

Do Household Enterprise Dynamics Help Workers Climb the Job Ladder? Evidence from Egyptian Panel Data

Caroline Krafft, Ragui Assaad, Imane Helmy
and Paloma Avendano

DO HOUSEHOLD ENTERPRISE DYNAMICS HELP WORKERS CLIMB THE JOB LADDER? EVIDENCE FROM EGYPTIAN PANEL DATA

Caroline Krafft,¹ Ragui Assaad,² Imane Helmy³ and Paloma Avendano⁴

Working Paper No. 1845

October 2026

Acknowledgments: The authors are grateful for the valuable comments and feedback provided by Trang Van Nguyen (Senior Economist) and Alan Fuchs (Lead Economist). Peer reviewers: Gary Fields, May Gadallah, Raed Safadi, Miguel Eduardo Sanchez (Lead Economist), Vladimir Hlasny, Obert Pimhidzai (Lead Economist), and Ahmed Elsayed. Financial support for this analysis was provided by the Strategic Partnership for Egypt's Inclusive Growth (SPEIG). This paper carries the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

This paper is an output of the World Bank-funded project "Rethinking Vulnerability and Informality in Egypt", presented at the ERF workshop Rethinking Vulnerability and Informality in Egypt: Mobility, Earnings, and Household Enterprise Dynamics in a Tiered Labor Market in May 2026.

Send correspondence to:

Caroline Krafft
University of Minnesota
kraff004@umn.edu

¹ Corresponding Author. Humphrey School of Public Affairs, University of Minnesota.

² Humphrey School of Public Affairs, University of Minnesota.

³ World Bank.

⁴ Humphrey School of Public Affairs, University of Minnesota.

First published in 2026 by
The Economic Research Forum (ERF)
21 Al-Sad Al-Aaly Street
Dokki, Giza
Egypt
www.erf.org.eg

Copyright © The Economic Research Forum, 2026

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

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

Abstract

Household enterprises are a defining feature of labor markets in developing countries, yet their relationship with workers' labor market position remains poorly understood. This paper asks whether household enterprise dynamics help workers climb the job ladder, using five waves of the nationally representative Egypt Labor Market Panel Survey (1998-2023) and logit and multinomial logit models. We find that household enterprise creation and persistence raise upward mobility odds for workers at the bottom of the job ladder, while enterprise closure does not, and that household enterprise creation pulls non-employed individuals into employment. Enterprise persistence functions as a powerful employment anchor, reducing both switching and exit odds, and is associated with higher-quality entry positions for household members not previously employed. With steady deterioration in upward mobility over 25 years in Egypt's labor market overall, household enterprises offer an important route for upward mobility for the most precarious workers at the bottom of the job ladder.

Keywords: Labor market, informality, enterprises, economic mobility, Egypt

JEL Classifications: J46; J21; J24; J16; J62

ملخص

تشكل المؤسسات المنزلية سمة مميزة لأسواق العمل في البلدان النامية، إلا أن علاقتها بوضع العاملين في سوق العمل لا تزال غير مفهومة بشكل كافٍ. تتناول هذه الورقة البحثية مدى مساهمة ديناميكيات المؤسسات المنزلية في مساعدة العاملين على تسلق السلم الوظيفي، بالاعتماد على بيانات خمس موجات من المسح التتبعي لسوق العمل في مصر (1998-2023)، وتطبيق نماذج اللوجيت واللوجيت متعدد الحدود. وتتوصل الدراسة إلى أن تأسيس المشاريع المنزلية واستمرارها يرفعان من احتمالات الحراك الوظيفي التصاعدي للعاملين القابعين في أدنى السلم الوظيفي، على عكس إغلاق هذه المشاريع الذي لا يحقق هذا الأثر، كما يسهم تأسيسها في جذب المتعطلين عن العمل إلى سوق العمل. وتعمل استمرارية هذه المؤسسات كمرساة قوية للاستقرار الوظيفي؛ إذ تقلل من احتمالات التنقل أو الخروج من سوق العمل، وتتيح فرص دخول أعلى جودة لأفراد الأسرة الذين لم يسبق لهم العمل. وفي ظل التراجع المستمر للحراك التصاعدي في سوق العمل المصري بوجه عام على مدار الـ 25 عامًا الماضية، تبرز المؤسسات المنزلية كمسار حيوي للحراك الاجتماعي والوظيفي للعاملين الأكثر عرضة للمخاطر في أدنى السلم الوظيفي..

1. Introduction

Household enterprises are a structural element of labor markets across developing countries, where informal economic activity persists despite economic growth (Kanbur 2017; La Porta and Shleifer 2014). For instance, in Sub-Saharan Africa, the household enterprise sector generates the majority of new non-farm jobs even during periods of high economic growth, due to the small size of the formal wage sector (Sohnesen and Fox 2012). Globally, the household enterprise sector is characterized by being highly dynamic, with high rates of enterprise creation and closure and limited expansion of existing firms (Mead and Liedholm 1998; Sohnesen and Fox 2012). Household enterprises play a dual role: as a survival strategy for the poor and as a potential stepping-stone for upward mobility (Naudé 2008). Entry into enterprise work driven by necessity is highly dynamic concentrated in easy-entry, low-productivity activities such as sales and trade (Mead and Liedholm 1998; Nagler and Naudé 2017; Taiwo 2013). Yet starting an enterprise can also fuel upward wealth mobility and poverty reduction for groups who would otherwise be marginalized in the labor market (Fox and Sohnesen 2016).

Do household enterprises help workers access better jobs? In this study we explore whether enterprise dynamics help workers move up the job ladder in Egypt. Job quality has been worsening over time in Egypt with the retreat of the public sector and the limited success of the private sector in creating formal (socially insured) jobs (Assaad and Mahmoud 2024). Non-farm household enterprise workers account for approximately a fifth of total employment in Egypt (Krafft 2024). The non-farm household enterprise sector in Egypt is largely and increasingly informal (El-Haddad and Zaki 2025), yet it is highly dynamic with high rates of enterprise creation and closure (Krafft 2024). Household enterprises could thus offer a dynamic opportunity for economic advancement or act as a trap for low-productivity informal work.

To understand the role of enterprises in labor market mobility, we conceptualize employment as organized along a “job ladder”, following Fields et al. (2023). The job ladder is a ranked hierarchy with formal employment at the top, an upper tier of skilled and higher-quality informal work in the middle, and a lower-tier of informal work at the bottom. The job ladder framework has been applied across a range of developing country contexts to document persistent informality, limited upward mobility, and the welfare consequences of movements across employment statuses (Danquah et al. 2019). Importantly, movements within informality, between upper- and lower-tier informal employment, are themselves welfare-improving: cross-national evidence shows that such shifts are significantly associated with poverty reduction (Choi et al. 2024).

In Egypt, climbing the job ladder has also been linked to poverty reduction and increased economic welfare (Assaad et al. 2026). However, mobility across the rungs of the ladder has been declining. The probability of transitioning from informal to formal work, which was already slim, has fallen further (Assaad and Wahby 2025; Krafft and Hannafi 2023). Workers are also decreasingly able

to move upward even within informal work (Krafft et al. 2026). Workers entering lower-tier informal jobs face increasingly steep upward barriers, while formal workers face rising downward pressure.

Existing research has studied enterprise dynamics and job ladder mobility separately (Krafft 2024; AlAzzawi and Hlasny 2023; Krafft et al. 2026). This omission matters for three reasons. First, the direction of the relationship between enterprise dynamics and job ladder positions is theoretically ambiguous. If enterprise creation is primarily driven by vulnerable workers seeking a livelihood, it may be a signal of a downward movement along the job ladder, rather than an upward movement. Instead, if household enterprises provide a platform for human capital or capital accumulation, establishing an enterprise may be the starting point for an upward movement along the job ladder. The existing literature cannot distinguish between these two possibilities as they have never been jointly tested. Second, since enterprise closure rates are high globally (Mead and Liedholm 1998; Nagler and Naudé 2017) and in Egypt (Krafft 2024), the question of whether workers who exit household enterprises land higher or lower on the job ladder is a key question with no current answer. Third, the distinction between primary and secondary household enterprise participants, which is closely aligned with gender, suggests that the same enterprise dynamic may have opposite effects on different household members, a heterogeneity which the literature has not answered.

This paper fills this gap in the literature by using multiple waves of the Egypt Labor Panel Market Survey (ELMPS) carried out in 1998, 2006, 2012, 2018, and 2023. The ELMPS is a nationally-representative panel survey that captures both individual labor market and household enterprise activity over 25 years. We investigate whether household enterprise dynamics shape the probability that household members move vertically (up, down) or laterally on the job ladder. We estimate logit and multinomial logit models disaggregated by workers' starting position in the job ladder (formal, upper-tier informal, lower-tier informal) for vertical mobility analyses, controlling for a full set of individual, household, and job characteristics.

A key distinction of this paper is between two types of mobility within the job ladder: vertical mobility and lateral mobility. Vertical mobility is defined as moving up or down the job ladder hierarchy. Lateral mobility is defined as switching between wage and non-wage employment. We find that starting and persisting in an enterprise raise upward mobility odds only for workers at the bottom of the ladder, while leaving upper-tier informal workers unaffected. Enterprise creation pulls non-employed individuals into employment, while enterprise persistence functions as a powerful employment anchor, reducing both switching and exit odds, and is associated with higher-quality entry positions. Together, these findings suggest that household enterprises can propel the most vulnerable workers up the job ladder, but not the whole workforce.

2. Background

2.1. The job ladder in Egypt

Job ladder mobility in Egypt has been deteriorating. There has been a steady decline in formal employment (jobs with social insurance coverage) (Assaad and Wahby 2025; Krafft and Hannafi 2023; AlAzzawi and Hlasny 2023). Social insurance coverage declined from 42 percent in 2006 to 29 percent in 2023 (Assaad and Wahby 2025). This drop was almost entirely driven by within job-category deterioration rather than compositional shifts toward more informal sectors or occupations. The sharpest decline occurred between 2014 and 2017, and it was concentrated among male new entrants with no formal education working in MSEs in private sector services (Assaad and Wahby 2025). Downward mobility has increased alongside declining formal employment: over 40 percent of workers in formal private jobs in 2012 had fallen into vulnerable employment by 2018 (AlAzzawi and Hlasny 2023). Similarly, the probability of climbing from informal to formal employment decreased, as 66 percent of young men who were self-employed or informal in 2012 had less than a 10 percent chance of transitioning to formal employment by 2018 (Adair et al. 2024). Even within informality, it has become more difficult for workers to move to better and more skilled jobs in Egypt (Krafft et al. 2026).

In Egypt, gender remains a key determinant of stratification in the job ladder. Women's employment rates were just 15 percent as of 2023 (Krafft, Assaad, and McKillip 2024). Women tend to select out of employment if they cannot find jobs that meet their reservation working conditions, meaning that women who are employed are often in relatively better positions on the job ladder than men (Selwaness and Krafft 2021; Assaad et al. 2023, 2022; Assaad and Mahmoud 2024). The interaction between gender and marital status interaction is a structural feature of Egypt's labor market, and one that will shape how household enterprise dynamics translate into individual job ladder movements.

2.2. The household enterprise sector

The household enterprise sector, in Egypt, is large, survival-oriented, and is characterized by high levels of churning. In 1998, non-farm household enterprise workers accounted for roughly 40 percent of employment, declining to 22 percent by 2018 (Krafft 2024). The sector is dominated by micro-enterprises, concentrated in wholesale and retail trade, and largely informal (Krafft 2024; El-Haddad and Zaki 2025; Krafft, Assaad, Rahman, et al. 2024). The share informal (not registered) among household enterprises increased from 55 percent in 1998 to 75 percent in 2023 (El-Haddad and Zaki 2025).

The dynamism of the sector is driven by creation and closure rather than by enterprise growth. Specifically, between 51 and 70 percent of all enterprises closed between adjacent survey waves,

yet 60 to 66 percent of enterprises in any given wave were newly created (Krafft 2024). Persisting enterprises are stable, with limited net job creation or net job destruction at the intensive margin (Krafft 2024).

Entry is disproportionately driven by workers in vulnerable positions, as irregular wage and informal private wage workers are significantly more likely to start enterprises (Krafft 2024). Furthermore, 94 percent of household enterprises were self-financed in 2023, access to formal credit has not meaningfully improved, and the growth of enterprise owner's educational attainment mirrors population trends rather than sector-specific improvements (El-Haddad and Zaki 2025). In 2020, the MSME Law (No. 152/2020) was introduced to combat enterprise informality, reducing formalization costs and improving credit access. However, its eligibility criteria remain too onerous to capture most household enterprises, resulting in no apparent improvements in formalization rates as of 2023 improvements (El-Haddad and Zaki 2025). Women are systematically marginalized in household enterprises, as they are disproportionately concentrated in secondary or unpaid family worker positions instead of primary ownership roles (Krafft 2024; Krafft and Rizk 2021).

2.3. The macroeconomic context

Over 1998-2023, Egypt was characterized by its macroeconomic volatility. GDP growth was 5.6 percent per annum (p.a.) in 1998, 6.8 percent in 2006, and collapsed to 2.2 percent in 2012, following the 2011 revolution, recovered to 5.6 percent in 2019, only to fall back to 3.8 percent by 2023 (Assaad and Mahmoud 2024). In the 2018-2023 period, Egypt had a debt and foreign exchange crisis, COVID-19, and the Russia-Ukraine commodity shock, which in turn disproportionately affected MSEs through inflation-driven increase in input cost, reduced consumer purchasing power, and disrupted supply chains (El-Haddad and Zaki 2025). Similarly, poverty as measured by the national poverty line increased from 24.8 percent in 2015 (Decerf et al. 2023) to 33.5 percent in 2021 (World Bank 2025). Job growth has been labor-absorbing in sectors that require less education, such as construction, leading to substantial underutilization of human capital (Krafft and Armas-Montalvo 2026; Assaad et al. 2019). These macroeconomic trends have shaped both the job ladder and household enterprise dynamics.

3. Data

3.1. The Egypt Labor Market Panel Survey

The ELMPS is a nationally representative longitudinal survey conducted by the Economic Research Forum in collaboration with Egypt's Central Agency for Public Mobilization and Statistics across five waves: 1998, 2006, 2012, 2018, and 2023 (OAMDI 2024; Assaad and Krafft 2024b). It tracks households and individuals across waves, even when the individuals leave their

original households to form new ones, enabling a longitudinal analysis of labor market transitions across four pairs of adjacent waves (1998-2006, 2006-2012, 2012-2018, and 2018-2023), which is central to our dynamic analysis.⁵ This survey is uniquely suited to this paper because it simultaneously captures individual employment status and job characteristics alongside household enterprise activity across all five waves. This allows us to link enterprise dynamics at the household level to individual job ladder movements within the same panel.

One concern with using panel data is the risk of non-random attrition. Across waves of the ELMPS, attrition has primarily been geographic in nature (which is readily accounted for in the weights) (Assaad and Krafft 2024b; Krafft et al. 2021; Assaad and Krafft 2013; Assaad and Roushdy 2009). Attrition is less frequently related to labor market characteristics.

3.2. Sample

The analytical sample is restricted to individuals aged 15 to 59 years old in the later wave of each adjacent pair of waves, comprising most of Egypt's working age-population and excluding those at or beyond the retirement age of 60. This sample restriction is independently applied to each of the four transition windows: 1998-2006, 2006-2012, 2012-2018, and 2018-2023; meaning that the same individual may contribute observations to multiple windows if they satisfy the age criterion in the later wave of each adjacent pair of waves. The final analytical dataset is organized as a person-period level panel.

3.3. Key variables

3.3.1. Outcomes

Conceptually, the job ladder framework organizes employment into a ranked hierarchy of status differentiated by earnings, security, and barriers to entry (Fields et al. 2023). Specifically, we operationalize the job ladder into seven categories: six employment statuses (formal wage employment, upper-tier informal wage employment, lower-tier informal wage employment, formal non-wage employment, upper-tier informal non-wage employment, lower-tier informal non-wage employment) and non-employment. As recommended by the 21st International Conference of Labor Statisticians (ICLS-21), formality for wage workers is defined as social insurance coverage in the primary job; for non-wage workers it hinges on whether their household non-agricultural enterprise is registered (ILO 2023). Within informality, being in the upper tier is determined by whether the occupation falls within International Standard Classification of

⁵ Because ELMPS records labor market status at each survey wave, our transition measures compare an individual's job ladder position at the start and end of each window and do not capture jobs begun and ended only between waves. Using the retrospective job histories, we count the jobs each individual began strictly between adjacent survey years. Such intermediate job-starts are uncommon in our (weighted) analytical sample: 85.5 percent of person-window observations involved none, 12.3 percent involved one, and only 2.2 percent involved two or more. The endpoint-to-endpoint comparison therefore captures the relevant transition for the large majority of workers.

Occupation (ISCO) 1-digit levels 1-3 (managerial, professional, or associate professional) or whether the job requires craft skills (at the level of craftsman, apprentice or assistant). Under this job ladder definition, agricultural non-wage workers are automatically classified as lower-tier informal non-wage because ELMPS enterprise registration questions are restricted to non-agricultural enterprises.

We construct three sets of outcome variables. The first set of outcomes captures vertical mobility along the job ladder for those employed in both periods: it measures whether an individual moves up, moves down, or stays at the same rung of the job ladder between the start and end of a transition window. The second outcome captures lateral mobility: whether a worker switches between wage and non-wage employment across a transition window. The third set of outcomes captures labor market flows for workers at the employment margin: entry into employment for workers who were non-employed at the start of a window and exit from employment for workers who were employed at the start of a window. Conditional on entry, additional models capture the association of enterprise dynamics and other determinants with the position on the job ladder that workers enter into and the wage or non-wage status at entry.

3.3.2. Household enterprise dynamics

The key explanatory variable is a four-category measure of household non-farm enterprise dynamics between the start and end of each window: persist in no enterprise (the reference category), start an enterprise, persist with an enterprise, or close an enterprise. This variable is constructed at the household level. It captures whether any non-farm enterprise exists in the household at each wave, not whether the individually personally owns or operates it. As a sensitivity analysis (in the appendix, Table 6 and Table 7), we further decompose the enterprise persistence category into two: persisting in an enterprise in the same economic activity and persisting in an enterprise in a different economic activity. A persisting household is classified as “same-activity” only if at least one of its enterprises remained in the same one-digit economic activity at both the start and end of the window, and “different activity” otherwise.⁶

3.3.3. Covariates

The covariates are measured at the start of each transition window ($t-1$). Individual-level controls are sex, marital status (interacted with sex, with never-married men being the reference category), age group, education level, parental education, household size, and region. The job-level controls are in or out of a fixed establishment, public or private sector, establishment size, and economic activity sector.

⁶ Note that this one-digit classification is finer than the three-sector grouping (Industry, Trade & Transport, Services) used in the enterprise economic-activity heterogeneity analysis of Section 5.3.4.

3.3.4. Heterogeneity variables

The heterogeneity analysis in Section 5.3 interacts household enterprise dynamics with a set of household- and enterprise-level characteristics, all measured at the start of the transition window ($t-1$). Primary worker status is a binary indicator equal to one if the individual is the primary worker in the household enterprise at $t-1$. High-capital is a binary indicator equal to one if at least one household enterprise has an estimated current capital value of LE 10,000 or more at $t-1$. Enterprise formality is a binary indicator equal to one if at least one household enterprise was formally registered at $t-1$. Enterprise activity sector is classified as industry, trade and transport, or services at $t-1$. Outside employees is a binary indicator equal to one if at least one household enterprise employed at least one worker from outside the household at $t-1$. Finally, a household-composition indicator captures the broader livelihood context: a non-wage agricultural household member (equal to one if at least one household member was engaged in non-wage agricultural work at $t-1$).

These characteristics are examined under two specifications. For enterprise characteristics of primary worker status, capital, formality, economic activity, and outside employees, the sample is restricted to households with at least one enterprise at $t-1$, the characteristic is interacted with enterprise persistence, and closing an enterprise serves as the reference category, so that the interactions isolate how each characteristics shapes the persist-versus-close contrast. For the household-composition indicator, which is defined for the full sample, the characteristic is instead interacted with all four enterprise dynamics, retaining persist-in-no-enterprise as the reference category.

4. Empirical strategy

We estimate logit and multinomial logit models of job ladder mobility as a function of household enterprise dynamics, conditional on the starting job ladder position and a full set of individual, household, and job characteristics. The empirical model takes the following form:

$$\Pr(\text{Job Ladder Move}_{i,t-1,t} = j \mid D_{m,t-1,t}, X_{i,t-1}, S_{i,t-1} = k) = \frac{e^{D_{m,t-1,t} \theta_{m,k} + X'_{i,t-1} \beta_{j,k}}}{1 + \sum_l e^{D_{m,t-1,t} \theta_{m,k} + X'_{i,t-1} \beta_{l,k}}}$$

Where $j = 1, \dots, J$ indexes the job ladder mobility outcome, $D_{m,t-1,t}$ is an indicator variable for household enterprise dynamic state m observed between the start ($t-1$) and end t of each transition window, $m = 1, \dots, M$ indexes the household enterprise dynamic state (with $M = 4$: persist in no enterprise, start an enterprise, persist in enterprise, close an enterprise), i indexes the individual, $k = 1, \dots, K$ indexes the starting ($t-1$) job ladder position of individual i (with $K =$

3: formal, upper-tier informal, and lower-tier informal), and $X_{i,t-1}$ is the vector of covariates measured at the start of the transition window ($t - 1$).

Models with vertical mobility are estimated separately by starting job ladder position k . The reason for this stratification is substantive: the relevant mobility outcome is inherently asymmetric by starting job ladder position. Formal workers can only move down or stay, lower-tier informal workers can only move up or stay, and upper-tier informal workers can move in either direction. Each job ladder position groups wage and non-wage workers at that position.

For formal workers, who can only move down or stay, and lower-tier informal workers, who can only move up or stay, $J = 2$ and the model simplifies to a binary logit model, for which we report odds ratios. For upper-tier informal workers, who can move in both directions, $J = 3$, and we estimate a multinomial logit model, for which we report relative risk ratios, with stay as the base outcome.

Lateral mobility, switching between wage and non-wage employment, is estimated as a binary logit model across all continuously employed workers, regardless of position on the job ladder. Entry into and exit from employment are each estimated as binary logit models. Entry is estimated among workers who were non-employed at the start of the window (entry vs. staying non-employed). Since in this case respondents were not employed at $t - 1$, no job ladder position or job characteristics are included as controls. Exit is estimated among workers who were employed at the start of the window (transition to non-employment vs. staying employed). Finally, conditional on entry, we estimate a multinomial logit model for type of job entered, with formal, upper tier and lower tier wage employment as alternative states and non-wage employment as the base state.

Wave fixed effects are included in all models to absorb aggregate shocks common to all individuals in each transition window. Standard errors are clustered at the individual level to account for the fact that the same individual may contribute observations to multiple transition windows. Period-specific panel weights are applied throughout.

We assess robustness of our results in three ways. First, within the subsample of households that had an enterprise at $t - 1$, we directly compare persistence with an enterprise to closing by testing linear combinations of the main-model coefficients (reported as the “persist with enterprise vs. close” rows of Table 1 to Table 5), which isolates the effect of persistence net of the decision to operate an enterprise at all. Second, we re-estimate the vertical and entry/exit models with the five-category enterprise-dynamics variable described in Section 3.3.2, separating persistence in the same economic activity (Table 6 and Table 7).

Third, the heterogeneity models of Section 5.3 add the interaction terms and characteristics described in Section 3.3.4. For the enterprise-subsample interactions, we estimate the same logit and multinomial logit specifications restricted to households with an enterprise at $t-1$, with closing an enterprise as the reference; for the full-sample household-composition interaction, we interact each characteristic with the full four-category dynamics variable.

We interpret these estimates throughout as associations rather than causal effects. Household enterprise dynamics are not randomly assigned, and households that start, persist in, or close an enterprise may differ systematically from those that never operate one in ways our covariates do not fully capture. The “persist in no enterprise” reference group is therefore a descriptive baseline, not a true counterfactual for what a given worker’s trajectory would have been absent the enterprise transition. Recovering that counterfactual would require exogenous variation of the kind generated by experimental capital or grant allocations (De Mel et al. 2009).

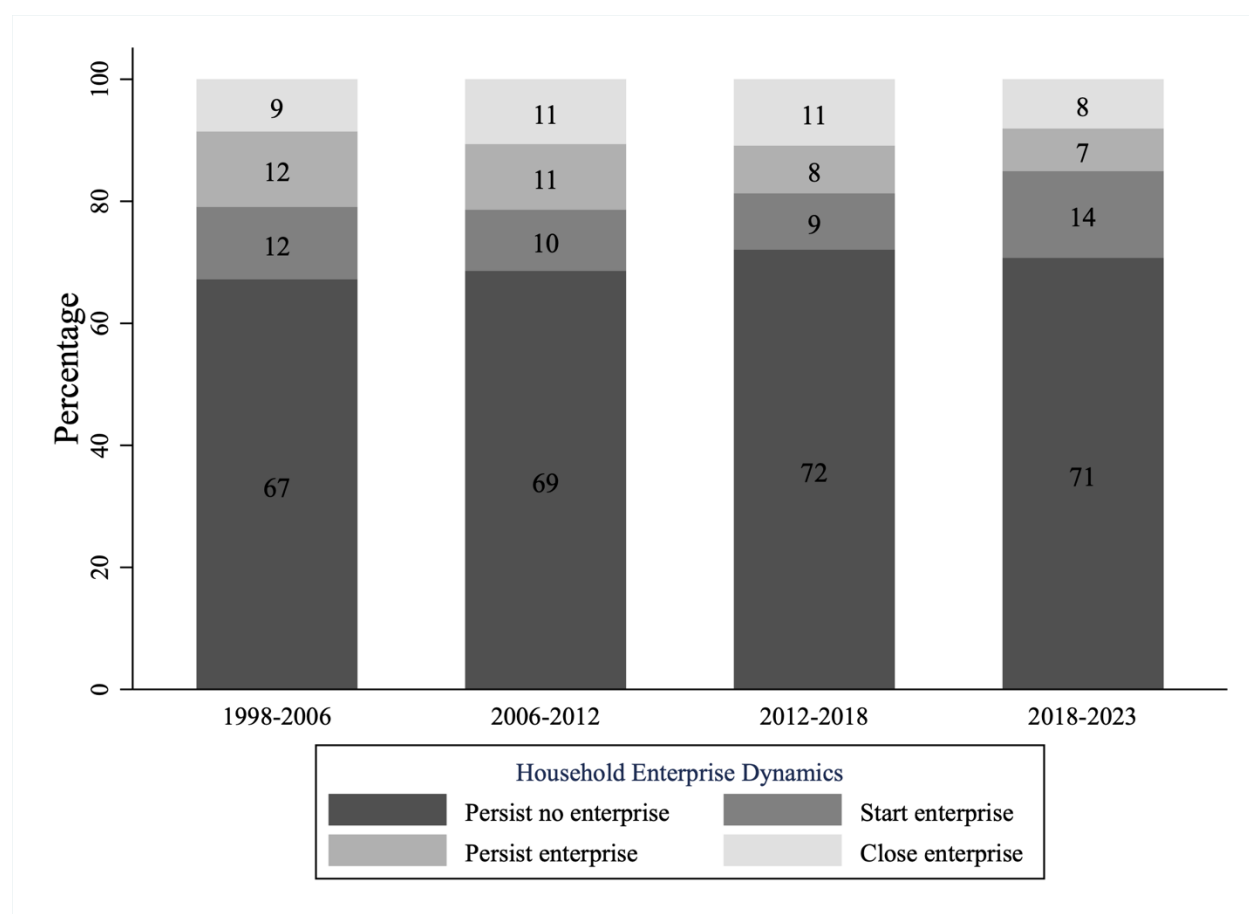
5. Results

In this section we start with the descriptive patterns of household enterprise dynamics, move to the main multivariate analysis results, and end with a presentation of the heterogeneity results.

5.1. Descriptive patterns of household enterprise dynamics

Figure 1 shows the distribution of household enterprise dynamic categories across the four windows (pairs of adjacent waves). The dominant category throughout is persistence in no enterprise, accounting for 67-72 percent of person-period observations across all waves. Enterprise persistence is the next largest category but a declining one, falling from 12 percent in 1998-2006 to 7 percent by 2018-2023. Enterprise closure fluctuates between 8-11 percent across waves, with lower rates at the beginning (1998-2006) and end of the study period (2018-2023). Most notably, enterprise creation increased sharply in 2018-2023, rising from 9-12 percent in earlier windows to 14 percent.

Figure 1. Distribution of household enterprise dynamics across waves (percentage)



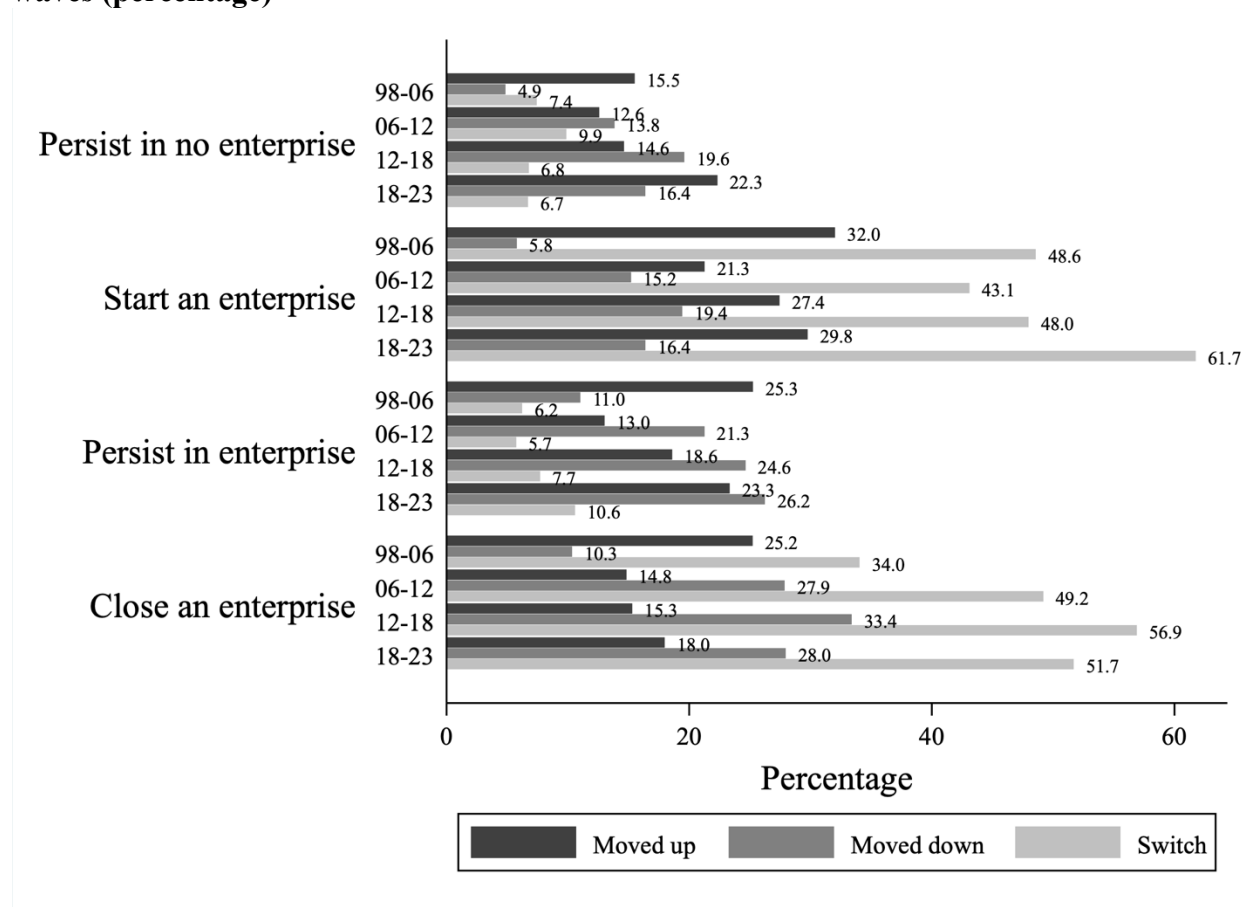
Source: Author's calculations based on ELMPS 1998-2023 data.

Figure 2 shows the rates of job ladder movements by household enterprise dynamics across the four transition windows; because an individual can simultaneously move vertically and switch work status, these rates are not mutually exclusive and do not sum to 100 percent. The most frequent job ladder dynamic associated with starting or closing an enterprise is a lateral move, switching between wage and non-wage employment, which is unsurprising as having a household enterprise means the household should have at least one non-wage worker.⁷ For households starting or closing an enterprise, switching rates range from 34-62 percent, compared to 6-11 percent for households persisting in an enterprise or no enterprise. Starting an enterprise has the highest rates of upward mobility within each year, ranging from 21-32 percent. Although this result must be interpreted with caution, since it could be endogenous, it is suggestive evidence of enterprise formation propelling job ladder mobility. Downward movements with enterprise creation are less frequent, at 6-19 percent. Closing an enterprise is also associated with substantial

⁷ Because of time horizons and some under-reporting of employment, there may be some cases where no individual reports employment (Assaad and Krafft 2024a), as well as some cases where individuals hold multiple jobs such that their primary employment status is not non-wage work.

vertical mobility in both directions, upward rates of 15-25 percent and downward rates 10-33 percent. Compared to persisting with no enterprise, those in households with a persistent enterprise tend to have more both downward and upward mobility. Overall, there is strong evidence of household enterprise dynamism being associated with job ladder dynamism, including suggestive evidence of more upward mobility with enterprise formation particularly.

Figure 2. Rates of job ladder mobility (percentages) by household enterprise dynamics across waves (percentage)



Source: Author's calculations based on ELMPS 1998-2023 data.

5.2. Main multivariate results

5.2.1. Vertical job ladder mobility models: upward and downward movements

Table 1 shows vertical mobility results estimated separately by workers' job ladder position at the start of the transition window: formal, upper-tier informal, and lower-tier informal employment. The reference category for household enterprise dynamics across all columns is "persist in no enterprise," meaning households with no enterprise at neither the start nor the end of transition

window. The overall pattern is that enterprise dynamics matter selectively: effects are concentrated among lower-tier informal workers for upward mobility, and among formal and upper-tier informal workers for downward protection.

Among previously formally employed workers (column 1), starting an enterprise significantly increases the odds of downward mobility by 36 percent relative to households persisting in no enterprise. These results suggest that formal workers may be initiating enterprise activity as a buffer against deteriorating job opportunities or that the benefits of starting an enterprise outweigh the costs of ending formality. Beyond enterprise dynamics, the dominant predictors of downward mobility from formal employment are the wave fixed effects. The odds of downward mobility have been increasing since 1998-2006, although there were no further increases from 2012-2018 to 2018-2023. Other covariates, beyond household enterprise dynamics, have important but expected relationships with job ladder dynamics. For instance, public sector work is associated with a reduction in downward mobility of 65 percent for previously formal workers.

Among upper-tier informal workers, no enterprise dynamic is significantly associated with upward mobility, although other covariates are important (column 2). For instance, public sector employment is significantly associated with a relative risk of upward movement more than twice that of private sector workers ($RRR=2.47$), and likewise large firm size ($RRR=2.64$). On the downward side (column 3), both starting and persisting with an enterprise are associated with a significantly smaller relative risk of downward mobility for upper-tier informal workers, whereas closing an enterprise has no significant association with downward mobility relative to persisting in no enterprise.

The most important enterprise effects are concentrated among previously lower-tier informal workers (column 4), where starting and persisting in an enterprise significantly increase the odds of upward mobility relative to households that persist in no enterprise, while closing an enterprise is not significantly associated with upward mobility. Starting an enterprise is associated with approximately a doubling of the odds of upward mobility and persisting in an enterprise with a 56 percent increase.

The wave fixed effects also show strong time trends for workers initially in lower tier informal work: their odds of upward mobility fell to approximately 25 percent of the 1998-2006 baseline by 2018-2023. These time trends position enterprise dynamics as a partial, yet meaningful, buffer against the secular deterioration experienced by lower-tier informal workers. Together, these results suggest that household enterprise dynamics are most consequential at the extremes of the job ladder, offering an upward push for active enterprise households (those starting or persisting) at the bottom and downward protection for those near the top, while leaving upper-tier informal workers unaffected on the upward dimension. The absence of a significant closure effect among

lower-tier workers further sharpens the asymmetry between enterprise creation and persistence on one side and closure on the other.

Table 1. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals

	Formal, <i>t</i> -1 OR(Down vs. Stay)	Upper inf., <i>t</i> -1 RRR(Up vs. Stay)	Upper inf., <i>t</i> -1 RRR(Down vs. Stay)	Lower inf., <i>t</i> -1 OR(Up vs. Stay)
	(1)	(2)	(3)	(4)
HH enterprise dynamics (Ref: Persist no enterprise)				
Start enterprise	1.359* (0.197)	0.786 (0.100)	0.541*** (0.0661)	1.948*** (0.173)
Persist: with enterprise	0.709* (0.106)	0.980 (0.154)	0.666** (0.0940)	1.560** (0.212)
Close an enterprise	1.223 (0.142)	0.836 (0.142)	1.036 (0.129)	1.100 (0.139)
Sex (Ref: Man)				
Woman	0.371*** (0.110)	1.118 (0.372)	0.774 (0.252)	1.187 (0.377)
Marital status, <i>t</i> -1 (Ref: Never married)				
Ever married	0.540*** (0.0967)	1.013 (0.165)	0.849 (0.102)	1.048 (0.103)
Sex × Marital status				
Ever married woman	2.269** (0.721)	0.656 (0.266)	1.294 (0.513)	0.397** (0.141)
Age, <i>t</i> -1 (Ref: Below 30)				
Aged 30–59	0.759* (0.0919)	1.421* (0.202)	0.915 (0.0989)	1.099 (0.0938)
Education, <i>t</i> -1 (Ref: Vocational secondary)				
Illiterate	1.236 (0.222)	0.434*** (0.0878)	1.392* (0.180)	0.475*** (0.0462)
Reads & Writes	1.973*** (0.384)	0.717 (0.160)	0.991 (0.179)	0.627*** (0.0872)
Primary	1.392* (0.213)	0.731 (0.120)	1.002 (0.143)	0.869 (0.106)
Preparatory	1.386 (0.343)	0.722 (0.147)	0.941 (0.153)	0.767* (0.101)
General secondary	0.641 (0.151)	1.960* (0.652)	1.420 (0.389)	1.236 (0.298)
Post-secondary institute	0.691* (0.113)	1.559 (0.412)	0.759 (0.225)	0.768 (0.235)
University and above	0.709*** (0.0710)	1.731*** (0.273)	0.613* (0.118)	1.890*** (0.317)
Parental education (Ref: No parent sec. or higher)				
One parent (sec. or higher)	0.901 (0.106)	1.005 (0.166)	1.079 (0.200)	1.267 (0.174)
Both parents (sec. or higher)	0.781 (0.126)	0.868 (0.188)	0.515** (0.120)	1.367 (0.346)
Region, <i>t</i> -1 (Ref: Greater Cairo)				
Alx. & Suez Canal	1.102 (0.192)	1.149 (0.236)	1.124 (0.246)	1.246 (0.280)
Urban Lower Egypt	1.150 (0.174)	0.958 (0.171)	1.459* (0.261)	1.028 (0.207)
Urban Upper Egypt	1.211 (0.171)	1.262 (0.226)	2.282*** (0.412)	0.781 (0.155)
Rural Lower Egypt	1.439** (0.187)	0.998 (0.176)	1.451* (0.242)	0.861 (0.167)
Rural Upper Egypt	1.264	0.959	2.242***	0.570**

Table 1. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals (continued)

	Formal, <i>t</i> -1 OR(Down vs. Stay)	Upper inf., <i>t</i> -1 RRR(Up vs. Stay)	Upper inf., <i>t</i> -1 RRR(Down vs. Stay)	Lower inf., <i>t</i> -1 OR(Up vs. Stay)
	(1)	(2)	(3)	(4)
Sector, <i>t</i> -1 (Ref: Private)	(0.185)	(0.179)	(0.385)	(0.107)
Public sector	0.349*** (0.0385)	2.470*** (0.566)	0.538* (0.165)	3.654*** (0.807)
Establishment, <i>t</i> -1 (Ref: Inside)				
Outside establishment	1.491** (0.201)	0.634*** (0.0849)	1.373** (0.138)	0.788* (0.0798)
Firm size, <i>t</i> -1 (Ref: 1–4 workers)				
5–9 workers	0.881 (0.156)	1.074 (0.156)	1.304* (0.157)	0.942 (0.0835)
10–24 workers	0.648** (0.103)	1.987*** (0.393)	1.271 (0.229)	0.820 (0.143)
25–99 workers	0.559*** (0.0794)	1.709** (0.354)	0.837 (0.165)	1.042 (0.179)
100+ workers	0.516*** (0.0641)	2.638*** (0.575)	1.268 (0.232)	1.290* (0.155)
Economic activity, <i>t</i> -1 (Ref: Services)				
Agriculture	1.579 (0.515)	0.646 (0.207)	3.462*** (0.866)	0.483*** (0.0758)
Industry	0.889 (0.0960)	0.683** (0.101)	0.887 (0.141)	1.156 (0.174)
Trade & transport	1.068 (0.132)	1.640** (0.264)	1.392 (0.235)	0.734* (0.104)
Adjacent waves fixed effects (Ref: 1998-2006)				
2006-2012	2.501*** (0.566)	0.859 (0.155)	3.279*** (0.715)	0.278*** (0.0452)
2012-2018	5.093*** (1.099)	0.816 (0.152)	5.567*** (1.252)	0.238*** (0.0377)
2018-2023	5.094*** (1.137)	0.892 (0.178)	6.381*** (1.488)	0.222*** (0.0359)
Constant	0.459** (0.123)	0.685 (0.171)	0.144*** (0.0412)	4.232*** (1.095)
Observations	6932	5208		8636
Pseudo R ²	0.130	0.145		0.133
OR/RRR: Persist with enterprise vs. close (p-value)	0.580 0.000976	1.173 0.404	0.643 0.00500	1.418 0.0395

Source: Authors' calculations based on ELMPs 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. 'OR/RRR: Persist with enterprise vs. close' tests whether enterprise persistence and closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients.

5.2.2. Lateral job ladder mobility

Table 2 estimates the association between household enterprise dynamics and wage/non-wage switching for all previously and currently employed workers, regardless of starting job ladder position. Household enterprise dynamics are, unsurprisingly, the dominant driver of switching: starting an enterprise is associated with more than 22 times higher odds of switching relative to households persisting in no enterprise and closing an enterprise with more than 7 times higher

odds. Conversely, persisting in an enterprise is associated with a 58 percent decrease in the odds of switching relative to those in households that persist with no enterprise. The strong negative association between enterprise persistence and switching is consistent with an outside option interpretation, workers in households with an ongoing enterprise may be less likely to switch employment type precisely because the enterprise provides an alternative livelihood, making them more selective about taking wage jobs.

Among the covariates, the gender and marital status patterns are particularly striking and require careful interpretation. Women face an insignificant 25 percent decrease in switching odds relative to men, and ever-married individuals face an insignificant 10 percent increase relative to never-married individuals. The interaction term shows that ever-married women face a significant additional 70 percent decrease in switching. Combining all three coefficients, ever-married women face approximately 78 percent lower switching odds than never-married men, reflecting the compounding constraints on employment type that married women face in Egypt, as well as women selecting out of employment.

Meanwhile, education is largely insignificant, a key contrast with the vertical mobility models in Table 1, suggesting that switching is driven primarily by enterprise dynamics rather than human capital. Among job characteristics, all non-wage job ladder positions show significantly higher odds of switching relative to formal wage workers, with upper-tier informal non-wage workers 9 times more likely to switch, reflecting the larger opportunity set these more skilled workers possess in wage employment. Public sector employment is associated with a 74 percent reduction in the odds of switching. Together, these patterns confirm that lateral mobility is shaped overwhelmingly by enterprise dynamics and employment structure, not individual characteristics.

Table 2. Wage/non-wage job ladder mobility (logit model), previously and currently employed individuals

	OR(Switch vs. No Switch)
HH enterprise dynamics (Ref: Persist no enterprise)	
Start enterprise	22.69*** (2.114)
Persist: with enterprise	0.416*** (0.0826)
Close an enterprise	7.703*** (0.870)
Job ladder position, <i>t</i> -1 (Ref: Formal wage)	
Formal non-wage	7.534*** (1.423)
Upper-tier informal non-wage	9.009*** (1.634)
Lower-tier informal non-wage	6.007*** (0.921)
Upper-tier informal wage	1.686*** (0.187)
Lower-tier informal wage	1.663*** (0.190)

Table 2. Wage/non-wage job ladder mobility (logit model), previously and currently employed individuals (continued)

	OR(Switch vs. No Switch)
Sex (Ref: Man)	
Woman	0.753 (0.233)
Marital status, <i>t</i> -1 (Ref: Never married)	
Ever married	1.097 (0.0848)
Sex × Marital status	
Ever married woman	0.268*** (0.0954)
Age, <i>t</i> -1 (Ref: Below 30)	
Aged 30–59	0.973 (0.0659)
Education, <i>t</i> -1 (Ref: Vocational secondary)	
Illiterate	1.020 (0.0905)
Reads & Writes	0.854 (0.102)
Primary	0.968 (0.0875)
Preparatory	0.945 (0.106)
General secondary	1.329 (0.196)
Post-secondary institute	0.820 (0.146)
University and above	0.918 (0.0945)
Parental education (Ref: No parent sec. or higher)	
One parent (sec. or higher)	1.240 (0.142)
Both parents (sec. or higher)	1.175 (0.152)
Region, <i>t</i> -1 (Ref: Greater Cairo)	
Alx. & Suez Canal	1.042 (0.130)
Urban Lower Egypt	1.222 (0.132)
Urban Upper Egypt	1.106 (0.146)
Rural Lower Egypt	1.076 (0.113)
Rural Upper Egypt	1.041 (0.115)
Sector, <i>t</i> -1 (Ref: Private)	
Public sector	0.261*** (0.0490)
Establishment, <i>t</i> -1 (Ref: Inside)	
Outside establishment	1.435*** (0.0957)
Firm size, <i>t</i> -1 (Ref: 1–4 workers)	
5–9 workers	0.882 (0.0800)
10–24 workers	0.877 (0.100)
25–99 workers	0.580*** (0.0854)
100+ workers	0.586***

Table 2. Wage/non-wage job ladder mobility (logit model), previously and currently employed individuals (continued)

	OR(Switch vs. No Switch)
	(0.0594)
Economic activity, <i>t</i> -1 (Ref: Services)	
Agriculture	1.896***
	(0.268)
Industry	0.967
	(0.0920)
Trade & transport	1.085
	(0.101)
Adjacent waves fixed effects (Ref: 1998-2006)	
2006-2012	0.646**
	(0.0878)
2012-2018	0.619***
	(0.0802)
2018-2023	0.794
	(0.104)
Constant	0.0538***
	(0.0105)
Observations	20776
Pseudo R ²	0.379
OR: Persist with enterprise vs. close	0.0540
(p-value)	7.28e-91

Source: Authors' calculations based on ELMPS 1998-2023 data.

*Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. 'OR: Persist with enterprise vs. close' tests whether enterprise persistence and closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients.*

5.2.3. Entry and exit dynamics

Table 3 estimates the association between household enterprise dynamics and labor market flows, entry into employment for those non-employed at the start of the window, and exit from employment for those employed at the start, using separate binary logit models. The overall pattern is that enterprise dynamics shape both margins, but in asymmetric ways: enterprise creation is associated with pulling non-employed individuals into the labor market, while enterprise persistence is associated with anchoring employed individuals to their jobs.

For entry to the labor market, starting an enterprise is the only household enterprise dynamic significantly associated with entering, as it more than doubles the odds of entering the labor market relative to households that persist in no enterprise (OR=2.48). Persistence and closure of an enterprise are both insignificant, suggesting that it is specifically enterprise formation, rather than the existence of an enterprise, that is associated with non-employed individuals entering employment. Among the demographic covariates, sex is a significant predictor of entry: women face a 91 percent significant decrease in the odds of entry relative to men, and ever-married individuals face an insignificant 27 percent increase relative to never-married individuals. The interaction term shows that ever-married women face a significant additional 49 percent decrease relative to the never-married women. Combining all three, ever-married women face approximately a 94 percent decrease in entry odds relative to never-married men, the steepest

demographic penalty in the model. Entry odds have declined persistently over time, falling to approximately 54 percent of the 1998-2006 level by 2018-2023.

For exit from the labor market, all three household enterprise dynamics (start an enterprise, persist in enterprise, close an enterprise) are significant determinants and tell a coherent story. Starting an enterprise is associated with a 50 percent decrease in the odds of exit, persisting in an enterprise with a 72 percent decrease, and closing an enterprise with a 90 percent increase in exit odds. Among demographic covariates, women face exit odds more than 17 times higher than those of men, reflecting the structural barriers to stable female employment in Egypt. Together, these results suggest that household enterprise shape labor market attachment at both margins, with creation as the entry mechanism and persistence as the retention mechanism.

Table 3. Entry into and exit from employment (logit model)

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Persist no enterprise)		
Start enterprise	2.477*** (0.163)	0.499*** (0.0517)
Persist: with enterprise	1.074 (0.0809)	0.277*** (0.0505)
Close an enterprise	0.917 (0.0724)	1.902*** (0.190)
Job ladder position, $t-1$ (Ref: Formal wage)		
Formal non-wage		1.155 (0.273)
Upper-tier informal non-wage		1.299 (0.258)
Lower-tier informal non-wage		1.939*** (0.326)
Upper-tier informal wage		1.754*** (0.246)
Lower-tier informal wage		1.570** (0.224)
Sex (Ref: Man)		
Woman	0.0852*** (0.00510)	17.56*** (2.461)
Marital status, $t-1$ (Ref: Never married)		
Ever married	1.270 (0.178)	0.522*** (0.0483)
Sex $\times$ Marital status		
Ever married woman	0.508*** (0.0737)	1.141 (0.176)
Age, $t-1$ (Ref: Below 30)		
Aged 30–59	1.036 (0.0669)	1.001 (0.0762)
Education, $t-1$ (Ref: Vocational secondary)		
Illiterate	0.889 (0.0606)	1.392*** (0.121)
Reads & Writes	0.765* (0.0900)	1.196 (0.167)
Primary	0.522*** (0.0497)	1.477*** (0.147)
Preparatory	0.473*** (0.0313)	1.558*** (0.195)

Table 3. Entry into and exit from employment (logit model) (continued)

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
General secondary	1.515*** (0.116)	1.367 (0.243)
Post-secondary institute	1.070 (0.130)	0.973 (0.227)
University and above	1.954*** (0.161)	0.735* (0.0905)
Parental education (Ref: No parent sec. or higher)		
One parent (sec. or higher)	0.759*** (0.0542)	1.348* (0.163)
Both parents (sec. or higher)	0.686*** (0.0453)	1.330 (0.198)
Region, <i>t</i> -1 (Ref: Greater Cairo)		
Alx. & Suez Canal	1.062 (0.101)	1.021 (0.145)
Urban Lower Egypt	0.885 (0.0788)	0.640*** (0.0862)
Urban Upper Egypt	1.055 (0.0887)	0.788 (0.100)
Rural Lower Egypt	1.115 (0.0912)	0.609*** (0.0727)
Rural Upper Egypt	1.371*** (0.117)	0.748* (0.0939)
Sector, <i>t</i> -1 (Ref: Private)		
Public sector		0.331*** (0.0555)
Establishment, <i>t</i> -1 (Ref: Inside)		
Outside establishment		0.945 (0.0902)
Firm size, <i>t</i> -1 (Ref: 1–4 workers)		
5–9 workers		0.834* (0.0765)
10–24 workers		0.762* (0.0990)
25–99 workers		0.639** (0.0881)
100+ workers		0.755* (0.0860)
Economic activity, <i>t</i> -1 (Ref: Services)		
Agriculture		1.279 (0.176)
Industry		1.162 (0.134)
Trade & transport		0.996 (0.114)
Adjacent waves fixed effects (Ref: 1998-2006)		
2006-2012	0.730*** (0.0454)	1.281 (0.197)
2012-2018	0.700*** (0.0476)	1.244 (0.190)
2018-2023	0.540*** (0.0359)	1.860*** (0.284)
Constant	2.948*** (0.256)	0.0656*** (0.0144)
Observations	34374	24080
Pseudo R ²	0.245	0.289
OR: Persist with enterprise vs. close (p-value)	1.172 0.126	0.146 2.18e-31

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. 'OR: Persist with enterprise vs. close' tests whether enterprise persistence and closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients.

5.2.4. Entry tier: formality and wage status

Table 4 shows multinomial logit estimates for where entrants into employment land on the job ladder, conditional on having entered employment. The overall finding is that household enterprises are associated with higher-quality entry positions, complementing the upward mobility results for lower-tier informal workers shown in Table 1. Starting an enterprise is associated with a 36 percent increase in the relative risk of entering formal employment and an 80 percent increase in the relative risk of entering upper-tier informal employment, both relative to lower-tier informal entry. The household persisting in an enterprise is associated with a 44 percent increase in the relative risk of entering formal employment and a 71 percent increase in the relative risk of entering upper-tier informal employment, both relative to lower-tier informal entry. Closing an enterprise is not significantly associated with entry tiers.

Among the demographic covariates, the gender and marital status patterns require careful interpretation. Women face substantially higher relative risks of formal and upper-tier informal entry than men (RRR=1.79 and 1.71, respectively), reflecting the selectivity in labor market entry for women. Ever-married individuals face insignificant modestly higher entry risks than never-married individuals. However, the interaction term shows that ever-married women face a significant additional penalty: combining all three coefficients, ever-married women face approximately a 17 percent smaller relative risk of entering formal employment and a 36 percent smaller relative risk of entering upper-tier informal employment relative to never-married men. This compounds the entry probability penalty documented in Table 3 with systematically worse entry quality for ever-married women.

Table 4. Entry into employment by formality tier (multinomial logit model)

	RRR(Formal vs. Lower-tier inf.)	RRR(Upper-tier inf. vs. Lower-tier inf.)
HH enterprise dynamics (Ref: Persist no enterprise)		
Start enterprise	1.364** (0.152)	1.798*** (0.177)
Persist: with enterprise	1.435* (0.229)	1.705*** (0.249)
Close an enterprise	0.985 (0.155)	1.287 (0.209)
Sex (Ref: Man)		
Woman	1.788*** (0.253)	1.714*** (0.223)
Marital status, <i>t</i> -1 (Ref: Never married)		
Ever married	1.327 (0.291)	1.191 (0.234)
Sex × Marital status		
Ever married woman	0.350*** (0.0879)	0.315*** (0.0706)
Age, <i>t</i> -1 (Ref: Below 30)		
Aged 30–59	1.386* (0.203)	0.986 (0.141)
Education, <i>t</i> -1 (Ref: Vocational secondary)		
Illiterate	0.163*** (0.0399)	0.428*** (0.0647)
Reads & Writes	0.332*** (0.105)	0.796 (0.165)
Primary	0.491***	0.686*

Table 4. Entry into employment by formality tier (multinomial logit model) (continued)

	RRR(Formal vs. Lower-tier inf.)	RRR(Upper-tier inf. vs. Lower-tier inf.)
	(0.0848)	(0.105)
Preparatory	0.624***	0.920
	(0.0804)	(0.101)
General secondary	2.636***	1.662***
	(0.365)	(0.224)
Post-secondary institute	2.336**	1.731*
	(0.608)	(0.453)
University and above	4.828***	2.731***
	(0.786)	(0.461)
Parental education (Ref: No parent sec. or higher)		
One parent (sec. or higher)	1.726***	1.177
	(0.222)	(0.133)
Both parents (sec. or higher)	2.370***	1.378**
	(0.290)	(0.169)
Region, <i>t</i> -1 (Ref: Greater Cairo)		
Alx. & Suez Canal	1.008	0.864
	(0.189)	(0.163)
Urban Lower Egypt	0.612**	0.782
	(0.103)	(0.130)
Urban Upper Egypt	0.618**	0.642**
	(0.0980)	(0.101)
Rural Lower Egypt	0.457***	0.581***
	(0.0721)	(0.0865)
Rural Upper Egypt	0.378***	0.442***
	(0.0614)	(0.0671)
Adjacent waves fixed effects (Ref: 1998-2006)		
2006-2012	0.617***	0.598***
	(0.0702)	(0.0647)
2012-2018	0.223***	0.354***
	(0.0284)	(0.0401)
2018-2023	0.261***	0.378***
	(0.0372)	(0.0436)
Constant	1.613**	1.579**
	(0.277)	(0.257)
Observations	8207	
Pseudo R ²	0.138	
RRR: Persist with enterprise vs. close	1.457	1.325
(p-value)	0.0759	0.175

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are relative risk ratios (RRR). Standard errors in parentheses. 'RRR: Persist with enterprise vs. close' tests whether enterprise persistence and closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients.

Table 5 presents multinomial logit model estimates for where entrants land on the wage/non-wage status dimension of the job ladder, conditional on entry. The overall finding is that, unsurprisingly, household enterprises are strongly associated with non-wage entry across all tiers. Starting an enterprise is associated with approximately a 93 percent decrease in formal wage entry odds, a 95 percent decrease in upper-tier informal wage entry odds, and 94 percent decrease in lower-tier informal wage entry odds, all relative to non-wage entry. Persisting in and closing an enterprise follow the same directional pattern, but with more modest magnitudes (persist OR=0.142-0.216, close 0.328-0.449). Note that because enterprise registration questions in ELMPS are restricted to non-agricultural enterprises, individuals can enter as non-wage workers even when their non-agricultural household enterprise closes, if they have an agricultural enterprise.

Among demographic covariates, combining the woman, ever-married, and interaction coefficients, ever-married women face approximately a 67 percent decrease in formal wage entry odds, and 80 percent decrease in upper-tier informal wage entry odds, and an 88 percent decrease in lower-tier informal wage entry odds relative to never-married men. Ever-married women who do enter are particularly likely to undertake non-wage work, which may be more readily reconciled with domestic responsibilities. These compounding penalties, on entry probability, entry quality by formality, and entry quality by wage status, paint a consistent picture of ever-married women as the most constrained group at the employment margin.

Table 5. Entry into employment by wage status tier (multinomial logit model)

	RRR(Formal wage vs. Non-wage)	RRR(Upper-tier inf. wage vs. Non-wage)	RRR(Lower-tier inf. wage vs. Non-wage)
HH enterprise dynamics (Ref: Persist no enterprise)			
Start enterprise	0.0705*** (0.0107)	0.0532*** (0.00763)	0.0571*** (0.00789)
Persist: with enterprise	0.142*** (0.0255)	0.216*** (0.0352)	0.152*** (0.0261)
Close an enterprise	0.328*** (0.0665)	0.393*** (0.0770)	0.449*** (0.0830)
Sex (Ref: Man)			
Woman	1.741*** (0.276)	1.504** (0.229)	0.635* (0.115)
Marital status, <i>t</i> -1 (Ref: Never married)			
Ever married	0.959 (0.254)	0.952 (0.225)	0.746 (0.163)
Sex × Marital status			
Ever married woman	0.197*** (0.0584)	0.140*** (0.0381)	0.262*** (0.0703)
Age, <i>t</i> -1 (Ref: Below 30)			
Aged 30–59	0.931 (0.145)	0.532*** (0.0888)	0.642** (0.105)
Education, <i>t</i> -1 (Ref: Vocational secondary)			
Illiterate	0.156*** (0.0424)	0.326*** (0.0620)	0.788 (0.138)
Reads & Writes	0.313** (0.138)	0.882 (0.235)	1.345 (0.347)
Primary	0.311*** (0.0670)	0.540*** (0.0926)	0.731 (0.119)
Preparatory	0.666* (0.108)	0.968 (0.141)	1.144 (0.158)
General secondary	1.900*** (0.329)	1.112 (0.191)	0.707 (0.126)
Post-secondary institute	1.680 (0.527)	1.026 (0.336)	0.725 (0.233)
University and above	3.117*** (0.544)	1.801** (0.347)	0.786 (0.156)
Parental education (Ref: No parent sec. or higher)			
One parent (sec. or higher)	1.425* (0.231)	0.881 (0.139)	0.781 (0.122)
Both parents (sec. or higher)	2.552*** (0.406)	1.366 (0.221)	0.993 (0.166)
Region, <i>t</i> -1 (Ref: Greater Cairo)			
Alx. & Suez Canal	0.649 (0.147)	0.580* (0.132)	0.657 (0.161)
Urban Lower Egypt	0.297*** (0.0640)	0.443*** (0.0919)	0.520** (0.120)
Urban Upper Egypt	0.232*** (0.0481)	0.262*** (0.0531)	0.293*** (0.0703)
Rural Lower Egypt	0.167*** (0.0327)	0.190*** (0.0357)	0.239*** (0.0490)
Rural Upper Egypt	0.114*** (0.0228)	0.123*** (0.0232)	0.164*** (0.0330)

Table 5. Entry into employment by wage status tier (multinomial logit model) (continued)

	RRR(Formal wage vs. Non-wage)	RRR(Upper-tier inf. wage vs. Non-wage)	RRR(Lower-tier inf. wage vs. Non-wage)
Adjacent waves fixed effects (Ref: 1998-2006)			
2006-2012	1.224 (0.176)	1.199 (0.169)	3.196*** (0.522)
2012-2018	0.770 (0.117)	1.407* (0.204)	6.768*** (1.112)
2018-2023	0.774 (0.130)	1.226 (0.177)	5.469*** (0.917)
Constant	12.39*** (2.652)	13.36*** (2.845)	5.610*** (1.303)
Observations	8207		
Pseudo R ²	0.228		
RRR: Persist with enterprise vs. close (p-value)	0.434 0.00114	0.550 0.0123	0.339 0.00000549

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are relative risk ratios (RRR). Standard errors in parentheses. 'RRR: Persist with enterprise vs. close' tests whether enterprise persistence and closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients.

As a sensitivity check, we verify that the main results hold by directly comparing persistent enterprise households to closers using linear combinations of the main model coefficients. Persistent enterprises face substantially smaller downward mobility odds than closers for both formal and upper-tier informal workers, while lower-tier informal workers in households that persist retain a significant upward mobility advantage over closers. On the lateral dimension, persistent enterprises face significantly smaller switching odds than closers, consistent with the outside option interpretation. Enterprise persistence also functions as a strong employment anchor, reducing exit odds, relative to closure, with employed individuals in households that persist facing significantly smaller exit odds. Enterprise persistence is associated with higher-quality entry on the formality dimension, though this difference does not reach conventional levels of significance within enterprise households. The one dimension where persistence and closure do not significantly differ is entry into employment, confirming that it is enterprise creation rather than persistence that drives labor market entry. These within-enterprise-household patterns motivate the heterogeneity analyses that follow.

As a further sensitivity check, we decompose enterprise persistence into persistence in the same economic activity and persistence in a different economic activity (in the appendix, Table 6 and Table 7). The protective and upward-mobility associations of persistence are concentrated almost entirely among enterprises that persist in the same economic activity. For formal workers, persisting in the same activity is associated with a 40 percent reduction in downward mobility odds, whereas persisting in a different activity is insignificant. The same pattern of persistence in the same activity driving results holds for upper-tier informal workers' downward protection and for lower-tier informal workers' upward mobility. On the exit margin, both forms of persistence anchor employment, but persistence in the same activity does so more strongly. Direct comparisons of persistence in the same activity to closing confirm this: persistence in the same

activity faces significantly lower downward mobility than closing among formal and upper-tier informal workers, significantly higher upward mobility among lower-tier informal workers, and substantially lower exit odds, while the two groups do not differ on entry. This indicates that it is continuity in the same line of activity, rather than the mere survival of any enterprise, that underlies the persistence results. An enterprise persisting in the same activity may be the signal of a successful business propelling job ladder mobility.

5.3. Heterogeneity

The heterogeneity analysis takes two forms. The first tests for heterogeneity across five enterprise-level characteristics: primary worker status, capital level, enterprise formality, enterprise economic activity, and outside employees. The sample is restricted to households with an enterprise at the start of the transition window, comparing those who persist in an enterprise to those who close it, isolating variation within enterprise households. The second tests for heterogeneity by one household-level characteristic: the presence of a non-wage agricultural household member. For this outcome, full analytical sample is used, all four enterprise dynamics are included, and persist in no enterprise serves as the reference category, since this characteristic is defined for all households regardless of enterprise status. Heterogeneity is presented for vertical moves along the job ladder and entry and exit models.

5.3.1. Primary worker status

Primary worker status does not significantly moderate the association between enterprise dynamics and vertical mobility (in the appendix, Table 8 and Table 9), suggesting that the upward and downward mobility patterns documented in the main results are broadly shared within enterprise participants. However, for exit,⁸ primary workers show the sharpest contrasts: primary workers in closing households face 71 percent higher exit odds than non-primary workers in closing households, while the persist and primary worker interaction reverses these gaps: among persisting households, primary workers exit far less than non-primary workers. This asymmetry suggests that primary enterprise workers are essentially locked into the enterprise on both dimensions, most protected when it persists, most exposed when it closes.

5.3.2. Capital level

Capital level shapes how enterprise dynamics relates to mobility (in the appendix, Table 10 and Table 11). High-capital enterprises are associated with stronger upward mobility returns for closers among upper-tier informal workers, but the persist and high-capital interaction attenuates this, implying that the upward mobility gains from high-capital enterprises are concentrated among households that dissolve rather than maintain the enterprise. This is a striking reversal: higher capital is not associated with better outcomes for persistent households, but for closers, consistent

⁸ We do not analyze entry for primary worker status, since necessarily workers have entered.

with the interpretation that high-capital enterprise closure may free up resources or redirect labor toward higher-productivity wage employment. For entry and exit, capital level does not significantly moderate the association with enterprise dynamics, suggesting that the anchoring effects of persistence are uniform across the capital distribution.

For formal workers, the persist and high-capital interaction indicates that the downward protection from persistence is significantly stronger in high-capital enterprises; combining the coefficients, formal workers in persisting high-capital enterprises face roughly 38 percent lower downward mobility odds than those in closing high-capital enterprises. High capital enterprises may be more sophisticated and profitable and thus better able to continue to afford worker formality.

5.3.3. Enterprise formality

A formal-to-formal complementarity between firms and workers occurs for mobility (in the appendix, Table 12 and Table 13). The persist and formal-enterprise interaction shows that the downward protection from persistence is far stronger for formal workers in formally registered enterprises; combining the coefficients, formal workers in persisting formal enterprises face approximately 43 percent lower downward mobility odds than those in closing formal enterprises. The opposite, however, occurs for upper-tier informal workers, who are more at risk for downward mobility if their household persists with a formal enterprise. For entry and exit, formality does not significantly moderate the association with enterprise dynamics.

5.3.4. Enterprise economic activity

Enterprise economic activity moderates the association between enterprise dynamics and vertical mobility (in the appendix, Table 14 and Table 15). Persistence in industrial activity is associated with approximately four times higher upward mobility odds for lower-tier informal workers relative to closing an industrial enterprise. For entry and exit, no significant economic activity interactions emerge. Economic activity matters for the quality of enterprise dynamics more than for their extensive margin effects.

5.3.5. Outside employees in enterprise

Hired labor amplifies the downward protection of persistence for formal workers (in the appendix, Table 16 and Table 17). The persist and outside-employees interaction is highly significant for formal workers, as combining the coefficients we see that: formal workers in persisting enterprises that employ outside workers face approximately 52 percent lower downward mobility odds than their counterparts in closing such enterprises. For upper- and lower-tier vertical mobility, entry, and exit, the interaction is insignificant, so employing outside workers chiefly reinforces persistence's protective role for those near the top of the ladder.

5.4.6. Non-wage agricultural household member

Enterprise creation interacts with household agricultural activity for the most precarious workers (in the appendix, Table 18 and Table 19). The start and non-wage agricultural interaction is significant for lower-tier informal upward mobility, indicating that the upward push from starting an enterprise is approximately 68 percent larger for lower-tier workers in households that also contain a non-wage agricultural member. The only other significant interaction is on entry, where close and non-wage-agricultural is associated with lower entry odds. Persistence interactions are insignificant throughout, suggesting that agricultural household activity shapes the consequences of enterprise creation and closure more than those of persistence.

6. Conclusion

Household enterprises are a primary feature of labor markets across developing countries (Sohnesen and Fox 2012; La Porta and Shleifer 2014), yet their association with individual workers' positions on the job ladder remains poorly understood. This paper uses Egypt as a case study to fill a gap at the intersection of two literatures that have developed in isolation: research on household enterprise dynamics (Krafft 2024; Taiwo 2013) and research on job ladder mobility (Fields et al. 2023; Krafft et al. 2026). The results demonstrate that household enterprise dynamics can be particularly helpful for propelling lower-tier informal workers up the job ladder.

First, on the vertical dimension, enterprise dynamics matter selectively and asymmetrically. Starting and persisting in an enterprise are associated with upward mobility for those already at the bottom of the job ladder, while closing an enterprise is not, and upper-tier informal workers are left unaffected on the upward dimension, with formal workers receiving at most downward protection. Second, on the lateral dimension, enterprise dynamics, as expected, dominate: starting an enterprise is associated with more than twenty-two-times higher switching odds between wage and non-wage employment, while enterprise persistence is associated with a significant decrease in switching odds. Third, on the entry and exit margin, enterprise creation pulls non-employed individuals into employment while enterprise persistence is the strongest predictor of remaining employed, an asymmetry between creation and persistence that the literature has not previously documented.

The heterogeneity results reinforce this interpretation. Primary enterprise workers face the sharpest employment exit upon closure and the strongest stability under persistence, revealing that the reallocation effects of enterprise dynamics are concentrated among those most dependent on the enterprise. A formal-to-formal complementarity, evident in the much stronger downward protection for formal workers that persistence provides when the enterprise is formally registered, suggests that enterprise formalization may have protective returns that extend beyond owners to all household members. These protective effects are similarly concentrated in larger, more

established enterprises: formal workers in persisting enterprises that employ outside labor are especially insulated from downward mobility.

Against a backdrop of steady deterioration in upward mobility odds over the 25-year study period, these patterns suggest that household enterprises are increasingly important for labor market entry and mobility. In the absence of an expanding formal wage sector, households fall back on creating their own livelihoods through enterprise activity, absorbing labor that formal wage employment cannot. Our results corroborate that household enterprises act as a survival strategy and shock absorber in a context with substantial macroeconomic and labor market shocks (Assaad and Mahmoud 2024; Assaad et al. 2020; Krafft 2024; El-Haddad and Zaki 2025).

Although enterprises can be a stepping stone to move workers upward, they do so primarily at the bottom of the job ladder, rather than moving upper-tier informal workers into formality. Enterprises are thus primarily serving as an alternative to very marginal casual and informal labor, and are not necessarily more remunerative (Krafft and Rizk 2021). While upward movements along the job ladder reduce poverty and enhance economic welfare (Assaad et al. 2026), and upper-tier informal workers earn more, engage in more skilled work, and have better working conditions, formal workers are substantially better off (Krafft et al. 2026). Yet enterprise work is rarely and decreasingly formal (Krafft et al. 2026; Krafft and Hannafi 2023). Our results are consistent with a setting in which structural transformation, the reallocation of labor from self-employment toward wage work and from informal toward formal employment, has stalled rather than advanced (Gollin and Kaboski 2023).

Women, and especially married women, are particularly marginalized in Egypt's labor market (Krafft, Assaad, and McKillip 2024; Krafft 2026; Assaad et al. 2022; Selwaness and Krafft 2021). While married women faced penalties in many dimensions of labor market dynamics, if they entered employment, they were particularly likely to enter into non-wage work, suggesting this type of work is a key option for married women, likely due to easier reconcilability with domestic responsibilities (Atallah and Hesham 2024; Assaad et al. 2022). Among women, lower-tier informal workers who are non-wage are much less likely to want to change their employment (15%) than female lower-tier informal wage workers (30%) (Krafft et al. 2026), illustrating the role of even lower-tier informal non-wage work as a relative refuge.

Two caveats bound these conclusions and define a clear agenda for future work. The multi-year spacing of the survey waves lets us observe job ladder positions only at window endpoints, so moves that begin and resolve within a window are not captured; the retrospective job histories suggest such intermediate moves are uncommon, but shorter or higher-frequency panels would permit a more granular view of enterprise-linked mobility. Whether these relationships between enterprise dynamics and job ladder mobility hold across other developing-country contexts with different enterprise economic activity compositions, labor market institutions, and gender norms

is an open empirical question. Pursuing research elsewhere with comparable longitudinal data would help establish whether what role household enterprise dynamics have as structural transformation proceed.

The policy implications of our findings follow directly from the duality of enterprises as a refuge and limited stepping stone. In the absence of or while undergoing structural transformation, supporting enterprise creation and job quality within enterprises is critically important. In parallel, a long-term push for structural transformation that creates high-productivity, formal wage employment is needed.

How to support the creation of household enterprises? Graduation or targeting the ultra-poor programs often build in an element of enterprise creation, and similar programs that include support for self-employment have been effective globally and in Egypt – particularly so for women (Elsayed et al. 2018; Elsayed and Roushdy 2017; JPAL 2024; Banerjee et al. 2015). These programs are likely to generate relatively marginal self-employment activities for marginalized populations, but may draw additional individuals into employment and act as an engine of mobility in doing so (Krafft and Rizk 2021; Krafft 2024). Programs should not target specifically unemployed youth, who lack the experience needed for running enterprises and tend to have particularly high rates of business failure (McKenzie et al. 2025; Krafft and Rizk 2021; McKenzie and Paffhausen 2019).

Household enterprises in Egypt are largely informal self-employment, primarily retail activities self-financed with limited capital (El-Haddad and Zaki 2025). Programs and policies to create enterprises or enhance existing enterprise need to reflect this reality. Although the new Micro, Small, and Medium Enterprise (MSME) law (no. 152 of 2020) included regulatory reforms and efforts to formalize informal firms (Shehata & Partners 2020), it has not led to increases in household enterprise formality (El-Haddad and Zaki 2025). Broadly attempting to enforce formality on household enterprises risks destroying jobs more so than increasing employment quality (Krafft, Assaad, Rahman, et al. 2024). The cost and administrative challenges of enrolling in social insurance as a non-wage worker remain prohibitive even after reforms in 2019 (Barsoum and Selwaness 2022; Selwaness and Barsoum 2025) and an area for further reforms in conjunction with the costs of microenterprise formality.

Government programs even within the MSME space tend to target relatively larger firms (El-Haddad and Zaki 2025). Revising programs to support informal self-employment activities, for instance in access to new markets or product upgrading (Atkin et al. 2017), is a promising approach to leveraging household enterprises for economic and labor market mobility. More traditional entrepreneur business skill training programs have modest effects, averaging 4.7% increases in sales and 10.7% increases in profits (McKenzie et al. 2025). Slightly higher impacts can be

achieved with mind-set and aspiration training programs than business skill training (McKenzie et al. 2025).

In the long run, policy and programming should target structural transformation, which will move workers from self-employment and household enterprises into more productive and specialized wage work (Bandiera et al. 2022; Gollin and Kaboski 2023). Governments can should target firms' productivity constraints and act as venture capitalists and accelerators for firms to spur transformation and growth (Rodrik and Sandhu 2024). Economic policy for structural transformation must encourage private-sector competition to create more and better jobs (Diwan and Haidar 2021; Chekir and Diwan 2015). These long-term goals can complement policies targeting household enterprises in the short run.

In terms of industrial policy in the long term and supporting household enterprises in the near term, how can policymakers and programs decide what businesses to support? Business plan competitions can be effective at spurring employment creation and profits, although picking winners is difficult (McKenzie 2017; McKenzie and Sansone 2019). Particularly since Egypt is already experiencing premature deindustrialization (Assaad et al. 2019), creating jobs and enhancing productivity in the service sector will be important (Rodrik and Sandhu 2025). Together, policies supporting both household enterprises and structural transformation can support job ladder mobility and poverty reduction in the near future and longer term.

References

- Adair, Philippe, Shireen AlAzzawi, and Vladimir Hlasny. 2024. "Fostering Decent Jobs, Formalising Informal Employment and Spurring Job Mobility in MENA Countries." *Economic Notes* 53 (2): e12240. <https://doi.org/10.1111/ecno.12240>.
- AlAzzawi, Shireen, and Vladimir Hlasny. 2023. "The Evolution of Vulnerable Employment in Egypt, Jordan, and Tunisia." In *The Job Ladder*, 1st ed., edited by Gary S. Fields, T. H. Gindling, Kunal Sen, Michael Danquah, and Simone Schotte. Oxford University Press. <https://doi.org/10.1093/oso/9780192867339.003.0013>.
- Assaad, Ragui, and Caroline Krafft. 2013. "The Egypt Labor Market Panel Survey: Introducing the 2012 Round." *IZA Journal of Labor & Development* 2 (8): 1–30.
- Assaad, Ragui, and Caroline Krafft. 2024a. "Connecting People to Projects: A New Approach to Measuring Women's Employment in the Middle East and North Africa." *World Bank Policy Research Working Paper Series* No. 10659.
- Assaad, Ragui, and Caroline Krafft. 2024b. "Introducing the Egypt Labor Market Panel Survey 2023." *Economic Research Forum Working Paper Series* No. 1748.
- Assaad, Ragui, Caroline Krafft, Imane Helmy, and Ruotong Li. 2026. "Labor Market Dynamics and Economic Mobility: An Analysis of Egyptian Panel Data." *Economic Research Forum Working Paper Series (Forthcoming)*.
- Assaad, Ragui, Caroline Krafft, Khandker Wahedur Rahman, and Irène Selwaness. 2019. "Job Creation in Egypt: A Sectoral and Geographical Analysis Focusing on Private Establishments, 1996-2017." *Economic Research Forum Policy Paper*.
- Assaad, Ragui, Caroline Krafft, and Colette Salemi. 2023. "Socioeconomic Status and the Changing Nature of School-to-Work Transitions in Egypt, Jordan, and Tunisia." *ILR Review* 76 (4): 697–723.
- Assaad, Ragui, Caroline Krafft, and Irene Selwaness. 2022. "The Impact of Marriage on Women's Employment in The Middle East and North Africa." *Feminist Economics* 28 (2): 247–79.
- Assaad, Ragui, Caroline Krafft, and Shaimaa Yassin. 2020. "Job Creation or Labor Absorption? An Analysis of Private Sector Job Growth in Egypt." *Middle East Development Journal* 12 (2): 177–207. <https://doi.org/10.1080/17938120.2020.1753978>.
- Assaad, Ragui, and Esraa Mahmoud. 2024. "Evolution of the Structure and Quality of Employment in Egypt, 2012-2023." *Economic Research Forum Working Paper Series* No. 1750.
- Assaad, Ragui, and Rania Roushdy. 2009. "Methodological Appendix 3: An Analysis of Sample Attrition in the Egypt Labor Market Panel Survey 2006." In *The Egyptian Labor Market Revisited*, edited by Ragui Assaad. American University in Cairo Press.
- Assaad, Ragui, and Sarah Wahby. 2025. *Why Is Social Insurance Coverage Declining in Egypt?: A Decomposition Analysis*. UNU-WIDER Working Paper No. 2025. <https://doi.org/10.35188/UNU-WIDER/2025/657-5>.
- Atallah, Marian, and Marina Hesham. 2024. "Unpaid Care Work in Egypt: Gender Gaps in Time Use." *Economic Research Forum Working Paper Series* No. 1755.

- Atkin, David, Amit K. Khandelwal, and Adam Osman. 2017. "Exporting and Firm Performance: Evidence from a Randomized Experiment." *The Quarterly Journal of Economics* 132 (2): 551–615. <https://doi.org/10.1093/qje/qjx002>. Advance.
- Bandiera, Oriana, Ahmed Elsayed, Anton Heil, and Andrea Smurra. 2022. "Economic Development and the Organisation of Labour: Evidence from the Jobs of the World Project." *Journal of the European Economic Association* 20 (6): 2226–70.
- Banerjee, Abhijit, Esther Duflo, Nathaniel Goldberg, et al. 2015. "A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries." *Science* 348 (6236): 1260799–1260799.
- Barsoum, Ghada, and Irene Selwaness. 2022. "Egypt's Reformed Social Insurance System: How Might Design Change Incentivize Enrolment?" *International Social Security Review* 75 (2): 47–74.
- Chekir, Hamouda, and Ishac Diwan. 2015. "Crony Capitalism in Egypt." *Journal of Globalisation and Development* 5 (2): 177–211. <https://doi.org/10.1515/jgd-2014-0025>.
- Choi, Yunji, Mario Gronert, Maddalena Honorati, Joshua D. Merfeld, and David Newhouse. 2024. "Does Climbing the Jobs Ladder Promote Poverty Reduction?" *World Bank Policy Research Working Paper Series* No. 10856. <https://hdl.handle.net/10986/41942>.
- Danquah, Michael, Simone Schotte, and Kunal Sen. 2019. "Informal Work in Sub-Saharan Africa: Dead End or Steppingstone?" *UNU-WIDER Working Paper Series* No. 107/2019. <https://doi.org/10.35188/UNU-WIDER/2019/743-9>.
- De Mel, Suresh, David McKenzie, and Christopher Woodruff. 2009. "Are Women More Credit Constrained? Experimental Evidence on Gender and Microenterprise Returns." *American Economic Journal: Applied Economics* 1 (3): 1–32. <https://doi.org/10.1257/app.1.3.1>.
- Decerf, Benoît, Maria Genoni, Imane Helmy, and Federico Sanz. 2023. "Implications of Using Nonstandard Poverty Lines: An Illustration Using the Case of the Arab Republic of Egypt." *World Bank Policy Research Working Paper Series* No. 10437.
- Diwan, Ishac, and Jamal Ibrahim Haidar. 2021. "Political Connections Reduce Job Creation: Firm-Level Evidence from Lebanon." *The Journal of Development Studies* 57 (8): 1373–96. <https://doi.org/10.1080/00220388.2020.1849622>.
- El-Haddad, Amirah, and Chahir Zaki. 2025. "Household Micro and Small Enterprises in Egypt: Overview and Developments through 2023." *Economic Research Forum Working Paper Series* No. 1772.
- Elsayed, Ahmed, Kevin Hempel, and Adam Osman. 2018. *Overcoming Youth Unemployment in Egypt: Randomized Evaluations Showcase the Promise of Active Labor Market Programs*.
- Elsayed, Ahmed, and Rania Roushdy. 2017. "Empowering Women under Social Constraints: Evidence from a Field Intervention in Rural Egypt." *IZA Discussion Paper Series* No. 11240.
- Fields, Gary S., T. H. Gindling, Kunal Sen, Michael Danquah, and Simone Schotte, eds. 2023. *The Job Ladder: Transforming Informal Work and Livelihoods in Developing Countries*. Oxford University Press. <https://doi.org/10.1093/oso/9780192867339.001.0001>.
- Fox, Louise, and Thomas Pave Sohnesen. 2016. "Household Enterprises and Poverty Reduction in Sub-Saharan Africa." *Development Policy Review* 34 (2): 197–221. <https://doi.org/10.1111/dpr.12152>.

- Gollin, Douglas, and Joseph P. Kaboski. 2023. "New Views of Structural Transformation: Insights from Recent Literature." *Oxford Development Studies* 51 (4): 339–61. <https://doi.org/10.1080/13600818.2023.2280748>.
- ILO. 2023. *Resolution Concerning Statistics on the Informal Economy Adopted at the 21st International Conference of Labour Statisticians*. International Labour Organization.
- JPAL. 2024. *Scaling Up Bab Amal*. Abdul-Latif Jameel Poverty Action Lab (MENA), American University in Cairo.
- Kanbur, Ravi. 2017. "Informality: Causes, Consequences and Policy Responses." *Review of Development Economics* 21 (4): 939–61. <https://doi.org/10.1111/rode.12321>.
- Krafft, Caroline. 2024. "Understanding the Dynamics of Household Enterprises in Egypt: Birth, Death, Growth and Transformation." *International Labour Review* 163 (4): 599–630. <https://doi.org/10.1111/ilr.12441>.
- Krafft, Caroline. 2026. "Why Are Women's Employment Rates Declining in Egypt?" *GLO Working Paper* No. 1719.
- Krafft, Caroline, and Carmen Armas-Montalvo. 2026. "Mismatch in the Egyptian Labor Market." *GLO Discussion Paper* No. 1739.
- Krafft, Caroline, Ragui Assaad, Imane Helmy, and Carmen Armas-Montalvo. 2026. "Informality Dynamics in Egypt: A Job Ladder Approach." *Economic Research Forum Working Paper Series (Forthcoming)*.
- Krafft, Caroline, Ragui Assaad, and Zoe McKillip. 2024. "The Evolution of Labor Supply in Egypt through 2023." *Economic Research Forum Working Paper Series* No. 1749.
- Krafft, Caroline, Ragui Assaad, and Khandker Wahedur Rahman. 2021. "Introducing the Egypt Labor Market Panel Survey 2018." *IZA Journal of Development and Migration* 12 (12): 1–40.
- Krafft, Caroline, Ragui Assaad, Khandker Wahedur Rahman, and Maakwe Cumanzala. 2024. "How Do Small Formal and Informal Firms in Egypt Compare? An Analysis of Firm Characteristics and Implications for Formalization Efforts." *Review of Development Economics* 28 (3): 1292–315. <https://doi.org/10.1111/rode.13101>.
- Krafft, Caroline, and Cyrine Hannafi. 2023. "The Dynamics of Social Insurance in Egypt." *Economic Research Forum Working Paper Series* No. 1655.
- Krafft, Caroline, and Reham Rizk. 2021. "The Promise and Peril of Youth Entrepreneurship in the Middle East and North Africa." *International Journal of Manpower* 42 (8): 1500–1526. <https://doi.org/10.1108/IJM-05-2020-0200>.
- La Porta, Rafael, and Andrei Shleifer. 2014. "Informality and Development." *Journal of Economic Perspectives* 28 (3): 109–26. <https://doi.org/10.1257/jep.28.3.109>.
- McKenzie, David. 2017. "Identifying and Spurring High-Growth Entrepreneurship: Experimental Evidence from a Business Plan Competition." *American Economic Review* 107 (8): 2278–307. <https://doi.org/10.1257/aer.20151404>.

- McKenzie, David, and Anna Luisa Paffhausen. 2019. "Small Firm Death in Developing Countries." *The Review of Economics and Statistics* 101 (4): 645–57. https://doi.org/10.1162/rest_a_00798.
- McKenzie, David, and Dario Sansone. 2019. "Predicting Entrepreneurial Success Is Hard: Evidence from a Business Plan Competition in Nigeria." *Journal of Development Economics* 141: 102369. <https://doi.org/10.1016/j.jdeveco.2019.07.002>.
- McKenzie, David, Christopher Woodruff, Kjetil Bjorvatn, et al. 2025. "Training Entrepreneurs." *VoxDevLit* 1 (4).
- Mead, Donald C., and Carl Liedholm. 1998. "The Dynamics of Micro and Small Enterprises in Developing Countries." *World Development* 26 (1): 61–74. [https://doi.org/10.1016/S0305-750X\(97\)10010-9](https://doi.org/10.1016/S0305-750X(97)10010-9).
- Nagler, Paula, and Wim Naudé. 2017. "Non-Farm Entrepreneurship in Rural Sub-Saharan Africa: New Empirical Evidence." *Food Policy* 67: 175–91. <https://doi.org/10.1016/j.foodpol.2016.09.019>.
- Naudé, Wim. 2008. "Entrepreneurship in Economic Development." *UNU-WIDER Research Paper Series* No. 20/2008.
- OAMDI. 2024. "Labor Market Panel Surveys (LMPS). Version 1.0 of Licensed Data Files; ELMPS 2023."
- Rodrik, Dani, and Rohan Sandhu. 2024. "Industrial Policy for Micro-, Small- and Medium-Sized Enterprises." *VoxDev*. <https://voxdev.org/topic/firms/industrial-policy-micro-small-and-medium-sized-enterprises>.
- Rodrik, Dani, and Rohan Sandhu. 2025. "Servicing Development: Productive Upgrading of Labor-Absorbing Services in Developing Economies." *Global Policy* 16 (2): 306–18. <https://doi.org/10.1111/1758-5899.70003>.
- Selwaness, Irene, and Ghada Barsoum. 2025. "When Formality Is Costly and Informality Is Legal: Understanding the Administrative Burden of Social Insurance System Design in Low and Middle-Income Countries." *Public Administration and Development*, pad.70042. <https://doi.org/10.1002/pad.70042>.
- Selwaness, Irene, and Caroline Krafft. 2021. "The Dynamics of Family Formation and Women's Work: What Facilitates and Hinders Female Employment in the Middle East and North Africa?" *Population Research and Policy Review* 40 (3): 533–87. <https://doi.org/https://doi.org/10.1007/s11113-020-09596-6>.
- Shehata & Partners. 2020. "Overview of the New SMEs Law." Cairo, Egypt, September. <https://www.lexology.com/library/detail.aspx?g=964f9b2b-94b1-4b98-852e-f2ad1d52d712>.
- Sohnesen, Thomas Pave, and Louise Fox. 2012. *Household Enterprises and Poverty Reduction in Sub-Saharan Africa: Why They Matter for Growth, Jobs, and Livelihoods*. Policy Research Working Paper No. 6184. World Bank. <http://hdl.handle.net/10986/12038>.
- Taiwo, Olumide. 2013. "Employment Choice and Mobility in Multi-sector Labour Markets: Theoretical Model and Evidence from Ghana." *International Labour Review* 152 (3–4): 469–92. <https://doi.org/10.1111/j.1564-913X.2013.00189.x>.
- World Bank. 2025. "Poverty and Equity Brief, Arab Republic of Egypt." Policy Brief. World Bank.

Appendix

Sensitivity by Household Enterprise Dynamics Distinguishing Types of Persistence

Table 6. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals in households with enterprises in the previous period — sensitivity by household enterprise dynamics (distinguishing types of persistence)

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Persist no enterprise)				
Start enterprise	1.359* (0.197)	0.785 (0.100)	0.541*** (0.0661)	1.949*** (0.173)
Persist: same economic activity	0.595** (0.104)	0.869 (0.167)	0.561*** (0.0942)	1.702** (0.298)
Persist: diff. economic activity	0.940 (0.208)	1.179 (0.251)	0.869 (0.183)	1.378 (0.262)
Close an enterprise	1.215 (0.141)	0.832 (0.141)	1.030 (0.129)	1.102 (0.140)
Observations	6932	5208		8636
Pseudo R ²	0.131	0.146		0.133
OR/RRR: Persist same vs. Close (p-value)	0.490 0.000149	1.044 0.844	0.545 0.000957	1.545 0.0311

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Full analytical sample. Reference category is persist in no enterprise. Enterprise persistence is disaggregated into persistence in the same one-digit economic activity and persistence in a different activity across the transition window. Because enterprise identifiers are not stable across waves, this match is made at the household level across the set of activities operated at each endpoint. 'OR/RRR: Persist same vs. close' tests whether persistence in the same economic activity and enterprise closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients. All models control for region, age group, education, sex $\times$ marital status, parental education, establishment type, public sector status, firm size, economic activity, and transition window fixed effects.

Table 7. Entry into and exit from employment (logit model), households with enterprises in the previous period — sensitivity by household enterprise

Dynamics (Distinguishing Types of Persistence)

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Persist no enterprise)		
Start enterprise	2.477*** (0.163)	0.499*** (0.0517)
Persist: same economic activity	1.065 (0.108)	0.229*** (0.0636)
Persist: diff. economic activity	1.083 (0.115)	0.353*** (0.0666)
Close an enterprise	0.917 (0.0724)	1.892*** (0.191)
Observations	34374	24080
Pseudo R ²	0.245	0.289
OR: Persist same vs. Close (p-value)	1.162 0.227	0.121 1.23e-16

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Full analytical sample. Reference category is persist in no enterprise. Enterprise persistence is disaggregated into persistence in the same one-digit economic activity and persistence in a different activity across the transition window. Because enterprise identifiers are not stable across waves, this match is made at the household level across the set of activities operated at each endpoint. 'OR: Persist same vs. close' tests whether persistence in the same economic activity and enterprise closure have statistically distinguishable associations with the outcome, based on the difference in their coefficients. Entry models control for region, age group, education, sex $\times$ marital status, parental education, and transition window fixed effects.

Heterogeneity by primary worker status

Table 8. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals in households with enterprises in the previous period — heterogeneity by primary worker status

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Close an enterprise)				
Persist: with enterprise	0.784 (0.218)	1.606 (0.568)	0.894 (0.308)	1.195 (0.326)
Primary worker in enterprise	1.769** (0.366)	0.828 (0.270)	1.211 (0.359)	0.907 (0.228)
Interaction				
Persist × Primary worker	1.108 (0.356)	0.693 (0.282)	0.568 (0.217)	1.514 (0.525)
Observations	2068	1517		1102
Pseudo R ²	0.128	0.109		0.111

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Table 9. Exit from employment (logit model), households with enterprises in the previous period — heterogeneity by primary worker status

	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Close an enterprise)	
Persist: with enterprise	0.249*** (0.0431)
Primary worker in enterprise	1.712*** (0.236)
Interaction	
Persist × Primary worker	0.0764*** (0.0273)
Observations	5513
Pseudo R ²	0.366

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Heterogeneity by enterprise capital level

Table 10. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals in households with enterprises in the previous period — heterogeneity by enterprise capital level

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Close an enterprise)				
Persist: with enterprise	1.120 (0.199)	1.468 (0.316)	0.627* (0.118)	1.639* (0.323)
High capital enterprise	1.281 (0.237)	4.210*** (1.276)	2.242** (0.614)	0.989 (0.270)
Interaction				
Persist × High capital	0.552* (0.142)	0.348** (0.132)	0.485 (0.181)	1.362 (0.510)
Observations	1979	1481		1079
Pseudo R ²	0.122	0.120		0.117

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Table 11. Entry into and exit from employment (logit model), households with enterprises in the previous period — heterogeneity by capital level

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Close an enterprise)		
Persist: with enterprise	1.002 (0.132)	0.0835*** (0.0152)
High capital enterprise	0.642* (0.116)	1.018 (0.165)
Interaction		
Persist × High capital	1.467 (0.343)	1.471 (0.462)
Observations	4918	5330
Pseudo R ²	0.246	0.352

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Heterogeneity by enterprise formality

Table 12. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals in households with enterprises in the previous period — heterogeneity by enterprise formality

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Close an enterprise)				
Persist: with enterprise	1.899* (0.596)	1.180 (0.212)	0.536*** (0.0871)	1.619** (0.284)
Formal enterprise	5.115*** (1.047)	1.411 (0.865)	0.584 (0.361)	1.834 (1.018)
Interaction				
Persist × Formal	0.298*** (0.105)	1.517 (1.146)	5.850* (5.100)	0.520 (0.371)
Observations	2065	1515		1102
Pseudo R ²	0.159	0.109		0.111

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Table 13. Entry into and exit from employment (logit model), households with enterprises in the previous period — heterogeneity by enterprise formality

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Close an enterprise)		
Persist: with enterprise	1.198 (0.158)	0.0951*** (0.0166)
Formal enterprise	0.895 (0.165)	1.032 (0.165)
Interaction		
Persist × Formal	0.886 (0.207)	1.076 (0.342)
Observations	5092	5506
Pseudo R ²	0.244	0.351

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Heterogeneity by enterprise economic activity

Table 14. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals in households with enterprises in the previous period — heterogeneity by enterprise economic activity

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Close an enterprise)				
Persist: with enterprise	0.646* (0.117)	0.951 (0.228)	0.574** (0.119)	1.375 (0.263)
Enterprise economic activity (Ref: Trade & Transport)				
Industry	0.872 (0.198)	0.416** (0.134)	0.519** (0.118)	1.117 (0.410)
Services	0.630 (0.153)	0.622 (0.246)	0.336** (0.112)	2.733** (1.021)
Interaction				
Persist × Industry	1.679 (0.572)	1.663 (0.669)	0.732 (0.287)	2.964* (1.496)
Persist × Services	2.211* (0.726)	1.780 (0.877)	1.268 (0.603)	0.753 (0.408)
Observations	2009	1467		1078
Pseudo R ²	0.128	0.123		0.130
p (joint: economic activity)	0.162	0.00115		0.0265

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. 'p (joint: economic activity)' reports the p-value from a joint Wald test of whether all enterprise economic activity sector coefficients (Industry and Services, relative to Trade & Transport) are jointly equal to zero. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Table 15. Entry into and exit from employment (logit model), households with enterprises in the previous period — heterogeneity by enterprise economic activity

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Close an enterprise)		
Persist: with enterprise	1.112 (0.162)	0.0964*** (0.0167)
Enterprise economic activity (Ref: Trade & Transport)		
Industry	0.938 (0.179)	0.581*** (0.0937)
Services	1.086 (0.273)	0.469*** (0.0940)
Interaction		
Persist × Industry	1.065 (0.279)	0.850 (0.364)
Persist × Services	1.139 (0.363)	1.630 (0.622)
Observations	4968	5340
Pseudo R ²	0.243	0.360
p (joint: economic activity)	0.865	0.0000234

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. 'p (joint: economic activity)' reports the p-value from a joint Wald test of whether all enterprise economic activity sector coefficients (Industry and Services, relative to Trade & Transport) are jointly equal to zero. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Heterogeneity by outside employees in enterprise

Table 16. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals in households with enterprises in the previous period — heterogeneity by outside employees in enterprise

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Close an enterprise)				
Persist: with enterprise	1.328 (0.227)	1.226 (0.260)	0.625** (0.110)	1.507* (0.270)
Enterprise employs outside workers	1.716** (0.316)	1.154 (0.318)	0.779 (0.178)	1.652 (0.625)
Interaction				
Persist × Outside employees	0.358*** (0.0946)	0.891 (0.317)	0.622 (0.247)	1.411 (0.709)
Observations	2068	1517		1102
Pseudo R ²	0.131	0.111		0.116

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Table 17. Entry into and exit from employment (logit model), households with enterprises in the previous period — heterogeneity by outside employees in enterprise

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Close an enterprise)		
Persist: with enterprise	1.027 (0.136)	0.0907*** (0.0147)
Enterprise employs outside workers	0.596** (0.109)	0.546*** (0.0937)
Interaction		
Persist × Outside employees	1.533 (0.362)	1.851 (0.588)
Observations	5094	5513
Pseudo R ²	0.245	0.352

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Sample restricted to households with an enterprise at t-1; reference category is close an enterprise. All models control for region, age group, education, sex × marital status, parental education, and transition window fixed effects.

Heterogeneity by non-wage agricultural household member

Table 18. Upward and downward job ladder mobility (logit and multinomial logit models), previously and currently employed individuals — heterogeneity non-wage agricultural household member

	Formal, t-1 OR(Down vs. Stay)	Upper inf., t-1 RRR(Up vs. Stay)	Lower inf., t-1 RRR(Down vs. Stay)	Lower inf., t-1 OR(Up vs. Stay)
HH enterprise dynamics (Ref: Persist no enterprise)				
Start enterprise	1.372 (0.224)	0.813 (0.118)	0.618*** (0.0890)	1.598*** (0.185)
Persist: with enterprise	0.650** (0.106)	1.012 (0.172)	0.721* (0.112)	1.516* (0.246)
Close an enterprise	1.169 (0.144)	0.787 (0.147)	0.948 (0.135)	1.056 (0.161)
HH member in non-wage agric. work	1.061 (0.130)	1.148 (0.232)	1.280 (0.179)	0.611*** (0.0621)
Interaction				
Start × Non-wage agric.	0.954 (0.297)	0.868 (0.272)	0.599 (0.160)	1.681** (0.290)
Persist × Non-wage agric.	1.709 (0.609)	0.861 (0.330)	0.695 (0.237)	0.970 (0.278)
Close × Non-wage agric.	1.296 (0.446)	1.433 (0.580)	1.561 (0.449)	1.054 (0.291)
Observations	6932	5208		8636
Pseudo R ²	0.131	0.147		0.138

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR) or relative risk ratios (RRR). Standard errors in parentheses. Full analytical sample. Reference category is persist in no enterprise. All models control for region, age group, education, sex × marital status, parental education, establishment type, public sector status, firm size, economic sector, and transition window fixed effects.

Table 19. Entry into and exit from employment (logit model) — heterogeneity by non-wage agricultural household member

	OR(Entry vs. No Entry)	OR(Exit vs. No Exit)
HH enterprise dynamics (Ref: Persist no enterprise)		
Start enterprise	2.608*** (0.216)	0.448*** (0.0682)
Persist: with enterprise	1.136 (0.0987)	0.268*** (0.0593)
Close an enterprise	1.040 (0.0983)	1.935*** (0.233)
HH member in non-wage agric. work	1.167** (0.0671)	1.027 (0.0974)
Interaction		
Start × Non-wage agric.	0.851 (0.111)	1.293 (0.266)
Persist × Non-wage agric.	0.826 (0.144)	1.219 (0.404)
Close × Non-wage agric.	0.630** (0.107)	0.952 (0.168)
Observations	34374	24080
Pseudo R ²	0.245	0.289

Source: Authors' calculations based on ELMPS 1998-2023 data.

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Cells are odds ratios (OR). Standard errors in parentheses. Full analytical sample. Reference category is persist in no enterprise. All models control for region, age group, education, sex × marital status, parental education, establishment type, public sector status, firm size, economic sector, and transition window fixed effects. Entry models exclude job characteristic controls (individuals not employed at t-1).