

The Promise and Peril of Youth Entrepreneurship in the Middle East and North Africa

Caroline Krafft¹
and
Reham Rizk²

Forthcoming in the *International Journal of Manpower*. <https://doi.org/10.1108/IJM-05-2020-0200>

Author's Accepted Manuscript, deposited under the Creative Commons Attribution Non-commercial International Licence 4.0 (CC BY-NC 4.0). Any reuse is allowed in accordance with the terms outlined by the licence.

Structured Abstract

Purpose

Entrepreneurship is promoted as a solution to high rates of youth unemployment around the world and especially in the Middle East and North Africa (MENA). This paper investigates the potential for youth entrepreneurship to alleviate unemployment, focusing on Egypt, Jordan, and Tunisia.

Methodology

We examine who entrepreneurs are (in comparison to the unemployed), using multinomial logit models. We compare entrepreneurs' and wage workers' working conditions and earnings. We exploit panel data to assess earnings and occupational dynamics. We specifically use the Labor Market Panel Surveys of 2012 (Egypt), 2016 (Jordan), and 2014 (Tunisia), along with previous waves.

Findings

We find that entrepreneurs are the opposite of the unemployed in MENA. The unemployed are disproportionately young, educated, and women. Entrepreneurs are older, less educated, and primarily men. Entrepreneurship does not generally lead to higher earnings and does have fewer benefits.

Value

Promoting youth entrepreneurship is not only unlikely to be successful in reducing youth unemployment in MENA, but also, if successful, may even be harmful to youth.

¹ Corresponding author. Associate Professor of Economics, Department of Economics and Political Science, St. Catherine University, 2004 Randolph Avenue, St. Paul, MN 55105, USA
Email: cgkrafft@stkate.edu

² Associate Professor of Economics, Faculty of Arts, Universities of Canada,
riham.rizk@uofcanada.edu.eg

Keywords: Entrepreneurship, Self-Employment, Youth, Unemployment, Middle East and North Africa

JEL codes: J24, J21, J31, N15

1 Introduction

How can countries address high rates of youth unemployment? Governments and international agencies often prioritize youth entrepreneurship as a solution to youth unemployment, particularly in the Middle East and North Africa (MENA) region, which has the world's highest rates of youth unemployment (El-Kogali and Krafft, 2020). Claims such as “youth entrepreneurship can play an important role in ... reducing youth unemployment” (World Bank, 2014, p. 77) and projects “encouraging youth to create their own employment solutions through entrepreneurship” (Bausch et al., 2017, p. 4) abound. The majority of entrepreneurship programs in MENA target youth (Cho and Honorati, 2014). Yet promoting youth entrepreneurship as a solution to youth unemployment has a weak evidence base (OECD Development Centre, 2018; Sumberg et al., 2021).

The global evidence on entrepreneurship promotion programs, generally, suggests they may shift attitudes but do not have large employment effects (Cho and Honorati, 2014; Grimm and Paffhausen, 2014; McKenzie and Woodruff, 2014). The evidence from MENA on youth entrepreneurship programs' impact is limited but unpromising (Barsoum et al., 2016; Bausch et al., 2017; Premand et al., 2016). Such programs assume that there are entrepreneurial opportunities available for youth to seize, that unemployed youth would be better off as entrepreneurs, and that the difference between unemployed youth and entrepreneurs is only 100 hours of training, microfinance, or promoting “entrepreneurial spirit” (Barsoum et al., 2016; Bausch et al., 2017; ILO, 2017; Ismail et al., 2017; OECD Development Centre, 2018).

There has been little research investigating whether the assumptions underlying youth entrepreneurship promotion programs hold. While there are substantial bodies of work describing entrepreneurs (e.g., Bell et al., 2019; GEM, 2018; Hampel-Milagrosa et al., 2015;

Krauss et al., 2005; de Mel et al., 2010) or describing the unemployed (e.g., Assaad and Krafft, 2016; Dhillon and Yousef, 2009; Manacorda et al., 2017), research rarely compares the two groups or considers their potential substitutability. Likewise, there is very little research comparing entrepreneurship to alternatives such as wage work in terms of earnings or benefits (Blattman and Dercon, 2018 is a rare exception). This paper therefore investigates two research questions: (1) what are the similarities or differences between the unemployed and entrepreneurs in MENA? and (2) would unemployed youth be better off if they undertook entrepreneurship? To answer these questions, the paper compares the unemployed, entrepreneurs, and wage workers, the characteristics of their work, and their earnings in Egypt, Jordan, and Tunisia.

We find that entrepreneurs are the opposite of the unemployed. While the unemployed are educated new entrants, entrepreneurs are older and less educated. The findings suggest youth are making optimal occupational choices in selecting away from entrepreneurship, as it provides fewer benefits and is unlikely to provide higher earnings. Although youth entrepreneurship promotion is unlikely to be successful in creating entrepreneurs, if such programs do succeed, they may even be harmful to youth.

The paper is organized as follows. The next section provides background and literature review, discussing what is entrepreneurship, who are entrepreneurs, and evidence on policies and programs to promote entrepreneurship. Section 3 discusses the labor market panel survey data we use, key variables, and our multivariate models. Section four organizes the results around our two key research questions: (1) are the unemployed and entrepreneurs similar or different? and (2) are entrepreneurs better off than wage workers? Section five discusses our findings, their limitations, areas for future research, and the findings' implications for entrepreneurship promotion and reducing unemployment in MENA.

2 Background and Literature Review

In this section we review key context to understand the nature of entrepreneurship and entrepreneurship promotion programs and policies. We first discuss what entrepreneurship is, including how it is defined and typically measured. We then turn to the global and MENA evidence on who entrepreneurs are, to understand characteristics that are important for predicting entrepreneurship. We subsequently turn to a discussion of entrepreneurship programs, their targets, and evidence on their effectiveness, as key context for understanding entrepreneurship promotion's potential to reduce unemployment in MENA.

2.1 *What is entrepreneurship?*

Definitions of entrepreneurship typically emphasize individuals (entrepreneurs) creating, or discovering, then evaluating and exploiting opportunities in the market (Naudé, 2010; Shane, 2003, 2012; Shane and Venkataraman, 2000). This *opportunity* definition of entrepreneurship is why it is considered a route to reduce youth unemployment. Yet youth entrepreneurship promotion assumes that there are opportunities available to exploit, which would make youth better off, if only unemployed youth were given a little support or encouragement (Adely et al., 2021; OECD Development Centre, 2018; Pettit, 2018). Rather than making individuals better off, entrepreneurship promotion may instead end up creating low-quality entrepreneurs (Naudé, 2008; OECD Development Centre, 2018).

Entrepreneurship is typically measured either on the firm level, in terms of new firms, or on the individual level, in terms of self-employment or business ownership (Naudé, 2010; Shane, 2003). This operationalization of entrepreneurship includes a *necessity* dimension to entrepreneurship; those who have no other option undertake survival self-employment (Naudé,

2008; OECD Development Centre, 2018; Sumberg et al., 2021). While opportunity entrepreneurship typically takes place in the formal economy, necessity entrepreneurship tends to be informal (Naudé, 2008). The costs and benefits of formalizing may affect whether firms formalize and grow or remain small and informal (Krafft et al., 2020).

While globally opportunity entrepreneurship is dominant, MENA is different. For example, Egypt ranks last out of 54 countries in terms of opportunity relative to necessity entrepreneurship (GEM, 2018). Necessity entrepreneurship can still be beneficial, for instance reducing poverty (Naudé, 2010). However, necessity entrepreneurship is unlikely to provide a job that meets the expectations of an educated, unemployed young person.

2.2 *Who are entrepreneurs?*

The similarities and differences between entrepreneurs and the unemployed are key to understanding whether and how entrepreneurship promotion can bridge any gaps. Globally and in MENA, entrepreneurs tend to be older than wage workers, more experienced, and less educated (Krafft, 2016; de Mel et al., 2010; Mondragón-Vélez and Peña, 2010; Rizk and Rashed, 2019; Rizk and Salemi, 2019). While education can improve entrepreneurial productivity, educated individuals can also more easily obtain higher-paying, formal wage employment (Naudé, 2008). Entrepreneurs tend to be from entrepreneurial families, with the self-employed coming from the poorest backgrounds and employers from the best backgrounds (Bell et al., 2019; Krafft, 2016; de Mel et al., 2010). Values, attitudes, and personal traits comprising an “entrepreneurial orientation” influence decisions to undertake entrepreneurship (Krauss et al., 2005; Noseleit, 2010). Individuals’ locus of power, entrepreneurial intentions, and attitudes such

as preferences for risk versus job security and greed tolerance predict entrepreneurship (Bengtsson et al., 2017; Ismail et al., 2017).

2.3 Policies and programs to promote entrepreneurship and evidence on their effectiveness

Entrepreneurship promotion programs fall under the umbrella of active labor market policies (ALMPs). Governments and international agencies, particularly in low- and middle-income contexts, pursue such programs despite the evidence on their ineffectiveness and high costs (Blattman and Ralston, 2015; Grimm and Paffhausen, 2014). Entrepreneurship promotion ALMPs address some combination of entrepreneurship/business training, access to finance, business support services, and access to markets (ILO, 2017). Meta-analyses of entrepreneurship programs demonstrate some behavioral and knowledge changes, but little employment creation (Cho and Honorati, 2014; Grimm and Paffhausen, 2014; McKenzie and Woodruff, 2014) except during recessions (Card et al., 2018).

In MENA, entrepreneurship promotion programs tend to target unemployed youth, especially higher education graduates, who experience the highest rates of unemployment (El-Kogali and Krafft, 2020). In MENA, youth may spend multiple years in unemployment, “queueing” for jobs that meet their aspirations and relying on family support in the meantime (Assaad and Krafft, 2016). While some other countries share with MENA high unemployment among youth with higher education, in other countries secondary or less than secondary educated youth may experience the highest unemployment rates (International Labour Organization, 2015) and thus be targeted with ALMPs and entrepreneurship promotion programs.

While a recent meta-analysis of entrepreneurship promotion programs in developing countries noted 15% of programs globally targeted youth, 62% of programs evaluated in MENA

targeted youth, the most of any region (Cho and Honorati, 2014). For example, in Jordan, the INJAZ program targets secondary and university students with entrepreneurship training, reaching over a million youth (Abu Jaber et al., 2016). In Egypt, skills training and entrepreneurship promotion programs are the dominant form of ALMPs among the 182 youth employment programs (ILO, 2017). Thus, entrepreneurship promotion programs not only primarily target youth in MENA, but they are also a central policy and programmatic approach to reducing youth unemployment.

The (limited) rigorous evidence on youth entrepreneurship promotion programs in MENA suggests that they are ineffective. In Morocco, an experimental evaluation of a 100-hour long training program designed to help “youth to create their own employment solutions through entrepreneurship” (Bausch et al., 2017, p. 4) found it did not increase employment. An experimental evaluation of an entrepreneurial track in Tunisian higher education that “aimed to increase self-employment and foster an entrepreneurship culture” (Premand et al., 2016, p. 313) found a small increase in self-employment, but no increase in overall employment (Premand et al., 2016). A youth entrepreneurship edutainment program in Egypt, which was “designed to tackle the high youth unemployment rate in Egypt by promoting entrepreneurship to young adults” (Barsoum et al., 2016, p. 7), improved youth attitudes towards entrepreneurship but did not change employment outcomes (Barsoum et al., 2016). Programs may be ineffective because the assumptions underlying these programs, that youth are similar to entrepreneurs and would be better off if entrepreneurs, do not hold, a point we explore in this paper.

3 Data and Methods

3.1 Surveys

The three countries in the MENA region with comparable and publicly available labor market microdata are Egypt, Jordan, and Tunisia. Our analyses therefore rely on a number of Labor Market Panel Surveys (LMPSs) from these countries. We specifically use the Egypt LMPS (ELMPS) 2012, Jordan LMPS (JLMPS) 2016, and Tunisia LMPS (TLMPS) 2014.¹ All are nationally representative (after weighting, used throughout). For some dynamic analyses, we add the ELMPS 2006 and 1998 and JLMPS 2010 (TLMPS only has one wave). In the ELMPS, 17.3% of households attrited between 2006 and 2012. In the JLMPS, 38.1% of households attrited between 2010 and 2016. Refresher samples were added each wave to ensure representativeness. Attrition models test for and correct for differential attrition on observables; there is not differential attrition for entrepreneurs (Assaad and Krafft, 2013; Krafft and Assaad, 2018). Data are also validated against other sources and are generally similar on key labor market indicators (Assaad et al., 2016; Assaad and Krafft, 2013; Krafft and Assaad, 2018).

The surveys are the work of the Economic Research Forum (ERF) in collaboration with national statistics agencies. The ELMPS 2012 included 49,186 individuals in 12,060 households, the JLMPS 2016 included 33,450 individuals in 7,229 households, and the TLMPS 2014 included 16,430 individuals in 4,521 households. We restrict our analyses to individuals aged 15-64.

3.2 Outcomes

In order to understand the similarities and differences between the unemployed and entrepreneurs, the primary outcome we examine is labor market status. Specifically, we classify

individuals as: (1) an employer, (2) self-employed, (3) a wage worker, (4) unemployed, or (5) out of the labor force (OLF). We use the “market”² definition of employment. The survey used a three-month reference period for employment.³ Our “standard” definition of unemployment restricts the category of unemployment to those who did not work (not even for just one hour), are ready and willing to work, could start within two weeks, and have searched for work in the reference period.⁴ Those OLF are neither working nor searching for work. Among the employed, distinctions between employers, the self-employed, and wage workers are self-reported employment statuses.⁵ We combine unpaid family workers with the self-employed. We consider being an employer or self-employed to be entrepreneurship, although we clearly distinguish between the two types of entrepreneurship in our analyses. Entrepreneurship policies in MENA include promoting self-employment (e.g., Premand et al., 2016) and the literature considers entrepreneurship to have both necessity (i.e. survival self-employment) and opportunity dimensions (Naudé, 2008).

In order to understand whether unemployed youth would be better off becoming entrepreneurs, we examine the benefits and earnings of different types of work. Descriptively, we examine how labor market status relates to work characteristics including economic activities, occupations, establishment size, work hours, job satisfaction, workplace health insurance, and social insurance (i.e., formality, workers without social insurance are informal). We compare earnings from entrepreneurship to wage earnings. For Egypt, we even examine dynamics of earnings using the panel.

3.3 Covariates

A number of individual characteristics are key dimensions for understanding the similarities and differences between the unemployed and entrepreneurs. Two key covariates are age and education. We categorize age primarily as: 15-19, 20-29, 30-39, 40-49, 50-59, and 60-64, but occasionally use more aggregated age groups. We categorize education as no education, basic, secondary, or higher education. We distinguish between men and women in most of our analyses. We control for being (ever) married. We investigate urban versus rural differences and in our multivariate models we include but do not show governorates (country-specific first-level administrative geography). While variables on risk attitudes or values would also be of interest, unfortunately they are not available in the data.

In terms of socio-economic background, we examine mother's education and father's education (categorized as for own education; parent data available even when parents are not in the household). We also include father's employment status (when the individual was 15) categorized as (1) employer (2) self-employed (3) wage worker or (4) not employed/missing. We include a similar categorization for mothers, but combine employers and the self-employed into one category, since so few mothers engaged in work and especially entrepreneurial work.

3.4 Methods

The decision to become an entrepreneur is typically modeled as a utility-maximizing or earnings-maximizing decision about occupational choice and modeled with a multinomial logit (Parker, 2004). We therefore estimate the relationship between covariates and the outcome of labor market status using a multinomial logit model. We present the results as average marginal effects (estimated with other characteristics as observed). We present the models for all

individuals and then separately only for men; there is not sufficient sample size of employed and entrepreneurial women to estimate models for them separately. We model earnings in Egypt and Tunisia in log form in a linear regression model that fully interacts education and age group with employment status (wage worker, employer, or self-employed) to predict the earnings individuals could earn across combinations of these characteristics in different types of employment. These and other results are inherently associations; selection into occupations based on unobservables is a limitation throughout.

4 Results

4.1 *Occupational choice: Are the unemployed and entrepreneurs similar or different?*

In this section we examine whether the unemployed are similar to or different from entrepreneurs in MENA, in order to understand the potential gaps that entrepreneurship promotion programs would have to bridge. As a starting point, we note relatively few people aged 15-64 are entrepreneurs; across countries just 2-5% are employers and slightly more self-employed (3-9%). More individuals are wage workers, 29-34%. Between 4-6% of those aged 15-64 are unemployed, with much higher shares for youth (unemployment rates between 22-38% for 20-24-year-olds), women, and the educated (e.g., 13-26% unemployment rates for those with higher education). The remainder of individuals are out of the labor force. Table I presents descriptive statistics by labor market status and country.

In the multinomial logit models (marginal effects: Table II, Table III, and Table IV), we examine how individuals' characteristics predict labor market status in order to assess the assumption that the unemployed and entrepreneurs are similar. Entrepreneurs tend to be older than wage workers and much older than the unemployed. For instance, the probability of being

an employer is highest between ages 50-64 across countries. This is the opposite of unemployment, which is highest in the 20-29-year-old age group. The unemployed are the opposite of entrepreneurs, who are predominantly older adults (with greater work experience and associated forms of capital).⁶

Entrepreneurship is higher among those who are less educated, again the opposite of the pattern among the unemployed, who are more educated. The gradient is strongest in Egypt, where someone with higher education is 3.6 percentage points less likely to be an employer and 5.0 percentage points less likely to be self-employed than someone with no education. Women have the highest rates of unemployment, yet across countries are significantly less likely than men to be employers (by between 3.0 and 9.4 percentage points) or self-employed (by 5.8 to 11.1 percentage points), primarily because they are significantly more likely to be out of the labor force.

Entrepreneurship is often linked to family businesses and their intergenerational transmission of human, physical, and social capital. In Tunisia, for example, an individual with an employer father is 5.6 percentage points more likely to be an employer, and 7.9 percentage points more likely to be self-employed. Individuals with entrepreneurial mothers are more likely to pursue such work, although differences are not always significant. Patterns by parents' education are mixed across countries.

Synthesizing the results of the multivariate models, the unemployed are the opposite of entrepreneurs. The unemployed are young, educated, and disproportionately women; entrepreneurs, especially more successful entrepreneurs (employers) are older, less educated, and men. Entrepreneurship is strongly connected to having a family business. These large differences refute the assumptions behind promoting youth entrepreneurship as a solution to youth

unemployment. The differences between unemployed youth and entrepreneurs are, for example, decades of experience, not 100 hours of training.

4.2 Benefits and earnings: Are entrepreneurs better off than wage workers?

This section investigates a key assumption of entrepreneurship promotion and asks: Would unemployed youth be better off if they became entrepreneurs rather than seeking wage work? We first examine benefits, work conditions, and job satisfaction across employment statuses. We then turn to earnings, labor market status dynamics, and earnings dynamics.

4.2.1 Benefits, work conditions, and job satisfaction

Table V shows the characteristics of work by employment status across the three countries. Entrepreneurs are disproportionately in wholesale and retail trades and agriculture, while wage workers are more likely to be in professional or service activities.⁷ In terms of occupations,⁸ the self-employed are the least likely to be in managerial and professional occupations across countries (2-15%), while employers have a more comparable share to wage workers of managerial and professional occupations. Blue collar work, in contrast, is predominant among the self-employed (58- 67%). Most existing entrepreneurial work is not in high-productivity or high-prestige activities or occupations, reasons that individuals may select away from entrepreneurship and into wage work.

Work location and firm size also vary by employment status. The self-employed are predominantly working outside a fixed establishment (68-74%). In Egypt and Tunisia (but not Jordan) employers are also often outside of establishments. Those with establishments are predominantly in micro firms, with 1-4 employees (31-49%). Wage workers are much more likely to be in larger firms. Disparities in working conditions may explain why women, who

strongly prefer to work in contexts with more (female) workers and less public engagement (and risk of harassment), have low rates of entrepreneurship.

Across the three countries, employers have consistently higher average hours per week (48-53) than the self-employed (37-45) or wage workers (45-47). One critical benefit is employment formality, measured by social insurance coverage, which is rare among entrepreneurs, who are primarily informal workers. While half (47-55%) of wage workers have social insurance, only in Tunisia, where 62% of employers have social insurance, are any groups of entrepreneurs better off. Employers have low rates of social insurance in Jordan (12%) and Egypt (17%). The self-employed have social insurance coverage rates of 4-28%. Health insurance follows a similar pattern.

There were higher levels of satisfaction among employers than wage workers or the self-employed. In Jordan, wage workers were consistently more satisfied than the self-employed. However, there were more mixed differences in Egypt and Tunisia. While the self-employed in Tunisia were much less likely to be satisfied with their earnings (24%) than wage workers (35%), in Egypt the self-employed were slightly more satisfied with their earnings (34% vs. 30%). Match quality between qualifications and work was a bit lower for the self-employed than wage workers in Egypt and Tunisia, but self-employed workers were more likely to be satisfied with the hours, schedule, and commute. If we take being an employer as a sign of *successful* entrepreneurship, successful entrepreneurs are more satisfied, but the self-employed are not substantially more satisfied than wage workers.

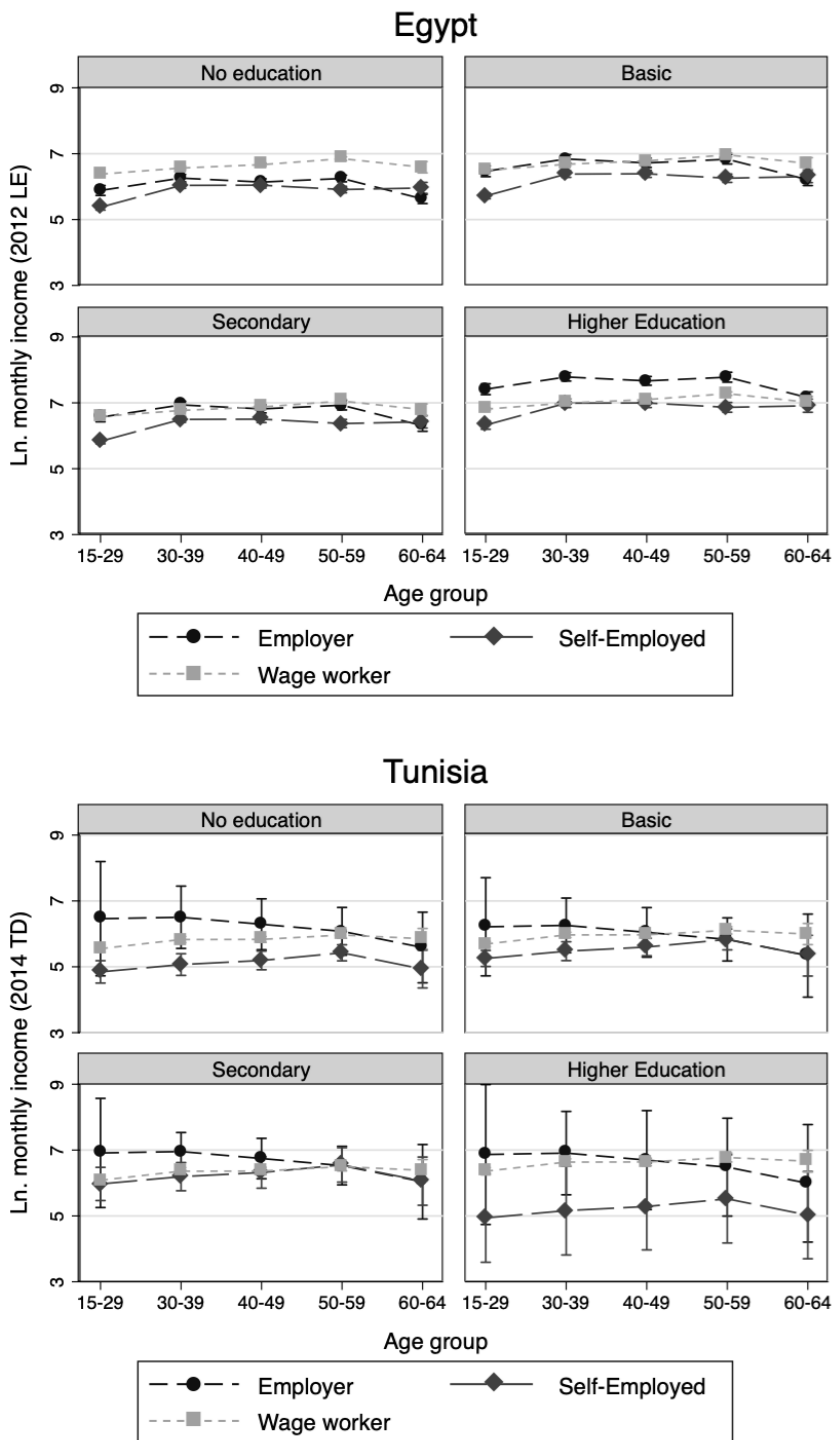
4.2.2 *How much do entrepreneurs earn?*

Entrepreneurship promotion programs assume that unemployed youth would be better off if they start a business, but are entrepreneurship earnings higher than wage work?⁹ Wage workers

also are much more likely to receive benefits on top of earnings, and thus their total compensation is under-estimated. In contrast, entrepreneurs' labor earnings are likely over-estimated, since their earnings include returns to capital as well. Entrepreneurs' earnings also do not take into account failed enterprises, which are rife, particularly among youth (OECD Development Centre, 2018).

To empirically investigate whether youth would be better off as entrepreneurs, in Figure 1 we present predicted log-earnings based on a model that interacts age group and employment status as well as education and employment status for Egypt and Tunisia (where data are available on earnings). In Egypt, across ages, earnings are lower for employers and the self-employed for the less educated. With basic or secondary education, wage work and being an employer have similar earnings (but self-employment low earnings). Only with higher education do employers earn more (and wage workers and the self-employed comparably). In Tunisia, those (unusual, select) young employers earn more than other groups, but this dissipates with age. Wage workers earn more than the self-employed in most education groups. Particularly among the highly educated, where unemployment is highest, earnings in entrepreneurship, especially self-employment, are much lower than wage work. Since wage workers have additional benefits, and entrepreneurship earnings embed returns to capital and omit the risks of failed enterprises, the results of these models suggest that, if anything, individuals should be shifting into wage work over entrepreneurship. A caveat is that, presumably, individuals choose the employment status where they can maximize their earnings, but the degree of ability-based selection into different statuses may bias results.

Figure 1. Predicted earnings at each age group by education and employment status, Egypt and Tunisia



Source: Authors' calculations based on ELMPS 2012 and TLMPS 2014

Notes: Bars indicate 95% confidence intervals from predictions at each age, by education and employment status

4.2.3 *Transitions into and out of entrepreneurship*

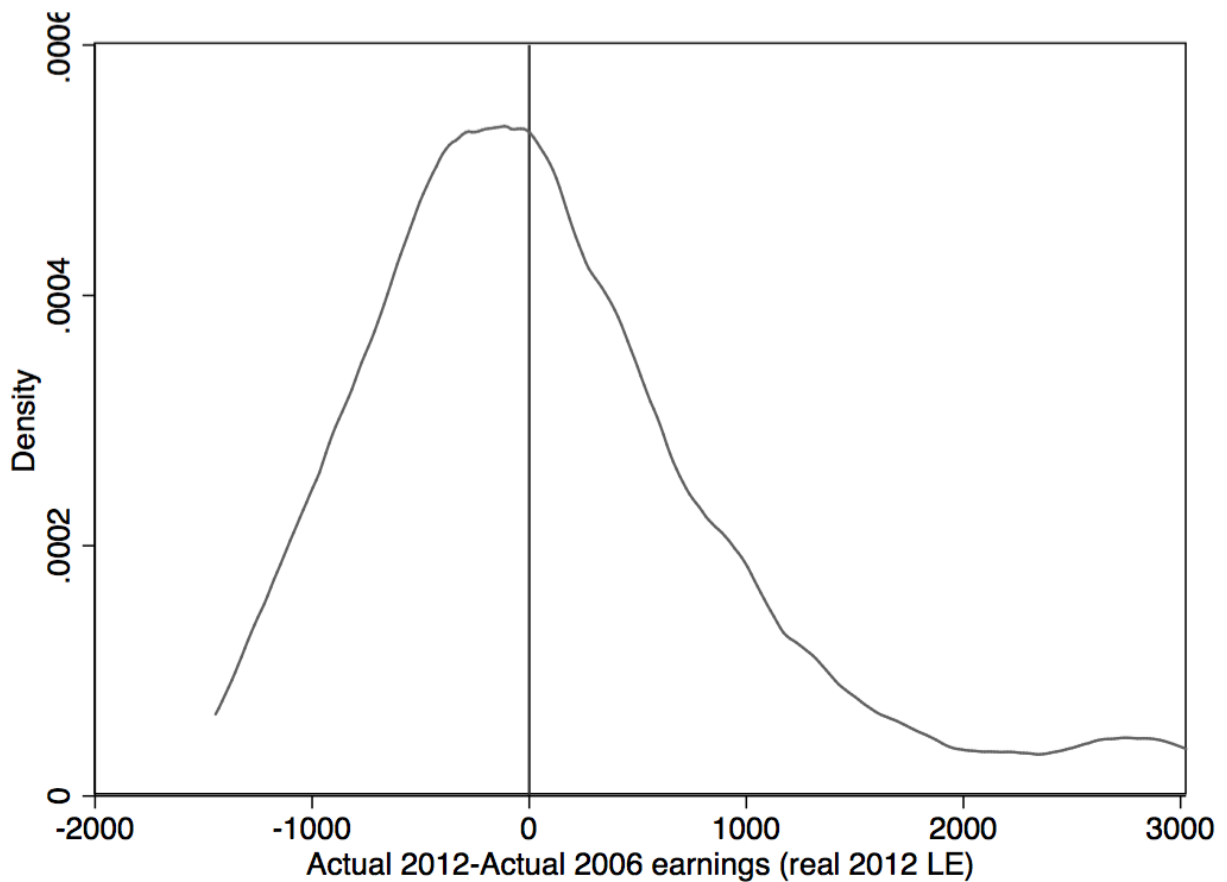
In Table VI we take advantage of the panel nature of the ELMPS (2006 to 2012) and JLMPS (2010 to 2016) to examine transitions between labor market statuses, particularly whether there are transitions from unemployment into entrepreneurship. Just 1-2% of the unemployed became employers and just 5-6% became self-employed across countries. In contrast, 21-38% of the unemployed became wage workers. We also assess the persistence of entrepreneurship; we expect absorbing states to be better outcomes and preferred. The most stable category is wage worker; 67-78% of wage workers persisted. Only 24-43% of employers and the self-employed persisted (a large share of entrepreneurs moved to wage work). Relatively few wage workers switch to entrepreneurship; just 3-6% transitioned to employers and self-employment. If we interpret persistence and transitions as the dynamics of moving to preferred states, wage work is preferred. Additionally, very few unemployed become entrepreneurs. This result further undermines the assumption that youth unemployment can be solved with youth entrepreneurship.

4.2.4 *Earnings dynamics and transitions into and out of entrepreneurship*

To further investigate whether individuals would be better off choosing entrepreneurship over wage work, with the ELMPS, we look at wage dynamics for those who transitioned into entrepreneurship (see *[Citation removed for anonymous peer review for further analyses]*). Figure 2 compares the wages in 2006 to earnings in 2012 for those who started enterprises (earnings data are only available in 2012). Since six years passed, we would expect earnings growth. However, the median is a slight decrement (48 LE), although the mean is an increase

(297 LE). There is a long right tail; while many individuals experienced moderate drops and some moderate gains, a small group also experienced large gains. These results suggest that individuals switching to entrepreneurship were only rarely better off, particularly after considering that earnings should be going up over time with work experience, that entrepreneurship earnings embed returns to capital, that entrepreneurs are less likely to be compensated with benefits, and that these earnings only represent successful enterprises.

Figure 2. Changes in earnings (real 2012 monthly wage in Egyptian pounds) for those who left wage work (2006) and became entrepreneurs (2012)



Source: Authors' calculations based on ELMPS 2006, ELMPS 2012
Notes: Restricted to 5th-95th percentiles of changes for data visualization.

5 Discussion and conclusions

Youth entrepreneurship is promoted as a solution to high rates of youth unemployment around the world and especially in MENA. Youth entrepreneurship programs assume that the differences between unemployed youth and entrepreneurs are negligible or can be readily overcome. Programs also assume that unemployed youth would be better off if they engaged in entrepreneurship. This paper investigates whether these assumptions hold in Egypt, Jordan, and Tunisia. We demonstrated that the unemployed are the opposite of entrepreneurs. While the unemployed are young, highly educated, and disproportionately women, entrepreneurs are much older, less educated, and disproportionately men. Entrepreneurship is often an inter-generational endeavor, with those having entrepreneurial parents more likely to engage in such work. It is very unlikely that even multi-dimensional entrepreneurship programs can bridge these large gaps between the unemployed and entrepreneurs. Indeed, youth themselves recognize this: Egyptian youth consider entrepreneurship to be an option only after they have engaged in wage work, gaining necessary experience and human, physical, or social capital (Sieverding, 2012).

Youth are making optimal occupational choices by selecting away from entrepreneurship, given the nature of entrepreneurial work, its benefits, and earnings. Entrepreneurship is disproportionately blue-collar work, outside establishments or in microenterprises, and in agriculture or retail, all ill-suited to the characteristics of the unemployed. Individuals who transition into entrepreneurship do not typically earn more than if they were wage workers and labor market dynamics suggest wage work is preferred. Thus, answering our research questions: entrepreneurs are the opposite of the unemployed, and entrepreneurs are not better off than wage workers.

5.1 Limitations and areas for future research

While our paper demonstrated the unemployed and entrepreneurs are opposites in a number of dimensions, there are other areas, which were not available in our data, that merit future data collection and research. For example, attitudes towards risk, credit markets and access to credit, trust and functioning of government, business networks, and peer effects are important determinants of entrepreneurship in the global literature (Hampel-Milagrosa et al., 2015; Ismail et al., 2017; Noseleit, 2010). Religious values or psychological traits such as locus of control may also affect entrepreneurship (Bengtsson et al., 2017).

Another important area for future research is better understanding the stakeholders engaged in entrepreneurship promotion. In the face of youth unemployment, there is strong pressure to take action, but the resulting landscape of programs is fragmentary. For example, in Egypt there are 182 youth employment programs (ILO, 2013a), and likewise 84 in Jordan (ILO and IFAD, 2013) and 83 in Tunisia (ILO, 2013b). Government agencies (co-)financed 19-48% of such programs and implemented half of them in Jordan and Tunisia (ILO, 2013a, 2013b; ILO and IFAD, 2013). Within government, programs engage a variety of actors. For instance in Egypt, governmental agencies involved in labor market interventions include the ministries of: manpower; trade and industry; international cooperation; higher education; education; planning; communication and information technology; youth and sports; local development; and social solidarity (ILO, 2017). NGOs implemented more than half of interventions across countries, and as much as 86% in Egypt. Foreign donor agencies, multilateral agencies, foundations, and companies also (co-)financed interventions (ILO, 2013a, 2013b; ILO and IFAD, 2013). Youth, their families, and employers are additional key stakeholders. Understanding current programs

and how to shift them towards more effective models is a critical area for future stakeholder analysis and implementation science research.

Our paper was unable to provide causal estimates of the impact of entrepreneurship promotion programs. Causal impact evaluations, particularly randomized controlled trials, of entrepreneurship promotion programs are much needed, including identifying which, if any, of the unemployed would benefit from such programs. Data on opportunities for entrepreneurship, particularly formal, opportunity-driven entrepreneurship would be important to support such an endeavor. Our results suggest that entrepreneurship in MENA countries is currently often undertaken out of necessity, not opportunity.

5.2 Implications for entrepreneurship promotion and reducing unemployment

A central assumption of entrepreneurship promotion is that youth can (perhaps with the help of a skills training program) become entrepreneurs. One implication is that youth are thus responsible for their own success, and if they are not employable, are responsible for self-improvement to become so (Adely et al., 2021; Sukarieh and Tannock, 2008). For example, the Egypt Global Entrepreneurship Monitor (Ismail et al., 2016) states that entrepreneurial attitudes are positive and intentions are strong; the real constraint is that potential entrepreneurs lack self-confidence in their abilities to start a new venture, and that training needs to provide them with skills and confidence. This thinking leads to an emphasis on changing mindsets or the reputation of entrepreneurship programs as a part of entrepreneurship promotion in MENA (Barsoum et al., 2016; ILO, 2017). Entrepreneurship promotion policies thus assume youth are not optimizing their occupational choices, but none of the evidence supports that assumption. Our empirical results instead support a theoretical model of optimizing occupational choice when selecting away from entrepreneurship. Earnings in self-employment are lower than in wage work across

the age-education distribution. While employers sometimes earn more, they are also less likely to have benefits and their earnings additionally embed returns to capital and do not account for failed enterprises. Further, earnings do not typically increase when transitioning into entrepreneurship in Egypt.

These results suggest that, if anything, entrepreneurship is being chosen more frequently than is optimal. A study of Egyptian students' expectations about earnings in self-employment versus wage work (compared to statistics on these earnings) demonstrated that, indeed, youth over-estimate self-employment earnings and under-estimate wage earnings (Osman, 2014). Work with youth who attended entrepreneurship promotion programs suggests that they raise false hopes (Pettit, 2018). Thus, correcting an information failure would actually require policies and programs undertake entrepreneurship *discouragement*, not entrepreneurship promotion.

Entrepreneurship promotion programs are designed to provide youth with skills that make them (self-)employable. Thus, they continue the trend towards policies that tackle only the supply side of labor market dysfunction in the region. Skills improvements may come through entrepreneurial training in school (Premand et al., 2016) or programs with, for example, 100 hours of training outside of school (Bausch et al., 2017). These models assume not only that skills are the central constraint, but also that such entrepreneurship promotion programs are an adequate substitute for years of experience, the building of social networks, and the accumulation of financial capital. Our results showing that the unemployed and entrepreneurs are opposites refute this assumption and furthermore suggest unemployed youth would not be better off as entrepreneurs. That the assumptions underlying youth entrepreneurship programs as a solution to youth unemployment are flawed may help explain the disappointing results in the few

youth entrepreneurship programs in the region that have been rigorously evaluated (Barsoum et al., 2016; Bausch et al., 2017; Premand et al., 2016).

Since the assumptions of entrepreneurship promotion programs do not hold, what can policymakers and programs do to address youth unemployment? The intergenerational transmission of entrepreneurship does suggest that there are important forms of human, social, or physical capital that can be acquired, but entrepreneurship promotion programs cannot deliver the equivalent of growing up with a family business. Nor can they deliver the equivalent of multiple years of work experience. The best entrepreneurship training program may be working in a business (potentially as an apprentice or intern) (Attanasio et al., 2011; Krafft, 2018; McKenzie et al., 2016)), which is, necessarily, going to preclude a direct route from being an unemployed new entrant to entrepreneurship. Apprenticeship and internship promotion may thus be better policies to tackle youth unemployment than entrepreneurship promotion.

Although the goal is to create labor demand from enterprises, youth entrepreneurship promotion policies or programs do not address any of the constraints on demand for firms' goods and services; the assumption is that there are entrepreneurial opportunities in the economy that are untapped and can be tapped by youth trained through such programs. It is difficult to assess whether entrepreneurial opportunities exist, and this paper was not able to directly assess that assumption. However, the empirical evidence in MENA suggests that labor supply factors are not the main constraint to job creation; factors such as corruption and lack of competition have been linked to reduced job creation (Diwan and Haidar, 2016; Fakhri and Ghazalian, 2015). These are not solvable by entrepreneurship promotion programs. When asked about upgrading of their enterprises (and therefore potential for job creation) only 14% of existing entrepreneurs in Egypt identified their education and experience as a constraint. Essentially, external challenges,

not internal ones affected entrepreneurs' success (Hampel-Milagrosa et al., 2015). Addressing these challenges and constraints is thus a critical focus of policies and programs.

Youth unemployment has been a long-term structural challenge for MENA. While youth entrepreneurship promotion is conceptually appealing as a solution to job creation, it is based on unsound assumptions and resolves none of the underlying structural challenges that created youth unemployment. At best, youth entrepreneurship promotion appears to be an ill-matched and ineffective solution to youth unemployment. At worst, if programs do work, they are potentially pushing youth into worse labor market outcomes. Although it is more complex and challenging to design policies and programs to address the constraints on labor demand of existing firms than to provide youth entrepreneurship promotion, such reforms have greater potential to address youth unemployment.

References

- Abu Jaber, M., Kwauk, C. and Robinson, J.P. (2016), *Injaz: Engaging the Private Sector for Greater Youth Employability in Jordan*, Center for Universal Education at Brookings.
- Adely, F.I.J., Mitra, A., Mohamed, M. and Shaham, A. (2021), “Poor education, unemployment and the promise of skills: The hegemony of the ‘skills mismatch’ discourse”, *International Journal of Educational Development*, Vol. 82, p. 102381.
- Assaad, R., Ghazouani, S., Krafft, C. and Rolando, D.J. (2016), “Introducing the Tunisia Labor Market Panel Survey 2014”, *IZA Journal of Labor & Development*, Vol. 5 No. 15, pp. 1–21.
- Assaad, R. and Krafft, C. (2013), “The Egypt labor market panel survey: introducing the 2012 round”, *IZA Journal of Labor & Development*, Vol. 2 No. 8, pp. 1–30.
- Assaad, R. and Krafft, C. (2016), *Labor Market Dynamics and Youth Unemployment in the Middle East and North Africa: Evidence from Egypt, Jordan and Tunisia*, No. 993, *Economic Research Forum Working Paper Series*, Cairo, Egypt.
- Attanasio, O., Kugler, A. and Meghir, C. (2011), “Subsidizing vocational training for disadvantaged youth in Colombia: Evidence from a randomized trial”, *American Economic Journal: Applied Economics*, Vol. 3 No. 3, pp. 188–220.
- Barsoum, G., Crépon, B., Michel, B. and Parienté, W. (2016), *Evaluating the Effects of Entrepreneurship Edutainment in Egypt, Working Paper*.
- Bausch, J., Dyer, P., Gardiner, D., Kluve, J. and Kovacevic, S. (2017), “The Impact of Skills Training on Financial Behaviour, Employability, and Educational Choice of Youth: Evidence from a Randomized Controlled Trial in Morocco”, *ERF 23rd Annual Conference*, Amman, Jordan.
- Bell, A., Chetty, R., Jaravel, X., Petkova, N. and Van Reenen, J. (2019), “Who becomes an inventor in America? The importance of exposure to innovation”, *The Quarterly Journal of Economics*, Vol. 134 No. 2, pp. 647–713.
- Bengtsson, O., Sanandaji, T. and Johannesson, M. (2017), “The psychology of the entrepreneur and the gender gap in entrepreneurship”, in Link, A.N. (Ed.), *Gender and Entrepreneurial Activity*, Edward Elgar Publishing Inc., pp. 6–45.
- Blattman, C. and Dercon, S. (2018), “The Impacts of Industrial and Entrepreneurial Work on Income and Health”, *American Economic Journal: Applied Economics*, Vol. 10 No. 3, pp. 1–38.
- Blattman, C. and Ralston, L. (2015), *Generating Employment in Poor and Fragile States: Evidence from Labor Market and Entrepreneurship Programs*, available at: <https://doi.org/10.2139/ssrn.2622220>.
- Card, D., Kluve, J. and Weber, A. (2018), “What works? A meta analysis of recent active labor market program evaluations”, *Journal of the European Economic Association*, Vol. 16 No. 3, pp. 894–931.
- Cho, Y. and Honorati, M. (2014), “Entrepreneurship programs in developing countries: A meta regression analysis”, *Labour Economics*, Vol. 28, pp. 110–130.
- Dhillon, N. and Yousef, T. (2009), *Generation in Waiting: The Unfulfilled Promise of Young People in the Middle East*, Brookings Institution Press, Washington, DC.
- Diwan, I. and Haidar, J.I. (2016), *Do Political Connections Reduce Job Creation? Evidence from Lebanon*.
- El-Kogali, S.E.T. and Krafft, C. (Eds.). (2020), *Expectations and Aspirations: A New Framework for Education in the Middle East and North Africa*, World Bank, Washington, DC.

- Fakih, A. and Ghazalian, P.L. (2015), “What factors influence firm perceptions of labour market constraints to growth in the MENA region?”, *International Journal of Manpower*, Vol. 36 No. 8, pp. 1181–1206.
- GEM. (2018), *Global Entrepreneurship Monitor Global Report 2017/18*, Global Entrepreneurship Research Association.
- Grimm, M. and Paffhausen, A.L. (2014), *Do Interventions Targeted at Micro-Entrepreneurs and Small and Medium-Sized Firms Create Jobs? A Systematic Review of the Evidence for Low and Middle Income Countries*, No. 8193, *IZA Discussion Paper Series*, Bonn, Germany.
- Hampel-Milagrosa, A., Loewe, M. and Reeg, C. (2015), “The Entrepreneur Makes a Difference: Evidence on MSE Upgrading Factors from Egypt, India, and the Philippines”, *World Development*, Vol. 66, pp. 118–130.
- ILO. (2004), “ISCO: Approaches to some specific issues”, *International Standard Classification of Occupations*, available at: <https://www.ilo.org/public/english/bureau/stat/isco/isco88/pub15.htm> (accessed 25 August 2020).
- ILO. (2013a), *Youth Employment Inventory (YEI): Egypt*, ILO, Geneva, Switzerland.
- ILO. (2013b), *Youth Employment Inventory (YEI): Tunisia*, ILO, Geneva, Switzerland.
- ILO. (2013c), “Resolution Concerning Statistics of Work, Employment, and Labour Underutilization Adopted by the Nineteenth International Conference of Labour Statisticians (October 2013)”.
- ILO. (2017), “Towards evidence-based active labour market programmes in Egypt: Challenges and way forward”.
- ILO. (2018), “Conceptual framework for statistics on work relationships. Report for discussion at the Meeting of Experts on Labour Statistics in Preparation for the 20th International Conference of Labour Statisticians (Geneva, 5–9 February 2018)”.
- ILO and IFAD. (2013), *Promoting Women’s and Youth Empowerment: Youth Employment Inventory Jordan*, ILO, Geneva, Switzerland.
- International Labour Organization. (2015), *Global Employment Trends for Youth 2015*, International Labour Organization, Geneva, Switzerland.
- Ismail, A., Schøtt, T., Bazargon, A., Dudokh, D., Kubaisi, H. Al, Hassen, M., de la Vega, I., et al. (2017), *Global Entrepreneurship Monitor: Middle East and North Africa Report 2017*, Global Entrepreneurship Research Association.
- Ismail, A., Tolba, A. and Barakat, S. (2016), *GEM Egypt National Report 2016/17*, American University in Cairo.
- Krafft, C. (2016), *Understanding the Dynamics of Household Enterprises in Egypt: Birth, Death, Growth, and Transformation*, No. 983, *Economic Research Forum Working Paper Series*, Cairo, Egypt.
- Krafft, C. (2018), “Is School the Best Route to Skills? Returns to Vocational School and Vocational Skills in Egypt”, *The Journal of Development Studies*, Vol. 54 No. 7, pp. 1100–1120.
- Krafft, C. and Assaad, R. (2018), *Introducing the Jordan Labor Market Panel Survey 2016*, No. 1186, *Economic Research Forum Working Paper Series*, Cairo, Egypt.
- Krafft, C., Assaad, R., Rahman, K.W. and Cumanzala, M. (2020), *How Do Small Formal and Informal Firms in the Arab Republic of Egypt Compare?*, No. 9423, *World Bank Policy Research Working Paper Series*, Washington, DC.
- Krafft, C. and Davis, E.E. (2021), “The Arab Inequality Puzzle: The Role of Income Sources in

- Egypt and Tunisia”, *Middle East Development Journal*, Vol. 13 No. 1, pp. 1–26.
- Krauss, S.I., Frese, M., Friedrich, C. and Unger, J.M. (2005), “Entrepreneurial orientation: A psychological model of success among southern African small business owners”, *European Journal of Work and Organizational Psychology*, Vol. 14 No. 3, pp. 315–344.
- Manacorda, M., Rosati, F.C., Ranzani, M. and Dachille, G. (2017), “Pathways from school to work in the developing world”, *IZA Journal of Labor & Development*, Vol. 6 No. 1, pp. 1–40.
- McKenzie, D., Assaf, N. and Cusolito, A.P. (2016), “The demand for, and impact of, youth internships: evidence from a randomized experiment in Yemen”, *IZA Journal of Labor and Development*, IZA Journal of Labor & Development, Vol. 5 No. 1, pp. 1–15.
- McKenzie, D. and Woodruff, C. (2014), “What are we learning from business training and entrepreneurship evaluations around the developing world?”, *World Bank Research Observer*, Vol. 29 No. 1, pp. 48–82.
- de Mel, S., Mckenzie, D. and Woodruff, C. (2010), “Who are the Microenterprise Owners? Evidence from Sri Lanka on Tokman versus De Soto”, in Lerner, J. and Schoar, A. (Eds.), *International Differences in Entrepreneurship*, University of Chicago Press.
- Mondragón-Vélez, C. and Peña, X. (2010), “Business Ownership and Self-Employment in Developing Economies: The Colombian Case”, in Lerner, J. and Schoar, A. (Eds.), *International Differences in Entrepreneurship*, University of Chicago Press, pp. 89–127.
- Naudé, W. (2008), *Entrepreneurship in Economic Development*, No. 2008/20, *UNU-WIDER Research Paper*, Helsinki, Finland.
- Naudé, W. (2010), *Promoting Entrepreneurship in Developing Countries: Policy Challenges*, No. 4, *UNU Policy Brief*.
- Noseleit, F. (2010), “The entrepreneurial culture: guiding principles of the self-employed”, in Freytag, A. and Thurik, R. (Eds.), *Entrepreneurship and Culture*, Springer-Verlag Berlin Heidelberg, pp. 41–54.
- OECD Development Centre. (2018), *Better Policies for Better Youth Livelihoods: A Guidance Note for Development Practitioners*, EU-OECD Youth Inclusion Project, Paris, Paris.
- Osman, A. (2014), *Occupational Choice under Credit and Information Constraints*, Working Paper. Yale University.
- Parker, S.C. (2004), *The Economics of Self-Employment and Entrepreneurship*, Cambridge University Press.
- Pettit, H. (2018), *Selling Hope? A Review of Current Youth Unemployment Initiatives in Cairo*, No. 235, *GLO Working Paper*, Maastricht, The Netherlands.
- Premand, P., Brodmann, S., Almeida, R., Grun, R. and Barouni, M. (2016), “Entrepreneurship Education and Entry into Self-Employment Among University Graduates”, *World Development*, Vol. 77, pp. 311–327.
- Rizk, R. and Rashed, A. (2019), *Trends and Determinants of Women’s Entrepreneurship in Egypt*, No. 1369, *Economic Research Forum Working Paper Series*, Cairo, Egypt.
- Rizk, R. and Salemi, C. (2019), “Own account workers in Jordan: Profile and work characteristics”, in Krafft, C. and Assaad, R. (Eds.), *The Jordanian Labor Market: Between Fragility and Resilience*, Oxford University Press, Oxford, UK, pp. 101–122.
- Shane, S. (2003), *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*, Edward Elgar Publishing Limited.
- Shane, S. (2012), “Reflection on the 2010 ‘AMR’ Decade Award: Delivering on the Promise of Entrepreneurship as a Field of Research”, *The Academy of Management Review*, Vol. 37

- No. 1, pp. 10–20.
- Shane, S. and Venkataraman, S. (2000), “The Promise of Entrepreneurship as a Field of Research”, *The Academy of Management Review*, Vol. 25 No. 1, pp. 217–226.
- Sieverding, M. (2012), *Youth Perspectives on Entrepreneurship in Egypt: Barriers to Entrepreneurship as a Means to Combat Youth Unemployment*, No. 5, *Survey of Young People in Egypt Policy Brief Series*, Cairo, Egypt.
- Sukarieh, M. and Tannock, S. (2008), “In the best interests of youth or neoliberalism? The World Bank and the New Global Youth Empowerment Project”, *Journal of Youth Studies*, Vol. 11 No. 3, pp. 301–312.
- Sumberg, J., Fox, L., Flynn, J., Mader, P. and Oosterom, M. (2021), “Africa’s ‘youth employment’ crisis is actually a ‘missing jobs’ crisis”, *Development Policy Review*, pp. 1–23.
- World Bank. (2014), *Tunisia: Breaking The Barriers To Youth Inclusion*, World Bank, Washington DC.

Tables

Table I: Descriptive statistics by labor market status and country (percentage), ages 15-64

	<u>Egypt</u>					<u>Jordan</u>					<u>Tunisia</u>							
	Employer	Self-emp.	Wage	Unemp.	OLF	Total Employer	Self-emp.	Wage	Unemp.	OLF	Total Employer	Self-emp.	Wage	Unemp.	OLF	Total		
Sex																		
Male	94	67	82	35	20	49	98	96	86	62	32	52	93	78	75	57	25	49
Female	6	33	18	65	80	51	2	4	14	38	68	48	7	22	25	43	75	51
Age group																		
15-19	0	9	4	4	24	14	1	3	3	11	24	16	0	4	3	7	18	11
20-29	12	29	30	63	31	31	11	18	31	59	28	30	9	16	22	65	24	25
30-39	28	25	31	27	16	23	21	32	35	18	17	23	33	26	32	23	19	24
40-49	26	19	20	5	11	15	39	30	23	8	15	18	23	25	25	3	16	19
50-59	22	14	14	1	11	13	21	13	7	4	11	10	31	22	16	2	16	16
60-64	11	5	1	0	7	5	7	4	1	0	6	4	4	7	1	0	8	5
Education																		
No education	44	41	18	4	32	27	24	37	24	20	34	30	25	42	28	14	40	34
Basic	16	22	16	5	29	22	25	34	28	28	28	28	43	45	38	34	34	37
Secondary	24	29	37	51	30	33	18	13	17	8	21	19	22	10	16	17	15	15
Higher	16	9	30	40	9	18	33	16	31	45	18	23	11	4	18	35	11	14
Residence																		
Urban	34	30	48	51	44	44	96	94	89	85	89	89	82	53	73	70	68	69
Rural	66	70	52	49	56	56	4	6	11	15	11	11	18	47	27	30	32	31
Ever married																		
Never married	7	25	24	45	34	29	9	14	32	63	42	39	14	30	35	81	41	40
Ever married	93	75	76	55	66	71	91	86	68	37	58	61	86	70	65	19	59	60
Father's education																		
No education	83	84	68	49	66	69	60	73	64	45	56	58	59	79	64	66	65	66
Basic	9	9	14	19	12	12	6	11	16	24	18	17	27	16	26	23	25	24
Secondary	4	4	9	18	12	10	23	7	9	14	10	10	12	4	7	8	7	7
Higher	4	3	9	14	10	9	11	9	11	16	15	14	3	1	3	3	3	3
Mother's education																		
No education	91	93	83	68	78	81	68	86	75	55	65	68	80	94	85	82	82	84
Basic	5	4	7	10	8	7	8	7	13	21	15	14	19	5	11	14	13	12

	<u>Egypt</u>					<u>Jordan</u>					<u>Tunisia</u>					<u>Total</u>		
	<u>Employer</u>	<u>Self-emp.</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Total</u>	<u>Employer</u>	<u>Self-emp.</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Total</u>	<u>Employer</u>	<u>Self-emp.</u>	<u>Wage</u>		<u>Unemp.</u>	<u>OLF</u>
Secondary Education	3	3	6	15	10	8	22	5	6	13	9	8	1	1	3	2	4	3
Higher Education	1	1	4	6	5	4	3	2	6	11	11	9	0	0	1	1	2	1
Father's emp. status																		
Employer	47	37	19	14	21	22	34	9	4	3	5	5	23	7	4	2	5	5
Self-Employed	12	17	10	9	12	11	13	21	14	12	14	14	18	39	20	17	19	21
Wage worker	40	44	67	71	64	63	35	44	55	57	45	49	45	38	60	53	51	53
Not employed/missing	1	2	4	7	3	3	17	26	27	28	35	32	14	16	16	28	24	21
Mother's emp. status																		
Employer or self-employed	10	18	6	4	6	7	3	1	1	1	1	1	3	8	3	1	4	4
Wage worker	4	4	8	15	8	8	3	2	4	5	5	4	2	3	6	9	6	6
Not employed/missing	86	78	86	81	86	85	95	97	95	94	95	95	96	89	91	90	90	90
Wealth quintiles																		
Poorest	21	26	16	10	20	19	3	11	26	15	17	19	4	23	15	16	17	17
Secondary	19	27	19	17	21	21	11	18	16	17	22	20	10	22	21	20	20	20
Third	20	22	20	23	21	21	10	21	19	20	19	19	12	18	22	23	20	20
Fourth	18	16	21	25	19	20	16	27	20	23	19	20	24	23	21	23	21	21
Richest	22	10	24	26	19	20	59	23	19	25	23	23	50	14	22	17	21	21
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	1,476	2,429	10,174	1,282	14,405	29,766	250	562	5,443	1,411	11,826	19,492	179	917	2,527	481	4,972	9,076

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

Table II . Multinomial logit models of labor market status (marginal effects), ages 15-64, Egypt

	<u>All</u>					<u>Men</u>				
	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>
Reference probability:	0.076	0.147	0.686	0.016	0.075	0.084	0.112	0.712	0.072	0.020
Sex (male omit.)										
Female	-0.094*** (0.003)	-0.061*** (0.003)	-0.445*** (0.005)	0.032*** (0.002)	0.568*** (0.004)					
Age group (30-39 omit.)										
15-19	-0.051*** (0.003)	-0.032*** (0.007)	-0.195*** (0.010)	-0.029*** (0.004)	0.308*** (0.010)	-0.215*** (0.033)	0.016 (0.013)	-0.073* (0.029)	-0.022*** (0.007)	0.294*** (0.017)
20-29	-0.029*** (0.004)	-0.012* (0.005)	-0.055*** (0.007)	0.008* (0.004)	0.088*** (0.006)	-0.074*** (0.008)	-0.024** (0.009)	-0.051*** (0.015)	-0.005 (0.004)	0.154*** (0.017)
40-49	0.014*** (0.004)	0.005 (0.006)	0.023** (0.008)	-0.030*** (0.004)	-0.012 (0.007)	0.008 (0.006)	-0.026** (0.009)	-0.109*** (0.017)	-0.016* (0.007)	0.143*** (0.021)
50-59	0.013** (0.005)	-0.011 (0.006)	0.005 (0.008)	-0.041*** (0.003)	0.034*** (0.008)	0.001 (0.007)	-0.074*** (0.010)	-0.203*** (0.016)	-0.028*** (0.008)	0.303*** (0.019)
60-64	0.037*** (0.007)	-0.019* (0.008)	-0.327*** (0.008)	-0.045*** (0.004)	0.354*** (0.010)	0.087*** (0.009)	0.004 (0.013)	-0.607*** (0.026)	-0.037* (0.017)	0.552*** (0.019)
Education (less than basic omit.)										
Basic	-0.027*** (0.004)	-0.024*** (0.005)	0.032*** (0.007)	0.001 (0.002)	0.019** (0.007)	-0.039*** (0.007)	-0.013 (0.007)	-0.013 (0.012)	-0.022*** (0.006)	0.087*** (0.008)
Secondary	-0.036*** (0.004)	-0.036*** (0.005)	0.107*** (0.006)	0.042*** (0.003)	-0.077*** (0.006)	-0.062*** (0.006)	-0.029*** (0.007)	0.038*** (0.011)	0.001 (0.005)	0.053*** (0.008)
Higher Education	-0.036*** (0.004)	-0.050*** (0.005)	0.291*** (0.008)	0.071*** (0.004)	-0.276*** (0.008)	-0.064*** (0.007)	-0.058*** (0.009)	0.154*** (0.013)	0.017** (0.006)	-0.048*** (0.011)
Residence (urban omit.)										
Rural	0.007* (0.003)	0.009* (0.004)	-0.014* (0.006)	-0.005* (0.003)	0.004 (0.005)	0.013* (0.006)	-0.013* (0.006)	0.009 (0.009)	-0.014*** (0.004)	0.006 (0.006)
Ever married (never omit.)										
Ever married	0.023*** (0.004)	-0.001 (0.005)	0.068*** (0.007)	-0.030*** (0.003)	-0.059*** (0.007)	0.047*** (0.010)	0.012 (0.008)	0.182*** (0.013)	-0.034*** (0.004)	-0.206*** (0.011)
Father's education (less than basic omit.)										
Basic	0.011* (0.005)	-0.009 (0.005)	-0.011 (0.007)	0.009* (0.004)	-0.000 (0.007)	0.016 (0.008)	-0.007 (0.009)	-0.025* (0.012)	0.011** (0.004)	0.005 (0.007)
Secondary	0.011 (0.005)	-0.023*** (0.005)	-0.060*** (0.007)	0.004 (0.004)	0.069*** (0.007)	0.027* (0.008)	-0.014 (0.009)	-0.093*** (0.012)	0.016*** (0.004)	0.065*** (0.007)

	<u>All</u>					<u>Men</u>				
	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>
Higher Education	0.015 (0.007)	-0.026** (0.007)	-0.039*** (0.009)	-0.006 (0.004)	0.056*** (0.008)	0.035* (0.012)	-0.019 (0.012)	-0.095*** (0.016)	0.005 (0.005)	0.075*** (0.009)
Mother's education (less than basic omit.)										
Basic	0.013* (0.007)	-0.018* (0.007)	-0.021* (0.009)	-0.002 (0.004)	0.028*** (0.008)	0.021 (0.011)	-0.021 (0.012)	-0.038* (0.015)	-0.004 (0.005)	0.042*** (0.009)
Secondary	0.007 (0.009)	-0.013 (0.010)	-0.100*** (0.011)	-0.001 (0.005)	0.107*** (0.010)	0.015 (0.017)	0.022 (0.016)	-0.137*** (0.021)	0.009 (0.005)	0.091*** (0.010)
Higher Education	-0.003 (0.011)	-0.042*** (0.011)	-0.078*** (0.015)	-0.008 (0.006)	0.131*** (0.014)	-0.020 (0.025)	-0.031 (0.029)	-0.062 (0.032)	0.006 (0.007)	0.107*** (0.016)
Father's employment status (wage omit.)										
Employer	0.051*** (0.003)	0.040*** (0.004)	-0.066*** (0.006)	-0.014*** (0.003)	-0.011* (0.005)	0.085*** (0.005)	0.062*** (0.006)	-0.106*** (0.009)	-0.015** (0.005)	-0.026*** (0.007)
Self-Employed	0.016*** (0.004)	0.047*** (0.005)	-0.062*** (0.007)	-0.007 (0.004)	0.006 (0.007)	0.037*** (0.007)	0.079*** (0.007)	-0.099*** (0.011)	-0.010 (0.005)	-0.006 (0.008)
Not employed/missing	-0.004 (0.007)	-0.013 (0.008)	0.029* (0.013)	0.013* (0.006)	-0.025* (0.012)	-0.010 (0.021)	-0.024 (0.017)	0.032 (0.022)	0.008 (0.005)	-0.006 (0.011)
Mother's employment status (wage omit.)										
Employer or self-employed	-0.002 (0.009)	0.051*** (0.011)	-0.069*** (0.015)	-0.010 (0.006)	0.030* (0.013)	-0.009 (0.016)	0.075*** (0.017)	-0.073** (0.023)	-0.004 (0.008)	0.012 (0.013)
Not employed/missing	-0.006 (0.008)	-0.007 (0.009)	-0.071*** (0.012)	-0.002 (0.004)	0.086*** (0.010)	-0.011 (0.014)	0.029 (0.015)	-0.038* (0.018)	0.001 (0.004)	0.019 (0.010)
Governorates included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	29662	29662	29662	29662	29662	14565	14565	14565	14565	14565

Notes: Standard errors in parentheses. *p<0.05; **p<0.01; ***p<0.001

Source: Authors' calculations based on ELMPS 2012

Table III. Multinomial logit models of labor market status (marginal effects), ages 15-64, Jordan

	<u>All</u>					<u>Men</u>				
	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>
Reference probability:	0.006	0.045	0.760	0.056	0.133	0.006	0.040	0.739	0.074	0.141
Sex (male omit.)										
Female	-0.030*** (0.002)	-0.058*** (0.002)	-0.387*** (0.005)	-0.019*** (0.003)	0.494*** (0.005)					
Age group (30-39 omit.)										
15-19	-0.013*** (0.002)	-0.020*** (0.005)	-0.330*** (0.010)	-0.014** (0.005)	0.377*** (0.011)	-0.051* (0.021)	-0.007 (0.016)	-0.396*** (0.025)	0.009 (0.010)	0.445*** (0.018)
20-29	-0.006* (0.003)	-0.006 (0.004)	-0.090*** (0.009)	0.040*** (0.005)	0.063*** (0.009)	-0.013 (0.007)	-0.011 (0.008)	-0.074*** (0.014)	0.032*** (0.008)	0.065*** (0.014)
40-49	0.009** (0.003)	-0.001 (0.004)	-0.068*** (0.009)	-0.015** (0.005)	0.075*** (0.009)	0.013** (0.005)	-0.009 (0.006)	-0.141*** (0.014)	-0.005 (0.010)	0.142*** (0.015)
50-59	0.017*** (0.004)	-0.007 (0.004)	-0.223*** (0.010)	-0.014* (0.006)	0.227*** (0.011)	0.024*** (0.005)	-0.010 (0.007)	-0.319*** (0.016)	0.006 (0.011)	0.298*** (0.015)
60-64	0.011* (0.006)	-0.010 (0.006)	-0.338*** (0.011)	-0.040*** (0.005)	0.377*** (0.013)	0.029*** (0.007)	0.004 (0.012)	-0.484*** (0.032)	-0.054 (0.029)	0.505*** (0.025)
Education (less than basic omit.)										
Basic	0.000 (0.003)	0.001 (0.004)	0.052*** (0.007)	0.003 (0.004)	-0.056*** (0.007)	0.002 (0.005)	0.001 (0.006)	0.079*** (0.012)	-0.005 (0.006)	-0.076*** (0.012)
Secondary	0.002 (0.003)	-0.013*** (0.004)	0.024** (0.008)	-0.025*** (0.004)	0.013 (0.008)	0.005 (0.005)	-0.021** (0.008)	0.035* (0.014)	-0.067*** (0.010)	0.049*** (0.013)
Higher Education	-0.005* (0.002)	-0.019*** (0.003)	0.149*** (0.008)	0.058*** (0.006)	-0.182*** (0.008)	-0.009 (0.005)	-0.044*** (0.008)	0.097*** (0.014)	0.003 (0.008)	-0.047*** (0.013)
Residence (urban omit.)										
Rural	-0.006* (0.003)	-0.011** (0.004)	-0.005 (0.009)	0.002 (0.005)	0.020* (0.009)	-0.014 (0.008)	-0.026* (0.011)	0.004 (0.016)	0.005 (0.008)	0.031* (0.014)
Ever married (never omit.)										
Ever married	0.011*** (0.002)	0.027*** (0.003)	0.020** (0.008)	-0.045*** (0.005)	-0.013 (0.008)	0.027*** (0.007)	0.065*** (0.009)	0.107*** (0.014)	-0.055*** (0.007)	-0.144*** (0.013)
Father's education (less than basic omit.)										
Basic	-0.005 (0.003)	0.002 (0.004)	-0.028*** (0.008)	0.001 (0.005)	0.029*** (0.008)	-0.010 (0.007)	0.009 (0.008)	-0.047*** (0.014)	0.006 (0.007)	0.042** (0.013)
Secondary	0.018*** (0.005)	0.004 (0.006)	-0.029** (0.011)	0.004 (0.006)	0.003 (0.011)	0.027*** (0.006)	0.010 (0.010)	-0.028 (0.018)	0.004 (0.009)	-0.014 (0.017)

	<u>All</u>					<u>Men</u>				
	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>
Higher Education	0.010*	0.018*	-0.046***	-0.012*	0.030**	0.018*	0.030**	-0.088***	-0.008	0.049**
	(0.005)	(0.007)	(0.010)	(0.005)	(0.010)	(0.007)	(0.010)	(0.018)	(0.009)	(0.016)
Mother's education (less than basic omit.)										
Basic	-0.000	-0.016***	-0.012	0.012*	0.016	-0.001	-0.034***	-0.009	-0.006	0.050***
	(0.003)	(0.004)	(0.009)	(0.005)	(0.009)	(0.007)	(0.010)	(0.015)	(0.008)	(0.014)
Secondary	0.015**	-0.011*	-0.066***	0.019**	0.043***	0.021**	-0.018	-0.133***	0.022*	0.107***
	(0.006)	(0.005)	(0.011)	(0.007)	(0.012)	(0.006)	(0.012)	(0.020)	(0.009)	(0.018)
Higher Education	-0.008	-0.024***	-0.085***	-0.004	0.121***	-0.016	-0.053**	-0.090***	-0.006	0.166***
	(0.004)	(0.005)	(0.013)	(0.006)	(0.013)	(0.014)	(0.020)	(0.026)	(0.011)	(0.020)
Father's employment status (wage omit.)										
Employer	0.054***	0.022***	-0.078***	-0.036***	0.038**	0.050***	0.042***	-0.089***	-0.050**	0.046*
	(0.007)	(0.007)	(0.012)	(0.006)	(0.012)	(0.005)	(0.009)	(0.022)	(0.016)	(0.020)
Self-Employed	0.002	0.016***	-0.027**	-0.013*	0.022**	0.005	0.029***	-0.033*	-0.025**	0.025
	(0.003)	(0.004)	(0.008)	(0.005)	(0.008)	(0.005)	(0.007)	(0.014)	(0.008)	(0.013)
Not employed/missing	-0.001	0.001	-0.054***	-0.015***	0.069***	-0.002	0.005	-0.091***	-0.015**	0.102***
	(0.002)	(0.003)	(0.006)	(0.004)	(0.006)	(0.005)	(0.006)	(0.011)	(0.006)	(0.010)
Mother's employment status (wage omit.)										
Employer or self-employed	0.034*	-0.007	-0.099*	0.023	0.049	0.041*	-0.010	-0.082	-0.002	0.053
	(0.015)	(0.017)	(0.039)	(0.027)	(0.040)	(0.017)	(0.032)	(0.067)	(0.046)	(0.064)
Not employed/missing	0.004	-0.007	-0.071***	0.009	0.065***	0.007	-0.009	-0.089**	0.024	0.068**
	(0.006)	(0.011)	(0.017)	(0.007)	(0.015)	(0.013)	(0.018)	(0.027)	(0.014)	(0.024)
Governorates included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	19100	19100	19100	19100	19100	9538	9538	9538	9538	9538

Notes: Standard errors in parentheses. *p<0.05; **p<0.01; ***p<0.001

Source: Authors' calculations based on JLMPS 2016

Table IV. Multinomial logit models of labor market status (marginal effects), ages 15-64, Tunisia

	<u>All</u>					<u>Men</u>				
	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>
Reference probability:	0.010	0.124	0.569	0.137	0.161	0.013	0.116	0.474	0.264	0.132
Sex (male omit.)										
Female	-0.040*** (0.003)	-0.111*** (0.006)	-0.326*** (0.009)	-0.016** (0.005)	0.493*** (0.009)					
Age group (30-39 omit.)										
15-19	-0.029*** (0.004)	-0.062*** (0.010)	-0.300*** (0.015)	-0.028*** (0.008)	0.420*** (0.017)	-0.577 (31.573)	0.061 (6.028)	0.012 (19.465)	0.015 (1.017)	0.489 (5.063)
20-29	-0.013* (0.006)	-0.019 (0.010)	-0.122*** (0.015)	0.044*** (0.009)	0.109*** (0.015)	-0.032* (0.014)	-0.017 (0.019)	-0.105*** (0.024)	0.032** (0.010)	0.122*** (0.021)
40-49	-0.006 (0.005)	0.005 (0.010)	0.033* (0.016)	-0.044*** (0.007)	0.012 (0.014)	-0.014 (0.009)	-0.014 (0.018)	-0.011 (0.027)	-0.095*** (0.025)	0.134*** (0.029)
50-59	0.001 (0.006)	0.011 (0.011)	-0.069*** (0.017)	-0.044*** (0.007)	0.101*** (0.016)	-0.004 (0.009)	-0.030 (0.018)	-0.181*** (0.028)	-0.088*** (0.025)	0.302*** (0.028)
60-64	-0.012 (0.007)	0.003 (0.015)	-0.308*** (0.017)	-0.060*** (0.006)	0.377*** (0.021)	-0.002 (0.015)	0.054 (0.030)	-0.457*** (0.069)	-0.191 (0.109)	0.596*** (0.048)
Education (less than basic omit.)										
Basic	0.010* (0.004)	0.020* (0.008)	0.042*** (0.012)	0.008 (0.006)	-0.080*** (0.012)	0.020* (0.008)	0.020 (0.013)	-0.003 (0.019)	-0.010 (0.011)	-0.027 (0.017)
Secondary	0.005 (0.005)	-0.041*** (0.009)	0.073*** (0.016)	0.019* (0.008)	-0.057*** (0.016)	0.014 (0.010)	-0.083*** (0.021)	0.019 (0.026)	-0.011 (0.014)	0.060** (0.020)
Higher Education	-0.006 (0.004)	-0.067*** (0.009)	0.163*** (0.018)	0.081*** (0.011)	-0.171*** (0.017)	-0.017 (0.014)	-0.183*** (0.032)	0.062 (0.032)	0.014 (0.014)	0.124*** (0.023)
Residence (urban omit.)										
Rural	-0.007 (0.004)	0.034*** (0.008)	-0.030** (0.011)	-0.021*** (0.006)	0.024* (0.011)	-0.014 (0.009)	0.026 (0.013)	0.020 (0.019)	-0.031** (0.010)	-0.001 (0.015)
Ever married (never omit.)										
Ever married	0.017*** (0.004)	0.010 (0.009)	0.008 (0.013)	-0.045*** (0.007)	0.010 (0.013)	0.040*** (0.011)	0.041* (0.018)	0.171*** (0.024)	-0.063*** (0.014)	-0.189*** (0.023)
Father's education (less than basic omit.)										
Basic	0.003 (0.004)	-0.017* (0.008)	0.033** (0.012)	-0.022*** (0.006)	0.003 (0.011)	0.004 (0.008)	-0.025 (0.016)	0.100*** (0.019)	-0.044*** (0.011)	-0.036* (0.016)
Secondary	0.016 (0.009)	0.016 (0.020)	-0.017 (0.022)	-0.013 (0.011)	-0.003 (0.022)	0.025 (0.013)	0.041 (0.033)	-0.032 (0.039)	-0.015 (0.018)	-0.018 (0.028)

	<u>All</u>					<u>Men</u>				
	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>	<u>Employer</u>	<u>Self-employed</u>	<u>Wage</u>	<u>Unemp.</u>	<u>OLF</u>
Higher Education	0.021 (0.027)	0.005 (0.039)	0.027 (0.039)	-0.040*** (0.009)	-0.013 (0.034)	-0.531 (61.427)	0.124 (11.728)	0.420 (37.870)	-0.065 (1.978)	0.052 (9.851)
Mother's education (less than basic omit.)										
Basic	0.028** (0.009)	-0.031** (0.011)	-0.038* (0.016)	-0.007 (0.008)	0.048** (0.016)	0.038*** (0.011)	-0.079** (0.029)	-0.015 (0.030)	0.010 (0.013)	0.046* (0.020)
Secondary	-0.013* (0.006)	0.004 (0.028)	-0.046 (0.029)	-0.029** (0.011)	0.085** (0.030)	-0.037 (0.030)	0.006 (0.048)	-0.020 (0.055)	-0.014 (0.024)	0.066 (0.037)
Higher Education	-0.021*** (0.002)	-0.036 (0.043)	-0.076 (0.044)	-0.042*** (0.012)	0.174*** (0.047)	-0.575 (88.758)	0.088 (16.947)	0.232 (54.720)	0.004 (2.858)	0.251 (14.234)
Father's employment status (wage omit.)										
Employer	0.056*** (0.011)	0.079*** (0.017)	-0.135*** (0.019)	-0.024* (0.010)	0.024 (0.020)	0.066*** (0.009)	0.157*** (0.023)	-0.184*** (0.037)	-0.093* (0.036)	0.054 (0.029)
Self-Employed	0.002 (0.004)	0.054*** (0.008)	-0.060*** (0.012)	-0.000 (0.007)	0.004 (0.012)	0.002 (0.009)	0.108*** (0.013)	-0.062** (0.019)	-0.002 (0.011)	-0.046** (0.017)
Not employed/missing	-0.002 (0.005)	0.008 (0.009)	-0.068*** (0.014)	0.007 (0.007)	0.055*** (0.013)	-0.003 (0.013)	0.029 (0.018)	-0.095*** (0.023)	0.010 (0.010)	0.058*** (0.016)
Mother's employment status (wage omit.)										
Employer or self-employed	0.006 (0.011)	0.014 (0.024)	0.013 (0.033)	-0.058*** (0.014)	0.026 (0.031)	0.001 (0.029)	-0.007 (0.043)	0.031 (0.056)	-0.064* (0.031)	0.039 (0.040)
Not employed/missing	0.009 (0.007)	-0.011 (0.019)	0.013 (0.021)	-0.018 (0.011)	0.007 (0.021)	0.010 (0.022)	-0.006 (0.034)	0.036 (0.038)	-0.028 (0.015)	-0.013 (0.026)
Governorates included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	8002	8002	8002	8002	8002	3639	3639	3639	3639	3639

Notes: Standard errors in parentheses. *p<0.05; **p<0.01; ***p<0.001

Source: Authors' calculations based on TLMPS 2014

Table V. Characteristics of work by employment status and country (percentage), ages 15-64

	<u>Egypt 2012</u>			<u>Jordan 2016</u>				<u>Tunisia 2014</u>				
	Self- Employer	Wage employed	worker Total	Self- Employer	Wage employed	worker Total	Self- Employer	Wage employed	worker Total			
Economic activity (%)												
Agric.	46	42	9	19	6	5	7	7	23	43	10	18
Manuf. & mining	9	8	18	15	17	9	13	12	16	9	20	18
Constr.	7	4	13	11	25	19	7	9	17	6	21	17
Wholesale & retail	24	30	10	14	36	38	13	16	17	29	6	12
Transp. & storage	3	8	8	7	5	14	3	4	12	6	3	4
Accomm. & food	4	2	3	3	1	1	2	2	4	2	5	5
Other acts.	7	6	39	30	9	14	55	49	10	5	34	27
Occupation (%)												
Man. & Prof.	33	15	23	23	24	8	22	20	12	2	15	12
White collar	10	18	28	24	37	34	41	41	36	35	29	31
Blue collar	58	67	49	53	39	58	37	39	51	63	56	57
Firm size (%)												
Outside est.	61	74	29	41	17	68	19	23	56	69	38	46
1-4	31	26	11	16	49	27	21	23	31	30	10	16
5-9	6	0	6	5	7	0	6	6	4	1	5	4
10+	2	0	53	39	27	4	54	48	9	1	47	34
Total	100	100	100	100	100	100	100	100	100	100	100	100
Mean hours per week	53	45	47	47	48	37	46	45	48	44	45	45
% with work medical ins.	4	2	48	35					37	22	49	42
% with social insurance	17	7	51	40	12	4	47	42	62	28	55	50
% satisfied with...												
Job security	57	42	43	44	50	22	29	29	60	44	48	48
Earnings	53	34	30	32	52	23	31	31	46	24	35	34
Type of work	61	45	45	46	54	26	33	33	70	42	45	46
No. hours	59	46	42	44	54	25	32	32	61	40	37	39
Schedule	60	48	44	46	54	25	33	33	56	41	37	39
Conditions	56	42	41	43	54	25	32	33	51	35	34	35
Commute	67	58	45	50	54	29	33	33	65	53	47	49
Match qual.	63	49	50	51	54	30	34	35	70	52	55	55
N (Obs.)	1,476	2,429	10,174	14,079	250	562	5,443	6,255	179	917	2,527	3,623

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

Table VI. Transitions between labor market statuses, 2006 to 2012 (Egypt, percentage of 2006 status) and 2010 to 2016 (Jordan, percentage of 2010 status), Ages 15-64 in 2012/2016

Egypt								
		2012 status						
2006 status	Employer	Self-employed	Wage worker	Unemployed	OLF	N	Total	
Males								
Employers	45	20	29	1	5	100	978	
Self-employed	18	31	43	2	6	100	1,169	
Wage worker	5	6	79	2	7	100	4,323	
Unemployed	3	12	73	8	4	100	292	
OLF	4	9	52	9	27	100	1,753	
Total	11	12	63	3	11	100	8,515	
Females								
Employers	11	23	3	2	62	100	82	
Self-employed	2	25	3	2	69	100	849	
Wage worker	0	2	72	2	24	100	1,128	
Unemployed	0	3	14	20	63	100	435	
OLF	0	4	7	6	83	100	6,192	
Total	1	6	15	6	73	100	8,686	
ALL								
Employers	43	20	27	1	10	100	1,060	
Self-employed	11	28	25	2	35	100	2,018	
Wage worker	4	5	78	2	11	100	5,451	
Unemployed	1	6	38	15	40	100	727	
OLF	1	5	16	7	70	100	7,945	
Total	6	9	38	5	42	100	17,201	
Jordan								
		2016 status						
2010 status	Employers	Self-employed	Wage worker	Unemployed	OLF	N	Total	
Males								
Employers	26	19	37	1	18	100	123	
Self-employed	5	32	33	5	25	100	279	
Wage worker	3	7	69	4	17	100	2,048	
Unemployed	3	7	53	18	19	100	266	
OLF	2	5	53	13	27	100	1,076	
Total	4	9	60	7	21	100	3,792	
Females								
Employers	-	-	-	-	-	100	9	
Self-employed	0	3	7	2	88	100	40	
Wage worker	0	1	58	4	37	100	459	
Unemployed	0	2	25	28	45	100	160	
OLF	0	1	8	7	84	100	3,138	
Total	0	1	15	8	77	100	3,806	
ALL								
Employers	24	18	35	0	23	100	132	
Self-employed	5	29	31	5	31	100	319	
Wage worker	3	6	67	4	21	100	2,507	
Unemployed	2	5	43	21	29	100	426	
OLF	1	2	20	9	69	100	4,214	
Total	2	5	37	7	48	100	7,598	

Notes: “-” denotes sample size below 30.

Source: Authors’ calculations based on ELMPS 2006, ELMPS 2012, JLMPS 2010, and JLMPS 2016

¹ For more details see Assaad and Krafft (2013) (ELMPS 2012); Krafft and Assaad (2018) (JLMPS 2016); Assaad, Ghazouani, Krafft, and Rolando (2016) (TLMPS 2014). Data are available at www.erfdataportal.com

² We use the market definition per the 19th International Conference of Labor Statisticians (ICLS) that defined employment, or market work, as work done for pay or profit (ILO, 2013c). This definition does not include those who undertake exclusively subsistence activities.

³ The survey asked about the job characteristics of the main job in the preceding three months.

⁴ Reference periods for search are country-specific, e.g., four weeks or three months, to align with national statistics.

⁵ This follows the broad classifications set by the 20th International Conference of Labor Statisticians (ICLS) (ILO, 2018).

⁶ As a sensitivity analysis we estimated models with just sex and age group, then adding education; the substance of our results remained the same as when we add further controls.

⁷ ICT employment is 1% in the three countries. Thus, we combined this category with professional or service activities.

⁸ Exact occupational coding differs by country, however, data were harmonized to one-digit ISCO-88 codings. As per ISCO-88, occupations reflect skills, tasks, and duties and not the employment status (e.g. wage worker vs. employer) classification (ILO, 2004).

⁹ See Krafft & Davis (2021) for a discussion of how earnings are constructed.