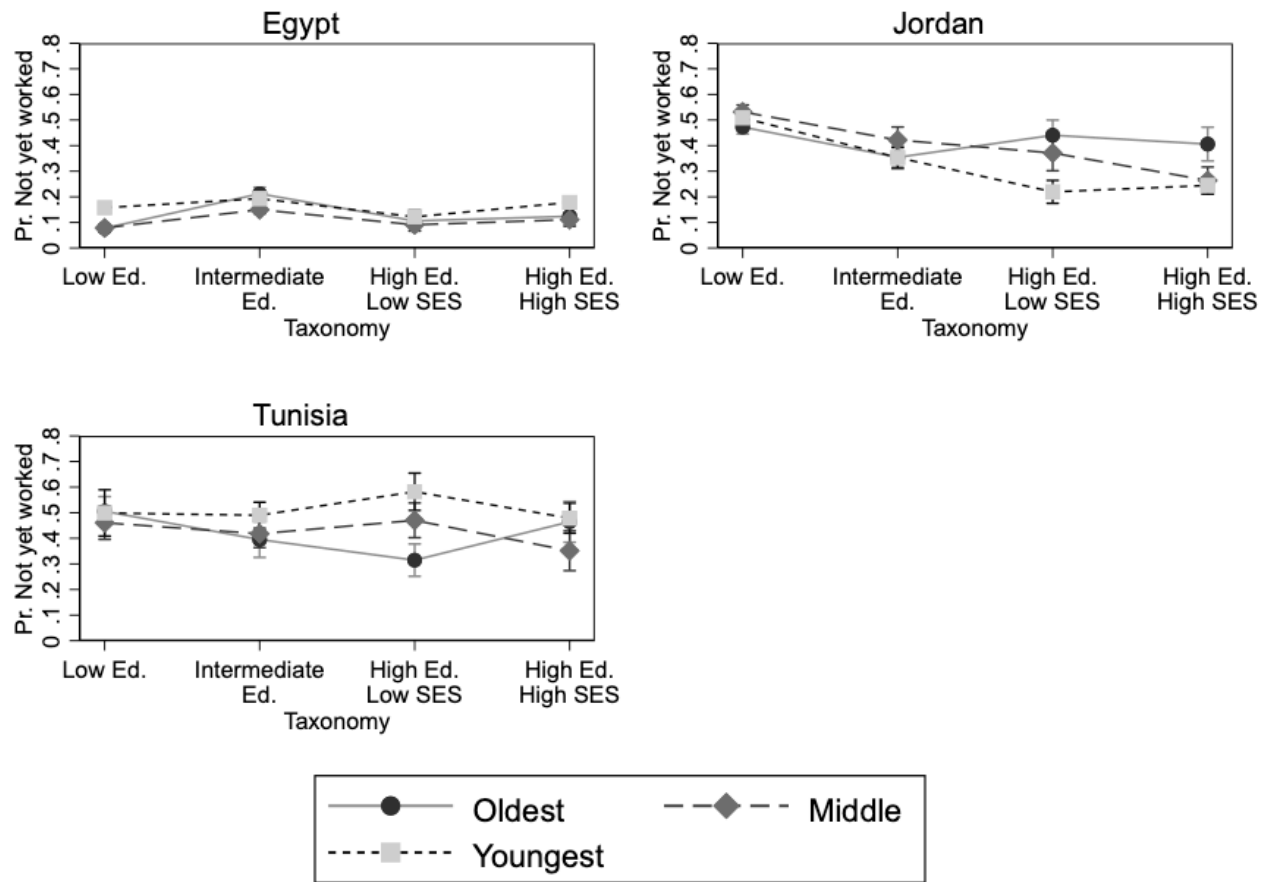
Source: Authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 6: Predicted Probability of Initial Labor Market Status of Public Sector Work by Cohort, Taxonomy, and Country, Men



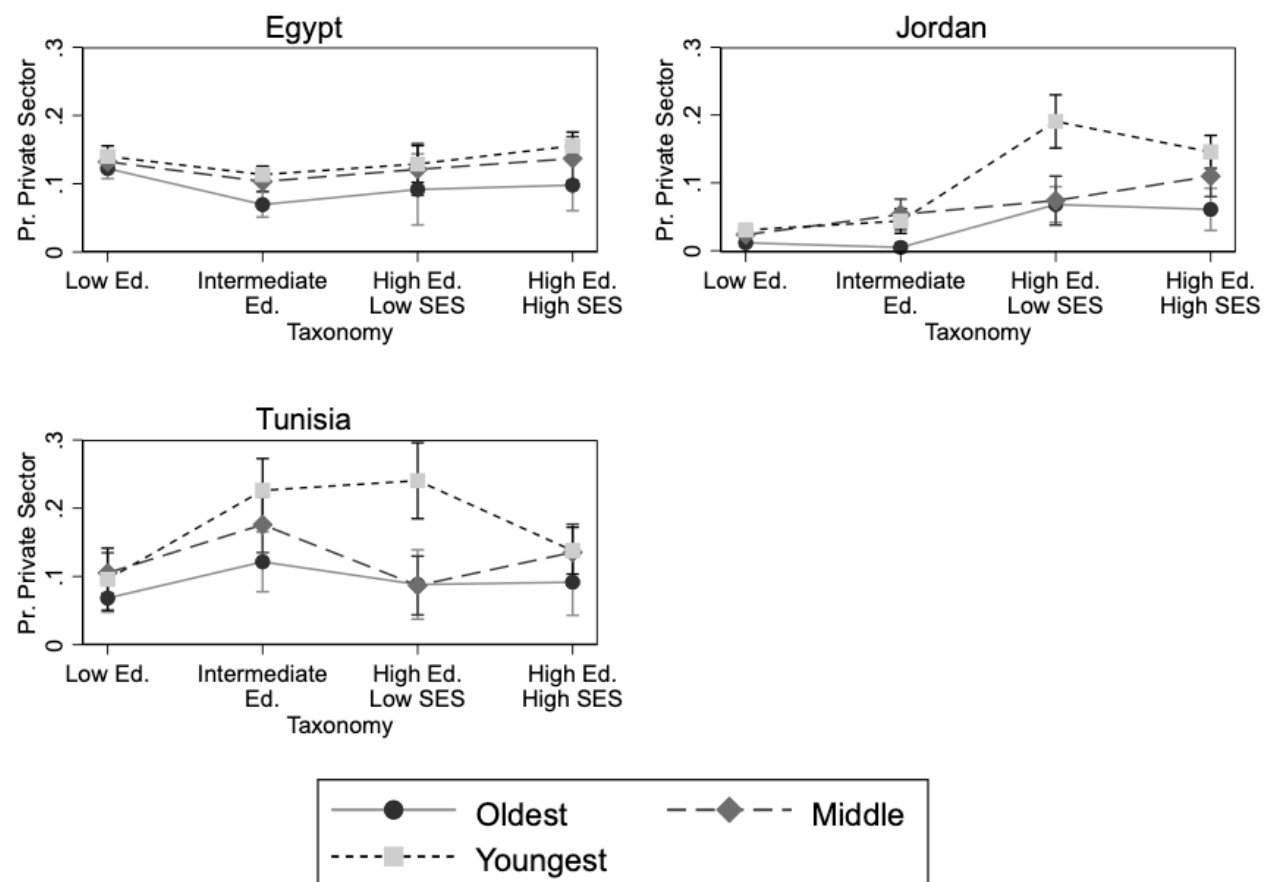
Source: Authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 7: Predicted Probability of Initial Labor Market Status of Not Yet Working by Cohort, Taxonomy, and Country, Men



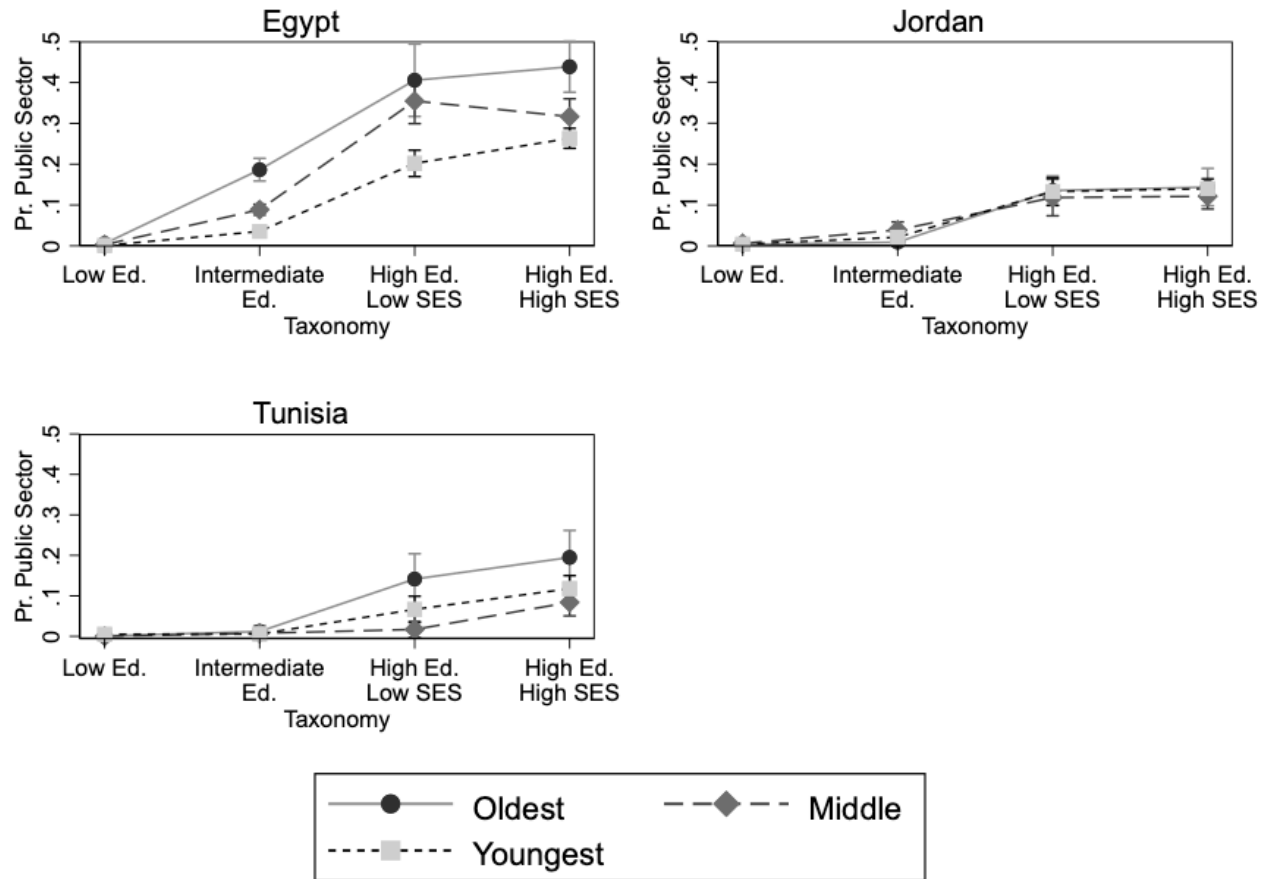
Source: Authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 8: Predicted Probability of Initial Labor Market Status of Private Sector Work by Cohort, Taxonomy, and Country, Women



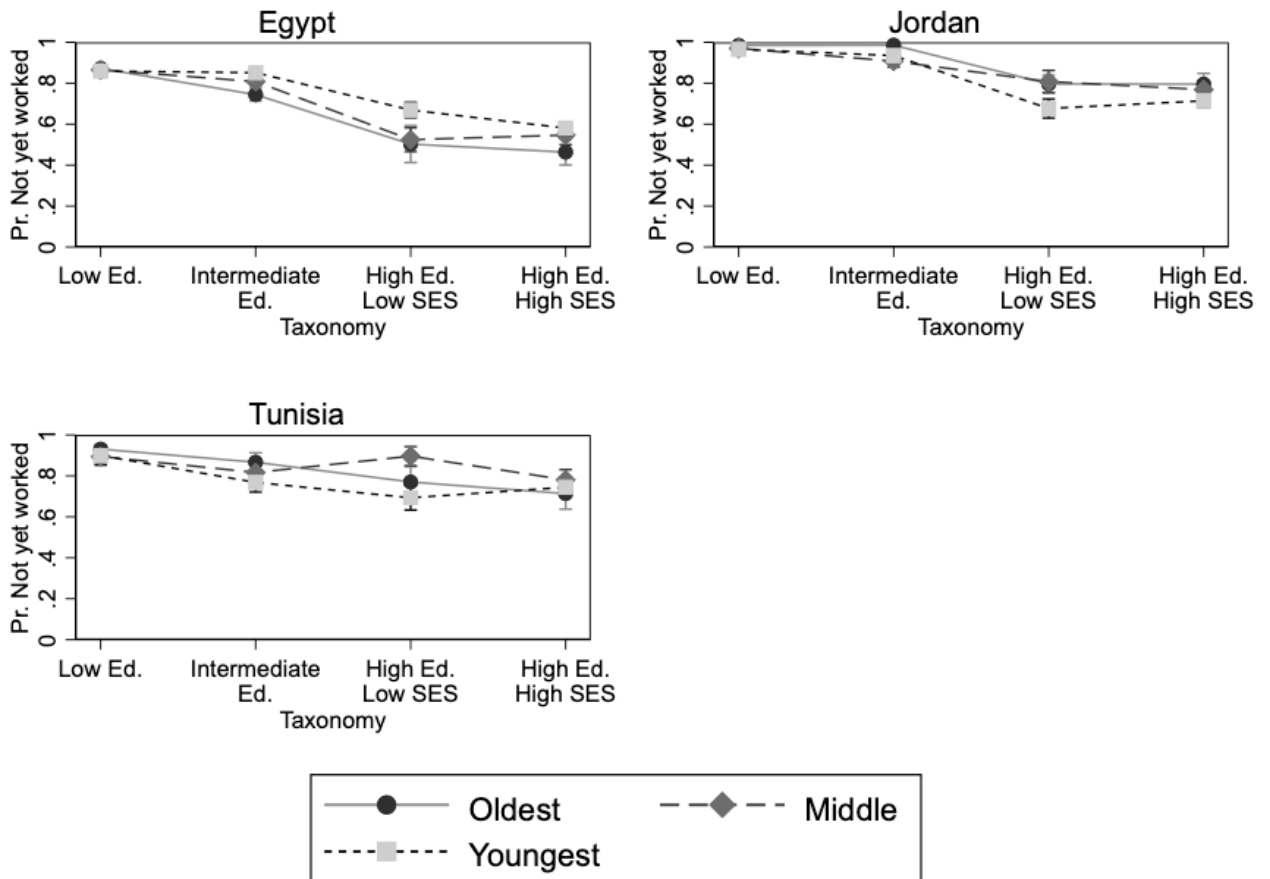
Source: Authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 9: Predicted Probability of Initial Labor Market Status of Public Sector Work by Cohort, Taxonomy, and Country, Women



Source: authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Figure 10: Predicted Probability of Initial Labor Market Status of Not Yet Worked by Cohort, Taxonomy, and Country, Women



Source: authors' calculations based on ELMPS 2012, JLMPS 2016, TLMPS 2014

Table 1: Years of School Exit by Cohort in Egypt, Jordan, and Tunisia

Country	Oldest cohort	Middle cohort	Youngest cohort
Egypt	1980-1989	1990-1999	2000-2009
Jordan	1984-1993	1994-2003	2004-2013
Tunisia	1982-1991	1992-2001	2002-2011

Note: School exit defined as the year the respondent left school or turned 15 (whichever was later).