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SOCIAL PROTECTION AND VULNERABILITY
IN EGYPT: A GENDERED ANALYSIS

Irene Selwaness and Maye Ehab

Working Paper No. 1363

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October 2019

We acknowledge the general support of the World Bank, the International Labour Organization, Agence Française de Développement, UN Women, and the Arab Fund for Economic and Social Development for the Egypt Labor Market Panel Survey 2018, on which this paper is based.

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

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Abstract

This paper presents a comprehensive review of the state of social protection in Egypt using data from the Egypt Labor Market Panel Surveys of 1998, 2006, 2012 and 2018. First, we focus on issues of social insurance coverage at work, how it evolved over time, and the time it takes to acquire social insurance. Second, we examine the patterns of social protection benefits receipt at the household level. We analyze the coverage of the newly launched conditional cash transfer programs *Takaful* and *Karama* as well as the smart food ration cards. Finally, as a component of social protection, we examine health insurance coverage rates. Findings suggest that the social insurance coverage gap widened among all workers, particularly in private sector wage employment, for both men and women. This was likely due to the expansion of outside of establishment wage work, highlighting issues of increased vulnerability at work. Moreover, the coverage gap does not close with years of work and is highly contingent on the type of first job, suggesting an informality trap. As for social protection benefits receipt, the most common type of benefits was retirement or social assistance pensions. If the social insurance coverage gap continues to widen, such benefits receipt would be strongly affected. Finally, women, and in particular rural women, as well as youth aged 20-24 were the most vulnerable in terms of health insurance coverage.

Keywords: Social protection, social insurance, social assistance, health insurance, Egypt

JEL Classifications: I30, J46, I38, I31

1. Introduction

Social protection (SP) comes at the heart of the 17 Sustainable Development Goals (SDGs), constituting the third target associated with the first SDG of eradicating poverty (SDG1.3). This target calls for “implementing nationally appropriate social protection systems and measures for all, (...), and by 2030 achieving substantial coverage of the poor and the vulnerable” (UN General Assembly, 2015). Social protection represents all forms of schemes, whether contributory (such as social insurance) or non-contributory (such as social assistance and food security) that help maintain living standards and reduce poverty and vulnerability in a sustainable way over the life course (ILO, 2017; Selwaness & Messkoub, 2019). In the context of the 2030 SDGs, this paper examines the current state of social protection coverage in Egypt.

Our first main question is on contributory social insurance coverage at work. For this question, we analyze the social insurance coverage gap for various types of employment, with a special focus on wage employment in general and private sector wage employment in particular. We also examine the time to acquire social insurance coverage on the labor market, to see if there is a prolonged vulnerability in terms of lack of social insurance coverage. In addition to issues of coverage in contributory social insurance schemes among workers, the second main question of this paper is about the patterns of receipt of social protection benefits at the household level and the extent of effective social protection coverage at the national level.³ Finally, in light of the new upcoming health insurance reform, our third research question explores the evolution of health insurance coverage for the whole population. To answer these questions, we use the Egypt Labor Market Panel Survey (ELMPS) 2018 and compare it, whenever possible, with the earlier waves, namely 1998, 2006 and 2012. Each of these social protection components is a timely issue on the social policy agenda in Egypt and each experienced noticeable changes.

There has been a worsening in social insurance coverage in work in Egypt from 1998 to 2018. The labor market was characterized by a continuing decline in the share of public sector jobs. In 2006, such a decline was associated with an equivalent rise in informal (socially uninsured) private wage employment (Assaad, 2009). In 2012, the situation was aggravated and irregular wage work expanded, rather than informal but regular private wage employment (Assaad & Krafft, 2015). In 2018, irregularity declined, but there was an unprecedented and high share of informal private sector wage employment, especially such employment outside of a fixed establishment (Assaad, AlSharawy, & Salemi, 2019).

The lack of contributory social insurance coverage – contributing to employment informality⁴ – increased over time in the decade 2009-2018, and especially following the January 2011 uprising,

³ Effective social protection coverage at the national level is defined as the proportion of the population that has access to any form of social protection, including the receipt of benefits, whether based on contributory or non-contributory schemes and those actively contributing to social insurance schemes (ILO, 2017).

⁴ Informal employment is defined as the absence of both legal contracts and social insurance coverage (Wahba & Assaad, 2017).

highlighting a heightened sense of vulnerability among workers. Recent studies following the 2011 uprising concluded that the decrease in coverage was even observed in private sector formal firms (Roushdy & Selwaness, 2015, 2019). These studies were conducted using available data that were only 2 to 3 years apart from 2011. In this regard, The ELMPS 2018 represents an important opportunity to examine whether these trends continued.

As for the receipt of social protection benefits, and on the non-contributory schemes front, there have been important changes and reforms. In 2014, Egypt introduced *Takaful* (Solidarity) and *Karama* (Dignity), two conditional cash transfer (CCT) programs. Their objective was reducing poverty and vulnerability among the poorest households. *Takaful* targets poor households who have children under 18 years old, conditional on their schooling enrollment and health care follow-up. *Karama* provides cash income to disabled people and the poor elderly who are not able to work. To be able to target the right families and individuals, eligibility to participate is determined using a proxy means test (Breisinger, Gilligan, Karachiwalla, et al., 2018; Selwaness & Messkoub, 2019). Very few studies examined the coverage rates of these programs at the national level. To the best of our knowledge, only Breisinger, Gilligan, Karachiwalla, et al. (2018) studied the program satisfaction drawing on a sample of *Takaful* beneficiaries and its impact on consumption, education, and health outcomes. In addition, the latest report of World Social Protection (ILO, 2017) highlighted that Egypt was ranked second (37%) in terms of effective (as opposed to legal) coverage rates, after South Africa (48%). Around 37% of the Egyptian population were covered by at least one social protection scheme, whether by receiving contributory or non-contributory benefits,⁵ or by having at least one working family member who was actively contributing to the social insurance system. This paper examines in greater detail the various non-contributory tax-benefited social assistance schemes, including the new CCT programs, and their coverage rates at the national level. We also investigate the coverage rates of the contributory schemes, which are the retirement pensions.

Lastly, we examine the coverage rates and sources of health insurance. Reaching universal health coverage is interlinked with other social development goals like reducing poverty and achieving social justice. The third sustainable development goal is “ensuring healthy lives and promote wellbeing for all at all ages” (World Health Organization, 2018). One of this goal’s targets is to “achieve universal health coverage, including (...) access to quality essential health-care services (...) for all.” Egypt has a diverse health system with several providers, namely the government, the semi-governmental sector, and the private sector. The government providers are the Ministry of Health and Population, the Ministry of Higher Education, and the Ministry of Social Solidarity.⁶

⁵ Non-contributory benefits are tax-financed ones that aim to provide a minimum income, often known as social assistance pensions especially when they involve targeting. On the other hand, benefits based on contributory schemes are based on workers’ contributions/payments to a social insurance scheme, in order to guarantee consumption smoothing in retirement periods or in times of shocks (Kidd, 2016).

⁶ The Ministry of Health and Population (MOHP) is in charge of the creation and the implementation of the overall health policy and legislation in Egypt. In addition, it has the main network of services. The Ministry of Higher

The semi-governmental sector includes the health insurance organization (HIO), the curative care organization, and the Teaching Hospitals and Institutes Organization (Loffredo, 2003; Ministry of Health and Population (MOHP) [Egypt], El-Zanaty Associates, & ORC Macro, 2003). Both government and semi-governmental providers are state-run. Importantly, the HIO administers the social health insurance system. Service is provided through various providers to the insured and to the uninsured at differing costs (Ameta & El Shafie, 2015; Sieverding & Selwaness, 2012).

This paper is organized into seven sections. Following this introduction, section 2 introduces the ELMPS data used in the analysis. Section 3 investigates the pattern of social insurance at work and its evolution over time. The effective social protection coverage of households and the different sources of contributory and non-contributory benefits are examined in section 4, with a special focus on recipients of social assistance non-contributory pensions as well as *Takaful* and *Karama* beneficiaries. Section 5 examines the evolution of health insurance coverage along with the different types of insurance over time. Section 6 provides conclusions and policy implications.

2. Data sources

The paper is based on the cross-sectional data of the ELMPS waves in 1998, 2006, 2012, and 2018. The data has a wealth of information of current job characteristics, including social insurance coverage and the time to acquire it. It also includes information on the individual's job history and the different jobs' characteristics.⁷

For the analysis of social insurance coverage at work, we used data waves from 1998 to 2018 in order to compare the evolution of coverage rates over time and how access to coverage varies by different worker- and firm-level characteristics throughout the years. For the time it takes to acquire social insurance on the labor market, we used survival analysis and only relied on the retrospective data of the 2018 wave. It includes a detailed job history module that covers all the jobs an individual had, with specific questions on whether or not each job included social insurance coverage. For jobs providing social insurance coverage, the individual was also asked whether acquiring such coverage happened at the start of the job or took some time. The waiting period was reported in months and years. In our analysis of social insurance coverage, we focus on workers aged 18 to 59 years, as this is the age bracket where individuals are legally eligible to enroll in the social insurance scheme. There is a minimum age of 18 years old and the mandatory retirement age is set at 60 years old.⁸

Education regulates the medical schools and the university hospitals. As for the Ministry of Social Solidarity, it supervises the NGOs that offer health services, with the MOHP ensuring the adherence of their delivered services to technical standards (Loffredo, 2003; Ministry of Health and Population (MOHP) [Egypt], El-Zanaty Associates, & ORC Macro, 2003)

⁷ See Krafft, Assaad, & Rahman (2019) for more details on ELMPS 2018. Data are publicly available from www.erfdataportal.com

⁸ Public sector workers are eligible to enroll by age 16 years old, and non-wage workers are legally entitled to retirement by age 65. Yet, we checked coverage rates for workers aged 15-64 years and found similar patterns as our chosen sample of 18-59. Therefore, we opt to use the latter for two reasons. First, we are particularly interested in the

Second, for the analysis of social protection benefit receipt, we used the 2006, 2012, and 2018 waves as they had quite comparable questions on non-labor income sources. The 2006 and 2012 waves had information on whether the household received – during the last year – *Sadat* or *Mubarak* pensions, other types of social assistance from the Ministry of Social Solidarity (MoSS), retirement pensions, cash transfers from faith-based organizations, or cash benefits from any other sources of income such as interests or profits on financial investments, or rents from buildings, lands, etc. The 2018 wave provided information on whether the household received –during the last year – *Takaful* pensions, *Karama* pensions, other social assistance pensions, retirement pensions, cash transfers from faith-based organizations, cash benefits from any other sources of income such as interests or profits on financial investments, or rents from buildings, lands, etc., or any other type of financial assistance.⁹ The 2018 wave also included information on whether households had smart food-ration cards. We examine the percentage of households covered with at least one type of these various benefits. Furthermore, we also investigate in depth *Takaful* and/or *Karama* receipt in terms of beneficiary characteristics at the household and individual level.

Third, in our analysis of health insurance, we used the 2012 and 2018 waves that have comparable questions on the coverage and the different types of health insurance for individuals aged 15 and above (2012) or those aged 6 years and above (2018).

3. The evolution of social insurance coverage at work

In this section, we explore the patterns of actively contributing to social insurance schemes by different types of work, and how the social insurance coverage gap evolved over time. Then, we examine the coverage gap at different wage levels for public and private sector workers, separately. Finally, we focus on private wage work to further analyze coverage patterns by different job and worker-level characteristics.

3.1.1. Coverage gap by type of employment

Exploring the patterns of access to social insurance by type of employment reveals that the percentage of workers covered with social insurance (the incidence of social insurance coverage) has substantially declined over time in all types of work. In 2018, coverage reached around 30% of overall employment for men and 43% for women (Figure 1). This was the lowest coverage rate over this twenty-year period among male workers, decreasing from 50% in 1998, to 43% in 2006 and 39% in 2012. As for female workers, coverage in 2018 was almost at same level as it was in 2006 (41%), down from 61% in 1998.¹⁰

dynamics of social insurance coverage in the private wage sector, being the biggest employer along with the public sector, where enrollment is far from universal. Second, the public sector mostly hires university graduates, and because university education is usually accomplished by the age of 21, any new hire in the public sector will likely be older than 18 years old.

⁹ No information available on the nature of this “other type of assistance.”

¹⁰ Note that the increase in coverage rates among female workers in 2012 relative to 2006, reaching 54%, was probably an artifact of a selection effect. There has been a sharp decline in female labor force participation between 2006 and 2012, which led the good jobs to be over-represented (Roushdy & Selwaness, 2015).

Among men, the most vulnerable type of wage work in terms of access to social insurance was private sector wage work outside of a fixed establishment, where only 6% of wage workers were covered in 2018, down from around 9-11% during 1998-2012. This is alarming since the share of private sector wage work outside of a fixed establishment in overall employment increased substantially in 2018 (see Appendix Figure 1), reaching almost a third of male employment (31%), representing by the far the largest type of employment, for men.¹¹ The second largest type of work in relative terms (28%) (Appendix Figure 1), that is private sector wage work inside an establishment, provided social insurance for 29% of workers in 2018 (Figure 1). However, the percentage of inside of establishment private sector wage workers who have social insurance declined by 8 percentage points (p.p.) since 2012 (37%), after rising with 3 p.p. since 1998 (34%). As for women, those who were employed in private sector wage work inside of establishments also experienced a decline in their coverage rates, but to a lesser extent than men (around 6 p.p. from 38% in 2012 to 31% in 2018). Around 21% of working women were employed in this type of work (Appendix Figure 1).

As for men engaged in non-wage work¹² who represented around 19% of overall employment in 2018, unpaid family workers were the least likely to be socially insured (2% in 2018, compared to 2-4% between 1998 and 2012), followed by the self-employed (9% in 2018, compared to 13% in 2012 and 23-28% during 1998-2006), then employers (17% in 2018 and 2012, compared to 23% in 2006 and 35% in 1998). For women, the situation is even worse given that almost a third of working women (31%) were concentrated in non-wage market work in 2018. There is also an important gender gap in terms of social insurance coverage among non-wage workers. Only 10% of female employers were covered in 2018, as compared to an average of 17% among men. Moreover, coverage among self-employed women was barely at 1% in 2018, down from 3-4% in earlier years, and compared to 9% for men.

Finally, what is quite surprising is that there also exists a widening coverage gap in the public sector. The percentage of male workers covered in the public sector declined substantially from 93-96% in 2006 and 2012 to 81% in 2018. The same drop was also observed for women, where the percentage of female workers covered in the public sector declined to 83%, down from 92-93% in 2006 and 2012.

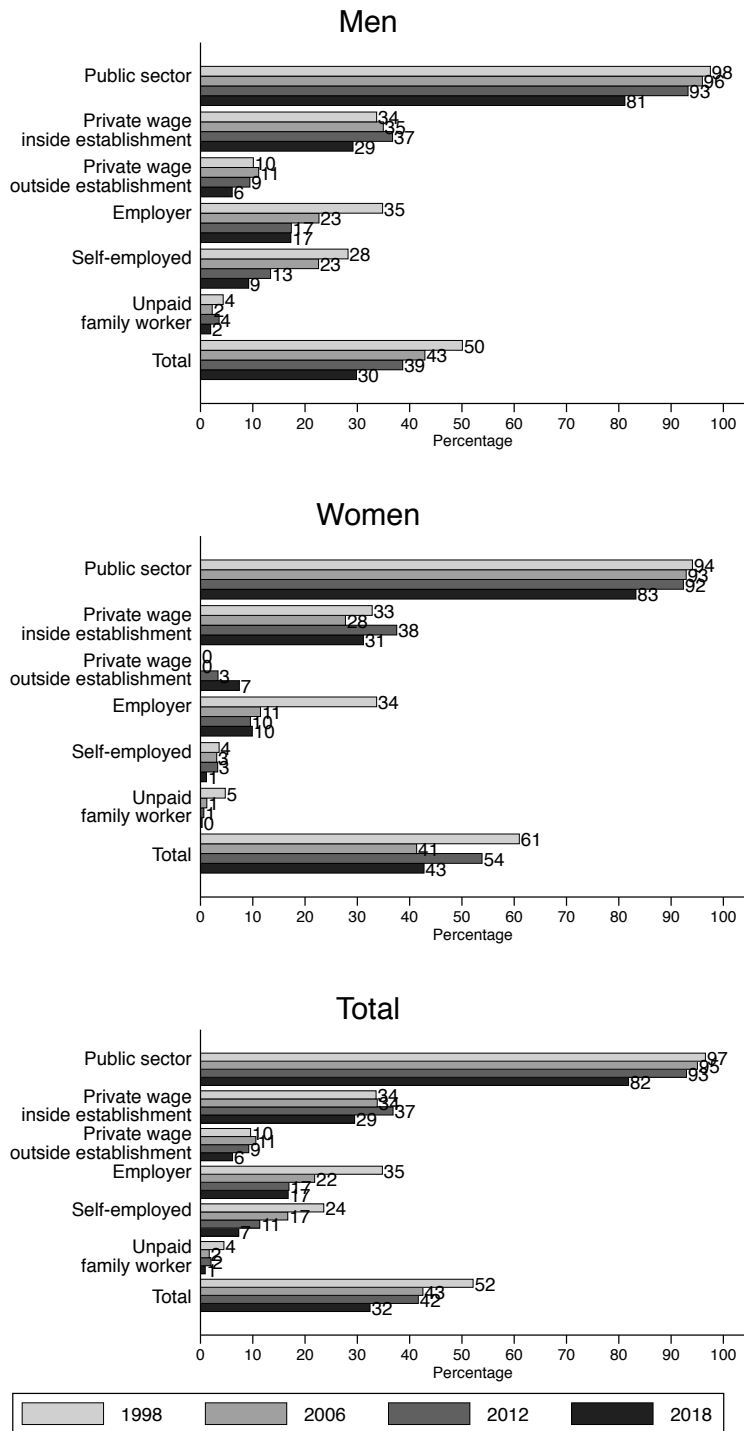
The employment composition by institutional sector and coverage status provides an overview of the relative size of socially uncovered work in the Egyptian labor market, as shown in Appendix Figure 2. The widening coverage gap was primarily associated with the shrinking role of the public sector in employment. There was an important rise in the share of uncovered private sector wage

¹¹ See Assaad, AlSharawy and Salemi (2019) for further discussion of the evolution of different types of employment in the Egyptian labor market.

¹² This paper examines market work only, excluding subsistence work.

work outside of establishments (29% of male employment in 2018 as compared to 22% in 2012 and 15-16% in 1998 and 2006). The share of uncovered private sector wage work inside of establishments has also increased to reach 20% of male employment in 2018, up from 13-16% during 1998 and 2012. The share of covered private sector wage work has been almost stalling over time (10% in 2018, as compared to 8-12% during 1998-2012). As for women, the largest employer remained the public sector, representing around 43% of working women, followed by non-wage work, which is almost uncovered (31% of working women). Over time, women became more likely to engage in private sector wage work (26% in 2018, relative to 17% in 2012), yet they were more concentrated in jobs lacking social insurance coverage in the private sector, whether inside establishments (14% of working women in 2018, relative to 9% in 2012) or outside establishments (5% in 2018, relative to 3% in 2012).

Figure 1. The percentage of workers with social insurance by institutional sector, sex, and wave, employed individuals aged 18-59.



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

3.1.2. Coverage gap by wage level

With the coverage gap having risen in both private and public sector wage work, it is important to examine how coverage is associated with wage levels. The patterns of social insurance coverage by monthly wage quintiles for the public sector and the private sector, separately, reveal that the lowest paid are generally the most vulnerable workers in terms of coverage. Yet, the coverage gap has been widening for all wage quintiles.

In the private sector,¹³ the incidence of social insurance coverage is positively associated with the monthly wage level (Figure 2). Male wage workers in the bottom 20% of the wage distribution, i.e. whose monthly wage earnings were in the lowest quintile, had the lowest proportion of covered workers (6-12% during 1998 to 2018) whereas those whose monthly wage earnings were situated in the fifth quintile had the highest incidence of social insurance coverage over time (26-53% during 1998 to 2018). This is consistent with the fact that the working poor might not be able to afford contributing to social insurance and have high discount rates (Palacios & Robalino, 2009). The high discount rates are also reflected in the consistent preference among unemployed individuals for a higher minimum pay to accept a formal job (a job that is subject to taxation and social insurance contributions) than the minimum pay for an informal job (Barsoum & Abdallah, 2019).

Figure 2 also shows that over the twenty-year period, social insurance coverage among male workers in the private sector declined differently by wage quintile. Workers in the lowest wage quintiles had almost stalling coverage rates (5-7%) between 1998 and 2006, which slightly increased in 2012 (12%), before declining again in 2018 (6%). The same pattern was observed for those in the second wage quintile with slightly higher coverage rates (12-16%). Those in the third wage quintile were fluctuating between 18% and 22%. Coverage among fourth and fifth wage quintiles exhibited an inverted U shape. Between 1998 and 2006, the percentage covered increased from 24% to 30% of workers in the fourth wage quintile and from 43% to 53% of those in the fifth wage quintile. Then, it has sharply fallen since 2012, to reach 19% for the fourth wage quintile and 26% for the fifth wage quintile. What is remarkable is that the decline was more accentuated for the higher wage quintiles. The incidence of social insurance, while quite low as compared to its earlier levels, is still highest among workers in the fifth wage quintile (26%).

As for women, coverage also experienced some sharp declines between 1998 and 2018, from 31% to 26% among those in the second wage quintile, from 24% to 14% among those in the fourth wage quintile, and from 58% to 40% among those in the fifth wage quintile. The percentage of workers covered in the lowest wage quintile remained almost stable at 9-11% over time. On the other hand, and unlike the general pattern, female workers in the third wage quintile experienced an increase in coverage rates from 30% to 64% between 1998 and 2018.

¹³ Wage earnings are only available for wage workers. Therefore, the private sector here is private sector wage work.

Such low coverage rates across all wage quintiles in 2018 can be partly explained by an expansion of bad-quality jobs, especially outside of establishment work, which could be more prevalent for the lower paid workers. Another explanation for the sharp decline in the coverage rates among workers in higher wage quintiles could be related to how replacement ratios are inversely related to earning level as discussed in Whitehouse (2006).¹⁴ This could probably lead some high-earners to avoid contribution since their future pensions would not be worth it.¹⁵

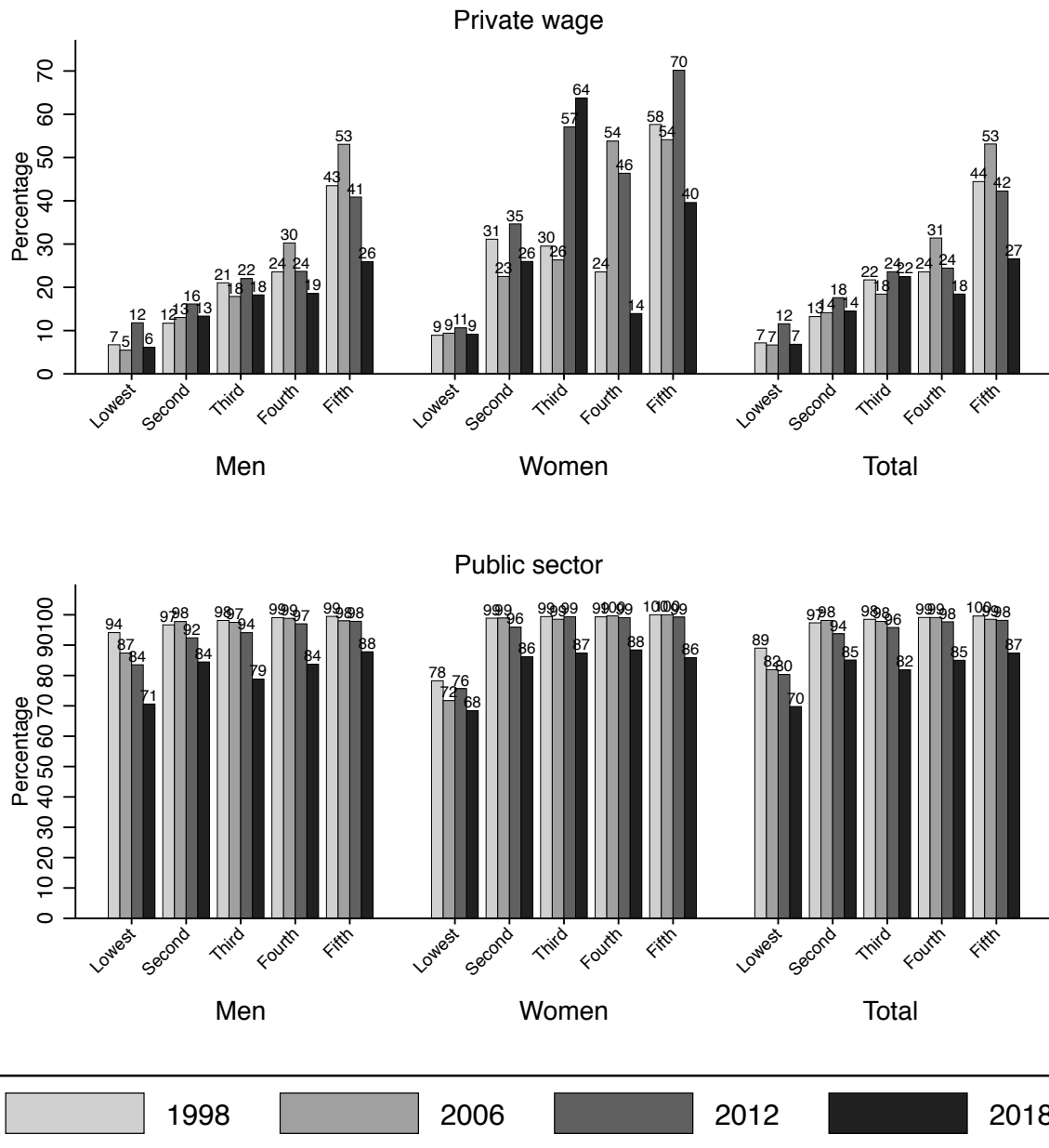
Among public sector male workers, the coverage gap was almost nonexistent with quite high and comparable coverage rates (92-99%) across wage quintiles in 1998 and 2012. This is with the exception of the lowest wage quintile, where coverage rates dropped substantially, by 10 p.p., from 94% in 1998 to 84% in 2006, representing by far the largest coverage gap across all wage quintiles in the public sector. In 2018, all wage quintiles were also affected by important drops in their social insurance coverage rates, by 8 p.p. (second), 15 p.p. (third), 13 p.p. (fourth), and 10 p.p. (fifth). At the same time, workers in the first wage quintile witnessed a continuing decline (13 p.p.) in their coverage, and still represented the least likely group of workers to be covered (71%). We see a similar pattern as that in the private sector, where the highest incidence of coverage was among workers in the fifth wage quintile (88%).

Women employed in the public sector followed the same pattern in terms of the evolution of social insurance coverage, where those in the lowest wage quintile were the least likely to be covered between 1998 and 2012 (72-78%), before reaching as low as 68% in 2018. Coverage rates in higher wage quintiles were quite similar between 1998 and 2012 (96%-100%), then dropped to 86-88% in 2018

¹⁴ Replacement ratios are the ratio of retirement pension entitlements to the lifetime average earning level.

¹⁵ This is an area for future research and investigation.

Figure 2. The percentage of workers with social insurance by institutional sector, sex, and wave, wage workers aged 18-59



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

3.1.3. Coverage gap in private sector wage work

Uncovered private sector wage work, both inside and outside of establishments, has been expanding to constitute 49% of male work, 19% of female work, and 43% of total employment in 2018 (Appendix Figure 2). Thus, an important share of the Egyptian workforce, predominantly men, is engaged in these types of jobs. It is therefore necessary to examine who is more prone to work without social insurance in the private wage sector for men and women, separately. To answer this question, we show how having social insurance coverage is associated with firm size, economic activity, and individual characteristics such as age, education, and marital status.^{16,17}

In terms of firm size, we defined micro firms as those with 1 to 4 workers and small firms as those with 5 to 24 workers. We considered firms with 25 to 99 workers as medium sized, and those with 100+ workers (or don't know) as large. Moreover, we added a separate category for those who work outside of a fixed establishment. Before exploring the patterns of social insurance coverage in each of these firm size categories, it is critical to understand the distribution of wage employment in the private sector across these different categories and how it evolved over time. As expected, outside of establishment work contributed the most to the growth of employment in the private sector, among men. It represented around 71% of employment growth between 2012 and 2018, with an average growth rate of 6% per annum (p.a.). Outside establishment's share in total private sector wage work rose from 52% in 2012 to 57% in 2018. Small firms represented the second largest contributor to employment growth in the private sector, constituting 19% of job creation between 2012 and 2018 in this sector. They also experienced the fastest employment growth rate, reaching 8% p.a. The share of private sector wage workers in small firms rose slightly from 12% of private sector male wage employment in 2012 to 14% in 2018. The other firm size categories had below average annual growth rates¹⁸ and thus witnessed a decline in their shares. For instance, the share of private sector wage employment in micro firms has decreased from 16% in 2012 to 12% in 2018. Moreover, by 2018, around 12% of private sector employment was located in large firms, shrinking from 15% in 2012; and around 5-6% of employment was situated in medium firms. The contribution of micro, medium and large firms to job growth between 2012 and 2018 was quite limited, averaging 2-4% of total employment growth in the private wage sector.

Moving to the incidence of social insurance coverage for each firm size category, Figure 3 shows that it was positively associated with firm size/work inside establishment. Moreover, the pattern of declining coverage rates over time was cross-cutting for all firm size categories. Male workers outside of establishments or in micro firms were, on average, the least likely to be socially insured over the twenty-year period. The coverage rates in outside of establishments jobs ranged between

¹⁶ The analysis of this section is based on Appendix Table 1 that shows the proportion of workers covered, by different work and individual characteristics and the corresponding cell sizes.

¹⁷ When tabulating social insurance by the different work and individuals' characteristics, women's sample sizes were quite small in 1998. This is why we carry out the analysis of this section for women for only 2006, 2012, and 2018.

¹⁸ The annual employment growth rate in the private sector wage work was around 5% p.a. during 2012-2018. See Assaad, AlSharawy, & Salemi (2019) for further discussion of the evolution of employment structure by firm size.

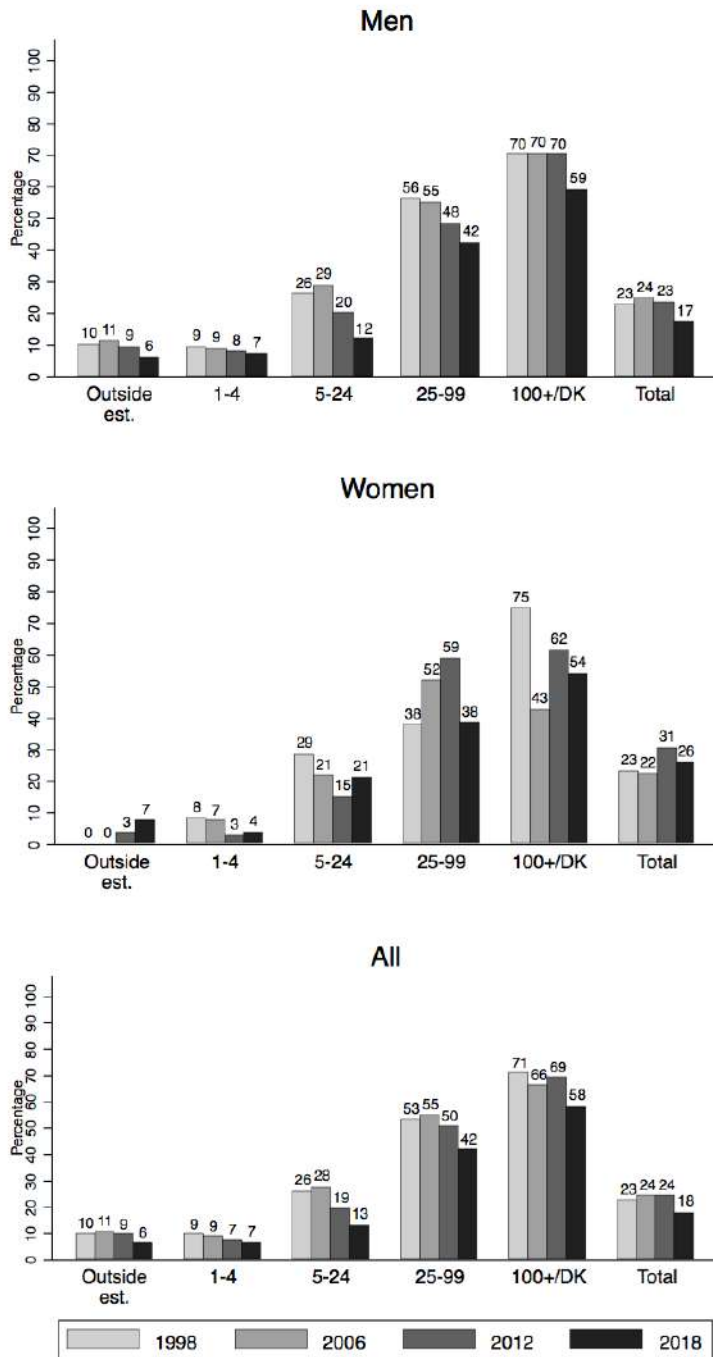
10% in 1998 and 11% in 2006, declining by 1 p.p. in 2012 (9%) and a further 3 p.p. in 2018 (6%). Coverage rates in micro firms were quite comparable to that in outside of establishments. They had a steady decline of 1 p.p. over the different sub-periods, to reach 7% in 2018, down from 8% in 2012, and 9% in both 1998 and 2006. Although small firms' male workers had better coverage rates than those in micro firms or those outside of establishments, they experienced an important decline of 9 p.p. between 2006 (29%) and 2012 (20%), that also continued in 2018 (12%). Therefore, the widening in the coverage gap witnessed between 2012 and 2018 in private sector wage employment was primarily due to the rapid employment growth, in 2018, in outside of establishment jobs where 94% of workers lacked social insurance, and in small firms with 5-24 workers, where 88% of workers lacked social insurance. As for medium firms, slightly more than half of workers were covered in 1998 (56%) and 2006 (55%). In 2012 this proportion of covered workers decreased by 7 p.p. (48%), and a further 6 p.p. (42%) in 2018. While it is true that large firms' male workers remained the most likely to be covered, as compared to other firm size categories, their coverage rates substantially declined from around 70% in 1998, 2006 and 2012, to 59% in 2018 (a 11 p.p. decline).

As for women in the private sector, although, on average, they became less likely to be socially insured in 2018 (26%) than in 2012 (31%), unlike men, the decline in social insurance coverage rates was not cross-cutting for all firm size categories. Around 28% of women employed in the private waged sector were engaged in outside of establishment jobs in 2018, up from 20% in 2012. Similar to men, the biggest and fastest contributor to women's employment growth in the private sector was work that is outside of establishment and in small firms. The former made up 41% of employment growth for women during the period 2012 and 2018, with an annual employment growth rate of 13%. This was followed by small firms which, in 2018, were responsible for 31% of wage employment growth in the private sector, representing almost 23% of women's employment in this sector. At the same time, and as shown in Figure 3, female workers in these firm size categories became more likely to be socially insured in 2018. The percentage of female workers outside of establishments who were covered grew from 0% in 2006, to 3% in 2012 and 7% in 2018. Coverage rates were higher in small firms than in outside of establishment work, although far from universal. The proportion of women covered in small firms declined between 2006 (20%) and 2012 (15%) but reversed in 2018 to reach the same level as 2006. This could be good news for the dynamics of women's employment and its quality, if policies to promote small firms' expansion, and to alleviate their tax burden, were adopted.

Similarly to men, those who worked in both medium (25-99 workers) and large (100+/DK) firms were overall much more likely to be socially insured than their peers in smaller firms or outside of establishments. Yet, the coverage gap in these firms became larger between 2012 and 2018, as coverage dropped from 59% to 38% in medium firms and from 62% to 54% in large firms. It is important to note that the share of women's private sector employment in medium firms shrank by 7 p.p., from 16% in 2012 to 9% in 2018. Similarly, large firms represented 20% of private

sector female wage employment in 2018, down from 24% in 2012. So, although coverage rates increased among the growing forms of employment for women, namely small firms and outside of establishment jobs, such an increase was not high enough to counteract sharp declines in coverage rates in medium and large firms, thus resulting in an overall widening of the coverage gap among women.

Figure 3. The percentage of workers with social insurance by firm size, sex, and wave, private sector wage workers aged 18-59



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

Therefore, in private sector wage employment, there was evidence of a partial “re-emergence of the missing middle,” as reflected in the expansion of employment in small firms. This is line with recent research that used Egyptian establishment censuses and showed this phenomenon between 2007 and 2016 (Assaad, Krafft, Rahman, & Selwaness, 2019). This was coupled with the increased prevalence of outside of establishment jobs. For men, the coverage gap worsened substantially among those two firm size categories, as well as other firm size categories. For women, although the coverage gap decreased among these two specific categories, it was outweighed by an important drop in coverage rates in the other firm size categories.¹⁹

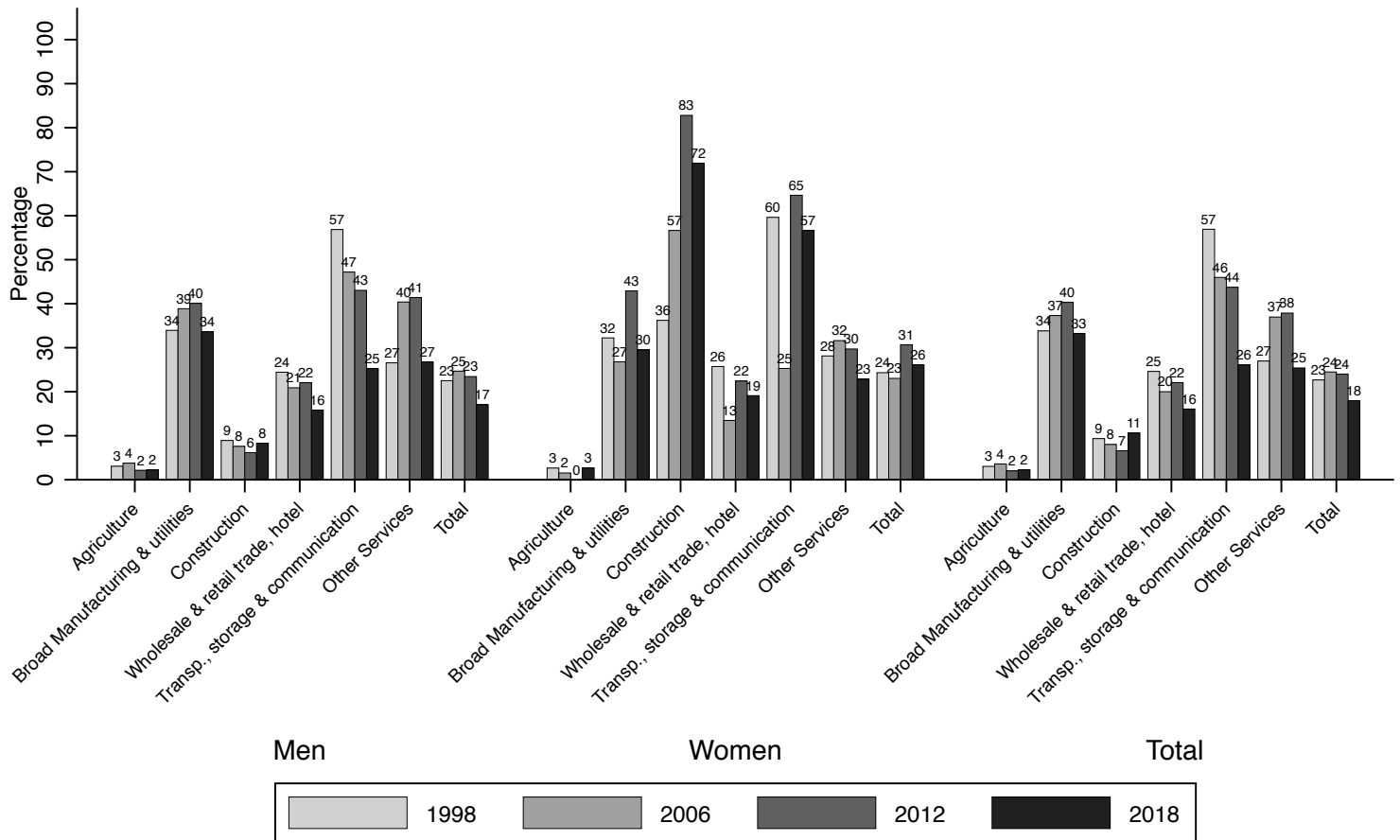
We now turn to coverage rates by economic activity (ISIC 1-digit level),²⁰ shown in Figure 4. For men, broad manufacturing and utilities was the sector that provided social insurance coverage the most (34% in 2018, down from 40% in 2012 and 34% in 2006 and 39% in 1998). Transportation, storage and communications, as well as the “other services” sectors both had around a quarter of their workers covered in 2018, yet they had the fastest decline in coverage rates since 2012 (18 p.p. transportation and 15 p.p. “other services”). As expected and due to the fact that the majority of their jobs were outside of establishments, agriculture (2% in 2018) and construction (8% in 2018) maintained the lowest coverage rates over time. For women, the two sectors with the highest coverage rates were broad manufacturing and utilities (30% in 2018), as well the “other services” (23% in 2018). It is worth noting that the latter sector, including education, and human health and social work activities, usually recruited the highest share of women.²¹ Both sectors had some of largest declines in terms of social insurance coverage since 2012, with a 13 p.p. decline for the broad manufacturing sector, and a 7 p.p. decline for the “other services” sector.

¹⁹ See Appendix Table 1 for more information on the coverage rates in different firm size categories.

²⁰ In order to ensure adequate cell sizes, we grouped the economic activity sectors, based on the International Standard Industrial Classification (ISIC) at the 1-digit level, in six categories. The first was agriculture, forestry and fishing; the second was broad manufacturing and utilities which include manufacturing, mining and quarrying, electricity and gas, steam and air conditioning supply, and water supply, sewage and waste management. Construction is the third category. Wholesale & retail trade, repair of motor vehicles and motorcycles were combined with accommodation and food service activities to form the fourth category. The fifth category was composed of transportation and storage, and information and communication. Finally, “other services” was the sixth category, and includes the rest of economic activities such as financial and insurance activities, real estate activities, professional, scientific and technical activities, administrative and support service activities, education, human health and social work activities, arts, entertainment and recreation, etc.

²¹ For further details on the evolution of the employment structure in the Egyptian labor market, see Assaad, AlSharawy, & Salemi (2019) and recent research on the Egyptian labor market (Assaad, Krafft and Yassin 2018, Assaad, Krafft, Rahman and Selwaness, 2019).

Figure 4. The percentage of workers with social insurance by economic activity, sex, and wave, private sector wage workers aged 18-59

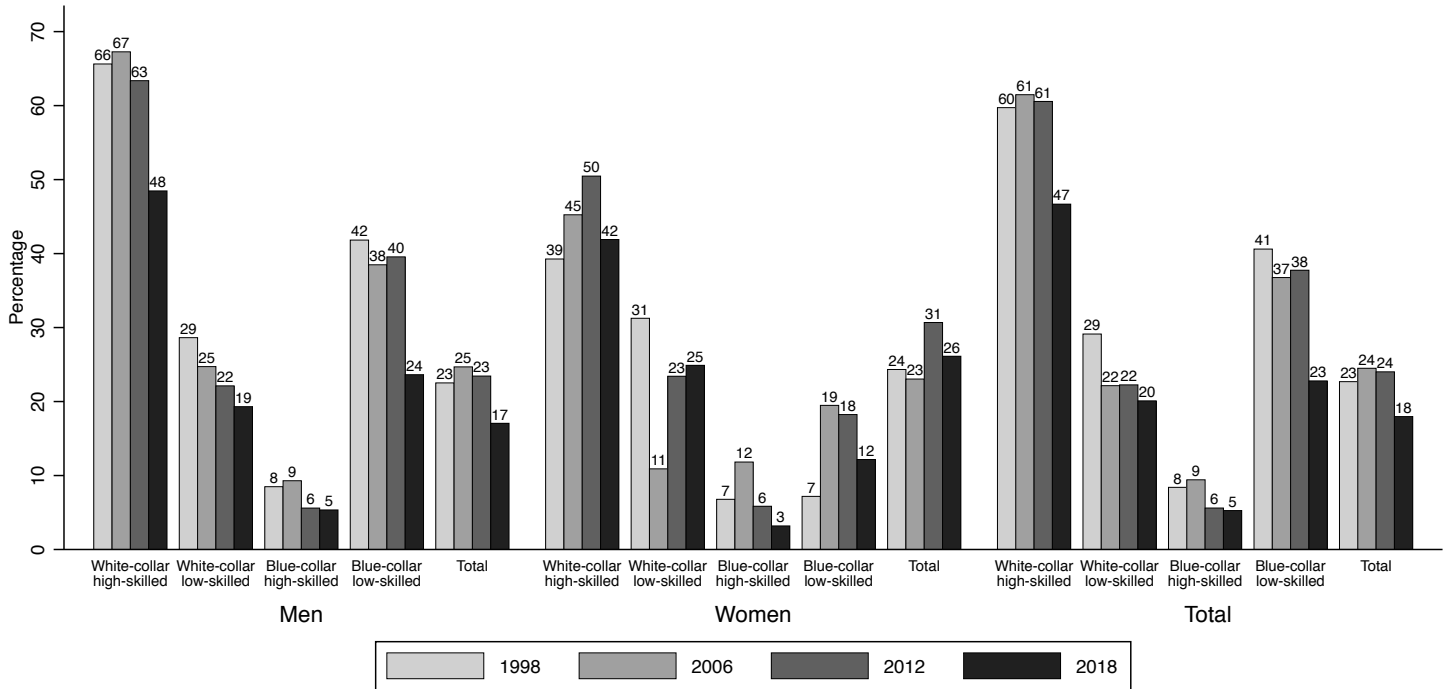


Source: Authors' calculations based on data from ELMPS 1998, 2006, 2012, and 2018.

As for occupation (Figure 5),²² among male private sector workers, the white-collar high-skilled were the most likely to have social insurance coverage in their jobs (48% in 2018), followed by blue-collar low-skilled (23% in 2018). The blue-collar high-skilled group had the lowest coverage rates (5% in 2018), because by definition of their occupations, they were likely working in outside of establishment jobs; followed by the white-collar low-skilled (19%). These rankings in coverage rates were the same over time, yet between 2012 and 2018, coverage rates declined the most for workers in blue-collar low skilled (16 p.p.), and white-collar high skilled (15 p.p.) occupations.

²² We grouped the 9 occupations based on the ISCO 88 1-digit level in four categories where the first three occupations: Managers, professionals, and technicians and associate professionals constituted the white collar high skilled; Clerks and service and sale workers represented the white collar low-skilled category. The blue-collar high-skilled category is composed of skilled agricultural, forestry and fishery workers, and craft and trade workers. Finally, the fourth category, which is the blue-collar low skilled, includes plant and machine operators as well as those engaged in elementary occupations.

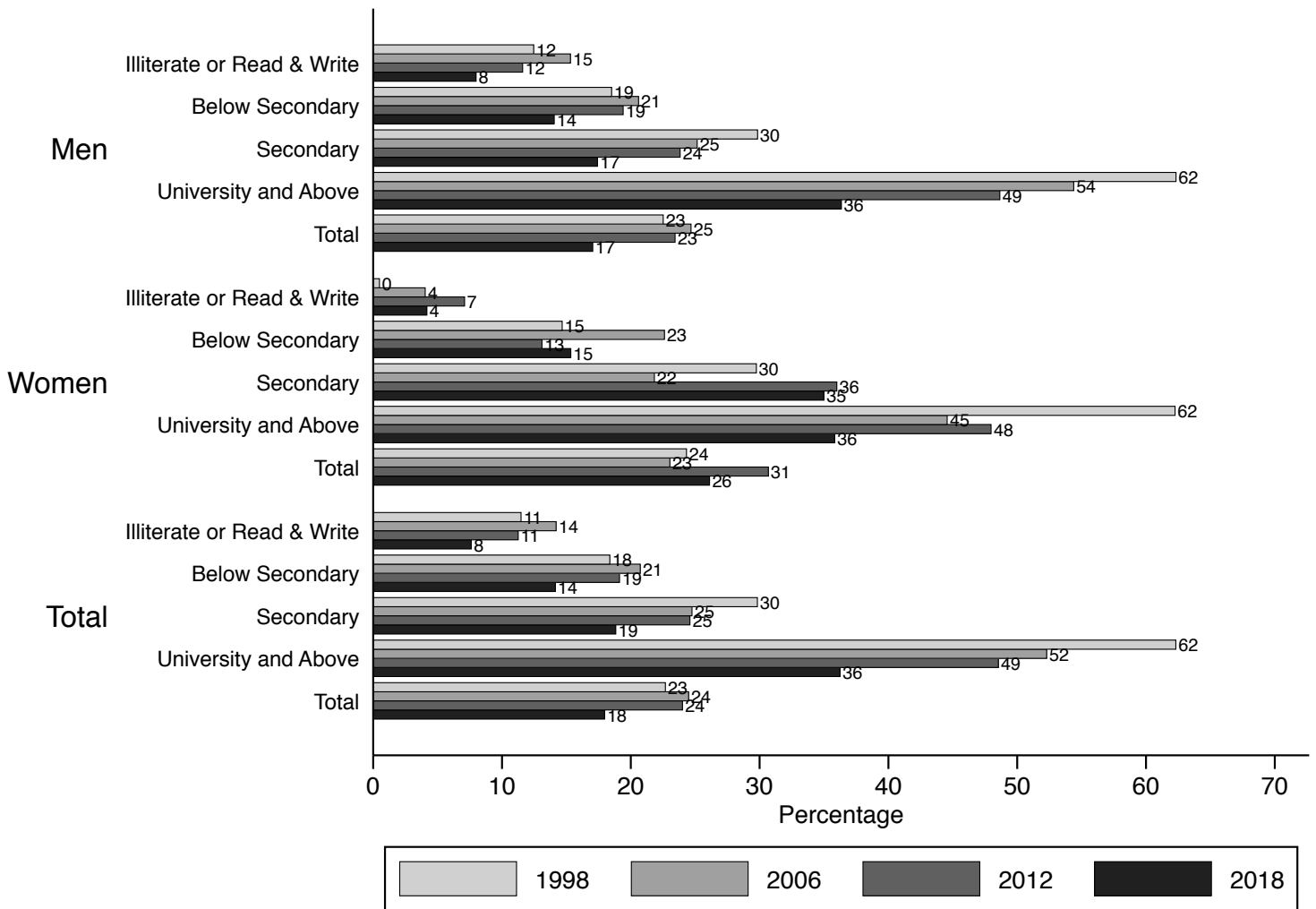
Figure 5. The percentage of workers with social insurance by occupation, sex, and wave private sector wage workers aged 18-59



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

The coverage gap also varies by individual characteristics. According to Figure 6, there is a strong and positive association between coverage and education level where those with university education were the most likely to be socially insured in their jobs for both men and women (36% in 2018). Over time, all education levels also suffered from a widening coverage gap. The largest decline in coverage rates was among workers with university education (a 12 p.p. decline for both men and women over the period 2012-2018). For men, the second largest decline was among workers with secondary education (7 p.p.), while for women, it was among those with no education (3 p.p.).

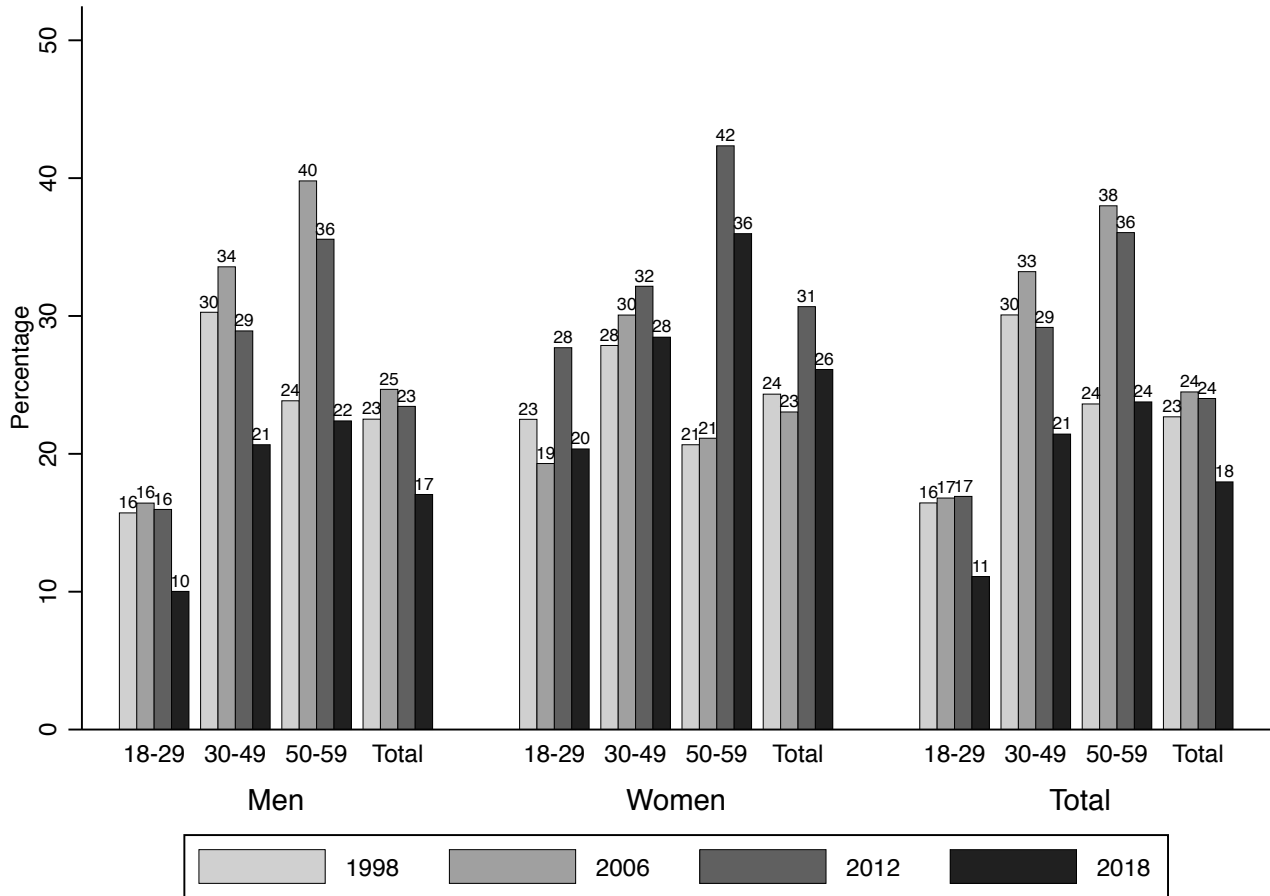
Figure 6. The percentage of workers with social insurance by education level, sex, and wave private sector wage workers aged 18-59



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

Finally, we see that, among men in private sector wage employment, social insurance coverage was positively associated with age (Figure 7). Young workers (18-29) were the least likely to be socially insured (16% between 1998 and 2012) and experienced a 6 p.p. decline in 2018 to reach coverage of 10%. Coverage rates for prime age workers (30-49) and older workers (50-59) were higher than their younger peers, reaching 21-22% in 2018. They were both hit by sharp declines in their coverage rates between 2012 and 2018, amounting 13 p.p. among older workers and 8 p.p. among prime age workers. The same pattern of also holds for women, but the coverage gap increased the most for young workers (18-29).

Figure 7. The percentage of workers with social insurance by age groups, sex, and wave, private sector wage workers aged 18-59



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

3.1.4. Dynamics of access to coverage

In this section, we explore how the patterns of acquiring social insurance coverage, whether in the same job or moving to other types of jobs, evolved with each year of work. We also examine whether time to social insurance varied according to the type and firm characteristics of the first job (ever held). To answer this, we use survival analysis to calculate the proportion of workers covered by years of work since first job (Kaplan-Meier failure curves), excluding spells of non-employment between jobs (if the individual experienced any).²³ Not only were new entrants

²³ The duration to acquire social insurance coverage on the labor market is computed as the number of years an individual had to wait before acquiring it, even if he/she moved between jobs. If he/she never had social insurance in any of his/her jobs, then our duration variable is censored (this includes those who left the labor force and never had social insurance, whose variable is censored at the year they moved to inactivity). If he/she got social insurance before going out of the labor force, the variable has a value (which is the numbers of years it took him/her to get social insurance). If he/she experienced episodes of non-employment, whether unemployment and inactivity, and is still working till the survey year, we only count the years of work till acquiring social insurance coverage, if ever.

increasingly engaged in informal jobs in the recent years (Amer & Atallah, 2019) or in uncovered wage work as shown in Appendix Figure 3,²⁴ but the duration to gain social insurance with time spent working became longer for specific types of first jobs, indicating a sort of an informality trap.

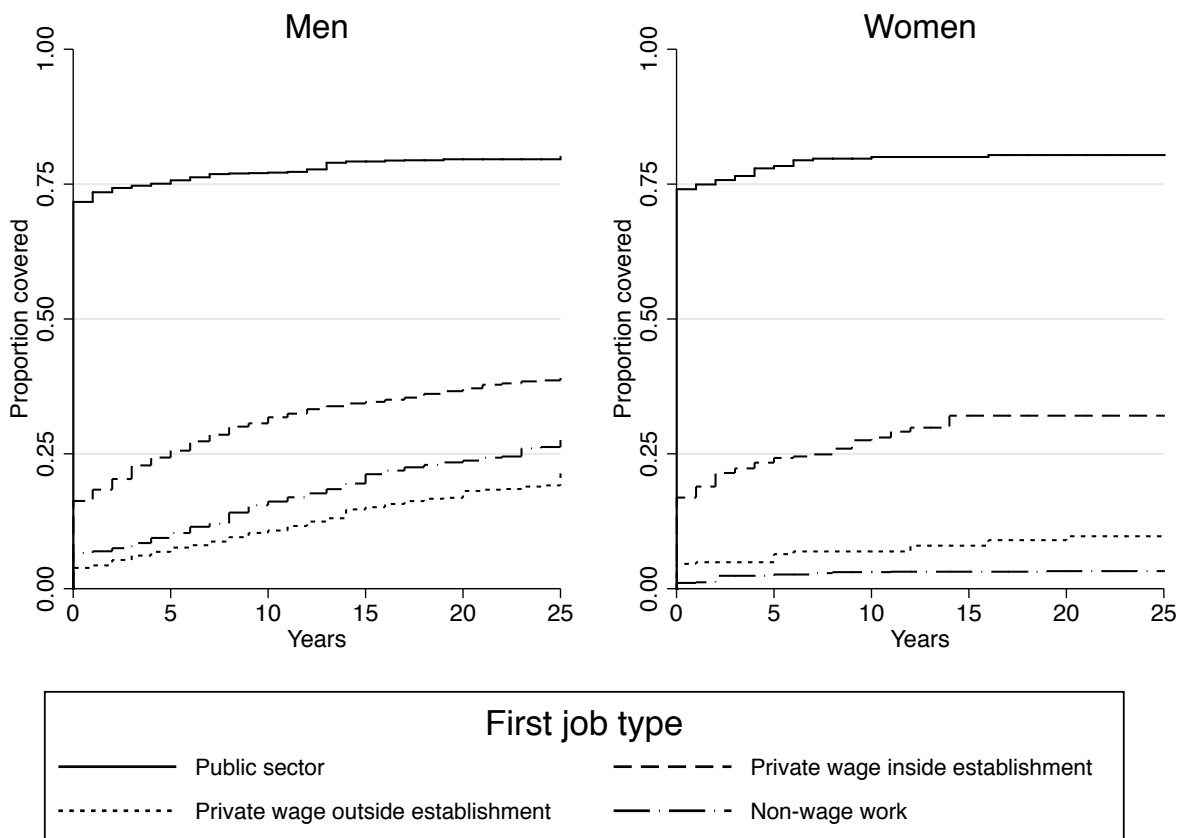
Figure 8 shows the proportion of workers who acquired social insurance coverage with each year of work, distinguishing between the different types of first jobs (public sector, private sector wage work inside of a fixed establishment, private sector regular wage work outside of a fixed establishment, and non-wage work including employers, self-employed, and unpaid family workers). Entrants starting in the public sector were the most likely to acquire social insurance coverage immediately upon getting hired (71% of men and 74% of women). Only 16% of male and 17% of female workers who started as a wage worker inside of a fixed establishment in the private sector got social insurance coverage upon hire. They also had somehow increasing chances of acquiring social insurance coverage on the labor market over time, whether remaining at this same type of first job or by moving to other jobs. For instance, among men who started in fixed establishments, the proportion covered increased to 26% after five years and 32% after 10 years (24% after five years and 28% after 10 years for women). In 20 years of employment, workers who started in inside of establishment private sector wage work reached coverage rates of 41% for men and 32% for women. As for men whose first job was in private sector wage work outside of a fixed establishment, they were four times less likely to get covered immediately upon hire (4%), compared to their peers who initially engaged in inside of establishment private sector wage work. The proportion of wage workers who started outside of establishment who were covered more than doubled in 10 years of employment (around 11%). Yet their chances of coverage over time remain the lowest and did not even exceed 18% in 20 years of work. This indicates that the coverage gap is likely to be persistent over time for those whose first jobs were outside of establishment private sector wage work.

Male new entrants in non-wage market work not only were slightly more likely to be covered upon starting their first job (17%) than those who started in outside of establishment private sector wage work, but they also gained faster access to coverage. Among those whose first job was in non-wage market work, the proportion covered was 16% in 10 years and 24% in 20 years of work.

Thus, the most disadvantaged group of workers in terms of social insurance coverage were those who started as private sector wage workers outside of establishments, followed by those starting in non-wage work. Furthermore, even the new entrants who started in private sector wage work inside of establishments, while they face higher coverage rates at the start of their jobs and might have shorter time till coverage, have coverage rates that were far from being universal.

²⁴ To save space, we opted to move this figure, showing the structure of first waged jobs over time, into appendix.

Figure 8. Proportion of workers with social insurance by years since the start of first job, by the type of first job in the labor market and by sex, ages 15-64, 2018



Source: Authors' calculations based on data from ELMPS 2018.
 Notes: Kaplan-Meier failures curves

We examine those whose first job was in wage work in greater detail, in order to assess how the characteristics of the first job firm, in terms of formality status and size categories, were associated with the dynamics of access to social insurance coverage. On the left panel of Figure 9, we show the proportion covered, among men, by formality status of the first job firm combined with the type of this first job, distinguishing between starting inside of establishment in informal private sector firms, outside of establishment in informal private sector firms, private sector wage work in formal firms (whether inside or outside), and public sector work. For the formality status of the firm, we define formal firms as those with at least one worker who is formally hired, and informal firms as those with no formal workers.²⁵ As for the right panel, we show the proportion covered

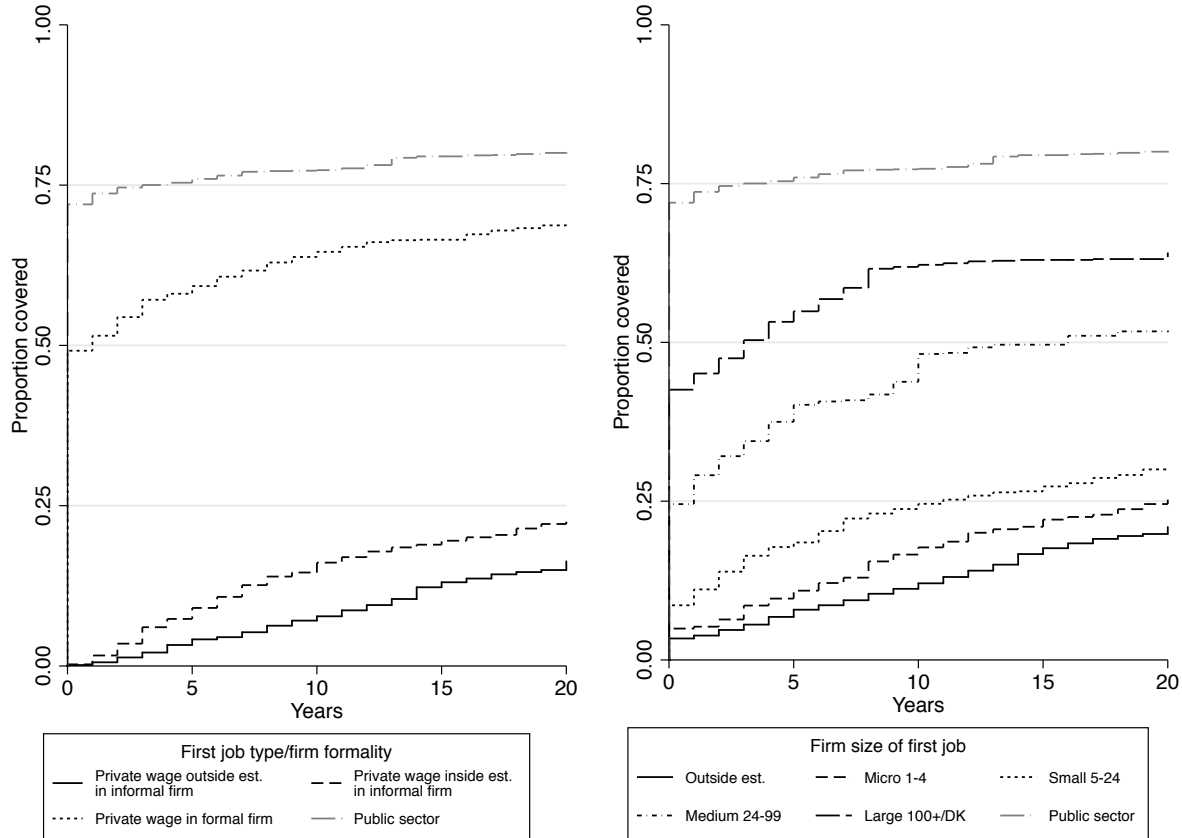
²⁵ The data has information on whether other workers were covered or had legal contracts, in case the individual does not have any of them. Thus, we compute this variable considering the firm as formal if the individual holds a contract and/or is covered (i.e. formally hired), or if he/she reported that other workers have contracts or are covered in case he/she is informally hired. The firm is considered informal if the individual is informal and if he/she reported that the other workers were informal too.

among male workers by size categories of the first job firm (outside of establishment, micro, small/medium, large, or public sector establishment).

Around 49% of male workers who started their first jobs in private sector formal firms were covered at the start of their jobs with a median duration of one year till acquiring coverage. The proportion covered among this group of workers starting in formal firms reached 65% after 10 years of work. On the other hand (and by definition), all those men who started in informal private sector firms, whether outside or inside of establishments, were uncovered at the start of their jobs. In 10 years of employment, their proportion covered reached 16% (for those starting inside of establishments) and 8% (for those starting outside of establishments).

The size of the first job firm is also an important factor in the time to coverage. The second lowest coverage rates upon hire and over time, after outside of establishment private sector wage work, were for first jobs in micro firms. The proportion covered at the start of their jobs was only 5% and increased to 17% in 10 years of employment. This is a similar proportion to those who started in informal firms inside of establishments. Starting in small firms was associated with slightly higher chances of social insurance coverage upon getting hired (9%) or in 10 years of work (25%). Male new entrants who started in medium firms were substantially better off than those who started in micro or small firms, since their coverage rates at the start of their jobs were about 25% and increased to 48% after 10 years of employment. The shortest duration to coverage in the private sector was observed for first jobs located in large firms, where 43% of workers were covered at the start of their jobs and 62% became so in 10 years of work, with a median time of three years to social insurance coverage. This pattern for large firms was quite similar to the pattern of access to social insurance among workers who started in formal private sector firms.

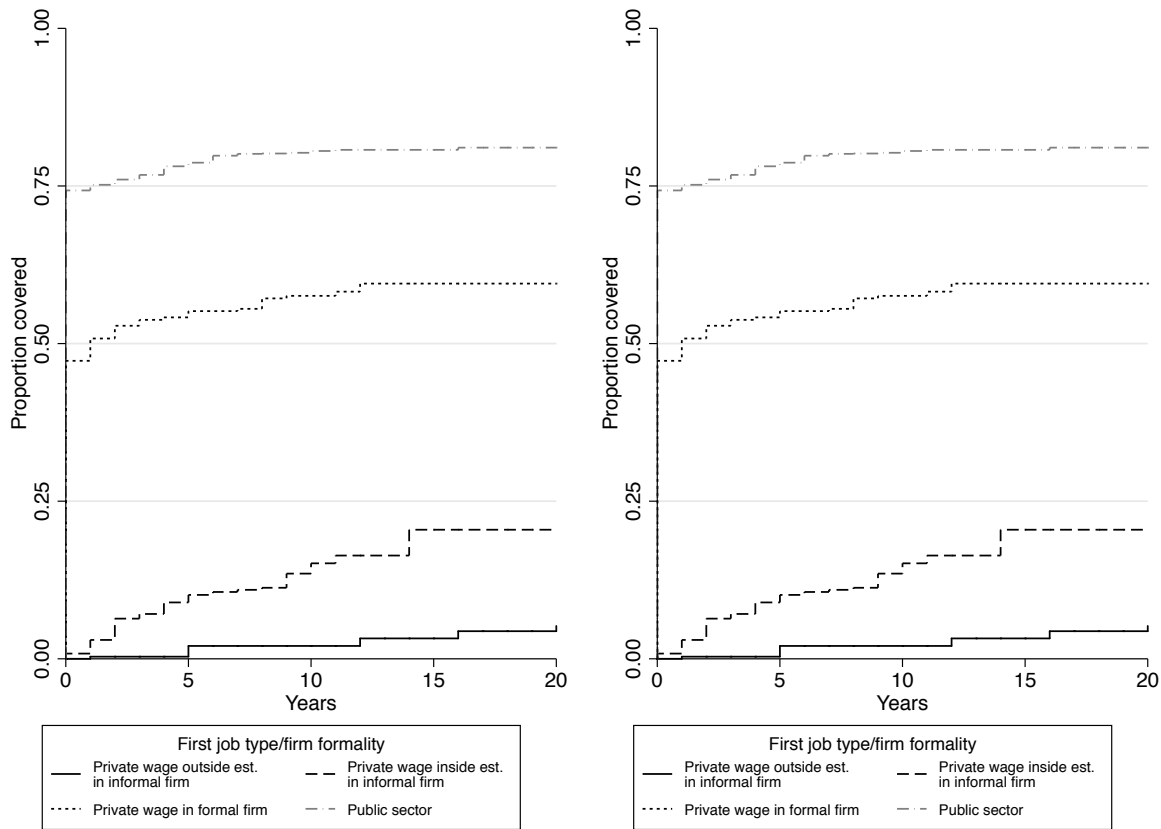
Figure 9. Proportion of workers with social insurance by years since the start of first job, by firm size categories and firm formality status of first job, men entering since 1981, ages 18-59, 2018



Source: Authors' calculations based on data from ELMPS 2018.
 Note: Kaplan-Meier failures curves.

A similar pattern of time to social insurance is observed for women (Figure 10), except for two differences. First, if they started in formal private sector firms (on the left panel), although their median time was the same as for men, the proportion of female workers covered upon starting (43%) were a little lower than that for their male peers (47%), reaching 58% after 10 years of employment. Second, compared to men (43%), they were less likely to acquire social insurance upon starting their first jobs in large firms (36%). They acquired it slower than men as coverage rates reached around 45% after 10 years of employment.

Figure 10. Proportion of workers with social insurance by years since the start of first job, by firm size categories and firm formality status of first job, women entering since 1981, ages 18-59, 2018



Source: Authors' calculations based on data from ELMPS 2018.
 Note: Kaplan-Meier failures curves.

4. Social protection benefits and effective coverage

This section provides an overview of social protection coverage over time, focusing on the percentage of households that received at least one type of the following cash benefits: non-contributory social assistance pensions that we refer to as “social pensions,” retirement pensions, transfers from faith-based organizations, or other sources of income such as financial interest and rent. We examine whether households received at least one of these benefits. We also calculated the proportion of households with at least one working member who was actively contributing to a social insurance scheme. We finally show the overall proportion of households who either receive benefits or have a contributing member, to calculate the effective social protection coverage, at the household level, following the ILO’s (2017) methodology.²⁶ This is a new piece

²⁶ This is the methodology proposed to calculate SDG indicator 1.3.1 on “the percentage of the total population covered by at least one type of social protection benefit” (ILO, 2017, p. 123). Their social protection coverage rates are

of information, that was not previously explored in Egypt. For this analysis we rely on EMLPS 2006, 2012 and 2018, which have information on the receipt of different types of benefits. We harmonized these to be comparable over time as in Figure 11. As mentioned in the data section, the 2006 and 2012 questionnaires included information on the receipt of Sadat/Mubarak pensions which are forms of non-contributory social pension, known as the comprehensive scheme (*Ma'ash al-daman*), other types of social assistance pensions that were not specified, retirement pensions which are employment-related pensions based on contributory schemes,²⁷ transfers from faith-based organizations, and other sources of non-labor income such as interest or rent on buildings/lands. The 2018 questionnaire included information on the receipt of the newly introduced cash transfers programs - *Takaful* and *Karama* (described in further detail in section 4.3.1), other types of social assistance pensions,²⁸ transfers from faith-based organizations, and other sources of non-labor income. The 2018 questionnaire also provided information on whether or not the household had a food-ration card; such information that was not available in 2006 or 2012.

We also focus on the characteristics of households who received social non-contributory transfers by examining their distribution by household and head of household characteristics, for each year separately (Table 1). For 2018, we explored in more detail *Takaful* and/or *Karama*, mainly the rate of receiving any of them at the household level and the characteristics of beneficiary households and individuals in these households. Moreover, given the important changes that were introduced in the smart food-ration cards system since 2014, we also examine who had cards, exploiting the new available data on the prevalence of such cards from the 2018 wave.

The percentage of households with benefits, i.e. the rate of receipt, reflects the extent of coverage while the characteristics of the recipients, shown as the distribution of beneficiary households by different household characteristics, would reveal the degree of targeting efficiency. Therefore, studying both aspects is important to understanding issues of coverage and targeting.

4.1. Social protection coverage over time

Figure 11 shows the percentage of households covered with at least one social protection benefit as described above. Looking at the patterns of overall social protection coverage, around 57% of households in 2018 either received non-contributory or contributory benefit entitlements, or had at least one actively contributing member, sharply falling from 62% in 2012 and 68% in 2006.

computed at the individual level. Any difference between our estimates of coverage rates and theirs is likely due to our calculation being based on the household level, rather than the individual level.

²⁷ Retirement pensions can also be received by persons who never worked or were never socially insured during their career, if they were eligible to inherit it like widows, dependent sons/brother younger than 21, disabled dependent sons/brothers of any age, and unmarried daughters and sisters (ISSA, 2017). This type of retirement pensions is called a survivor pension.

²⁸ Since this is not specified in the data, we assume that this type of other social assistance pensions is a continuity of Sadat/Mubarak pensions, as well as the “other type of pensions” category that were indicated in 2006 and 2012.

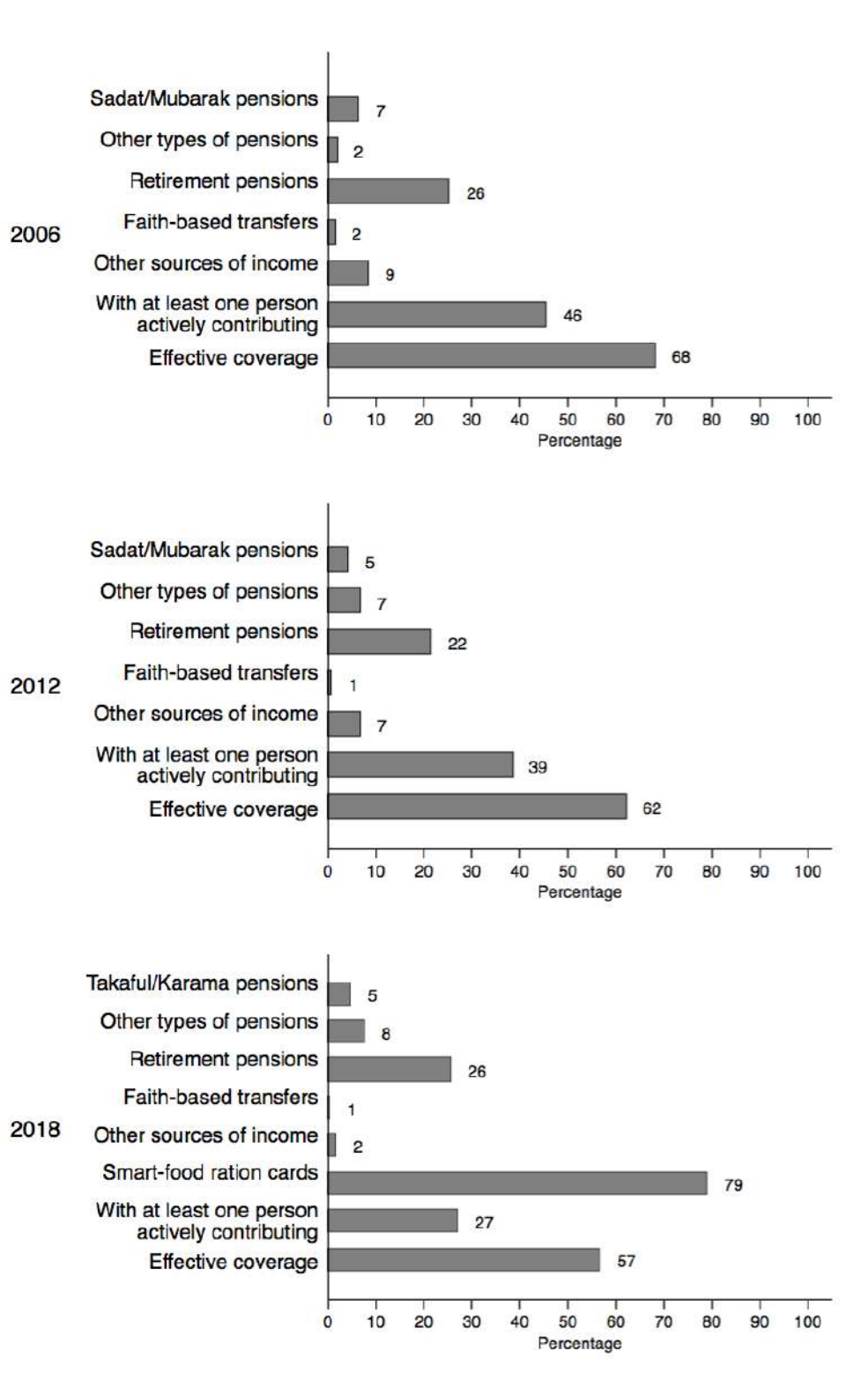
Such a decline in the overall social protection coverage was mainly driven by the decline in the percentage of households with at least one actively contributing member.

The most common benefit for households was the retirement pension. Around 26% of Egyptian households received retirement pensions in 2006 and 2018, but only 22% in 2012. As for social assistance pensions, in 2006 around 7% and in 2012 around 5% of households received either *Sadat* or *Mubarak* pensions. In 2018, a similar percentage (5%) received *Takaful* or *Karama*, which we further examine in section 4.3.1. This leads to question whether or not this new CCT program targeted new beneficiary households, or replaced other types of social pensions.²⁹ There was an important rise in the percentage of households receiving other types of social assistance transfers from 2% in 2006 to 7% in 2012, and a slight increase to 8% in 2018. If we combined the different types of social assistance transfers disbursed by the State (*Sadat/Mubarak* pensions, *Takaful* and/or *Karama*, and other types of social assistance), then the overall percentage of households covered by any of these social assistance transfers increased from 9% of households in 2006 to 13% in 2018.

Faith-based transfers were received by 1%-2% of households over the period 2006-2018. As for in-kind transfers, smart food-ration cards were the largest source of protection. The share of households who had food-ration cards was 79% in 2018 (see the detailed analysis in section 4.4). Only 27% of households in 2018 included at least one working member who actively contributed to social insurance schemes, as compared 39% in 2012 and 46% in 2006. This indicates that the sharp decline in the incidence of social insurance coverage among workers (discussed in section 3) also led many households, not only individuals, to fall outside the social insurance scheme umbrella.

²⁹ This question needs further future investigation and is out of the scope of this paper.

Figure 11. The percentage of households covered with at least one type of social protection scheme/benefit, 2006, 2012, 2018



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

4.2. Receipt of social pensions and retirement pensions

This section examines the proportion of households receiving social non-contributory pensions,³⁰ and retirement pensions, separately, as two common sources of non-labor income, and how such receipt rates are associated with wealth quintiles, region of residence, and gender of the head of household. For this analysis, we combined all non-contributory social assistance transfers (*Sadat/Mubarak* pensions in 2006-2012, *Takaful/Karama* in 2018, and other types of social assistance pensions) into one measure.³¹

Looking by wealth quintiles,³² the good news is that households in the lowest wealth quintile were the most likely to be receiving social pensions over time. As expected, the percentage of households who benefited from social pensions is inversely related to the household wealth quintile (left panel of Figure 12). For instance, in 2018, around 25% of households in the lowest quintile reported receiving social pensions, as compared to 7% of those in the highest wealth quintile. Between 2006 and 2018, the receipt of social pensions increased for all wealth quintiles, except for the second quintile where it first increased from 2006 to 2012 (from 12% to 16%), then decreased in 2018 (13%).

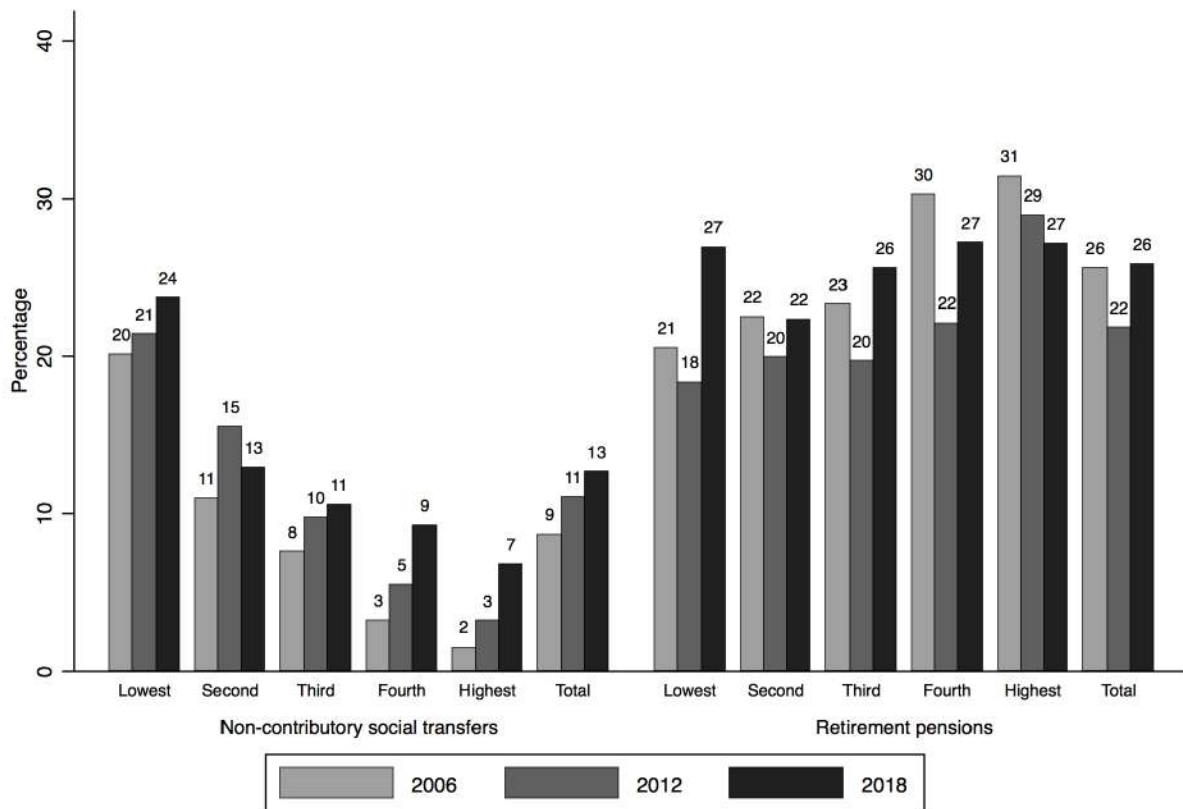
As for retirement pensions, the percentage of households receiving these benefits experienced a decline between 2006 and 2012 across all wealth quintiles. However, there has been a reversal in 2018, except for the highest wealth quintile (right panel of Figure 12). Although the highest wealth quintile were the most likely to benefit from retirement pensions compared to households in lower wealth quintiles, receipt of retirement pensions declined to 27% in 2018, down from 31% in 2006 and 29% in 2012. On the other hand, it is remarkable that the proportion of lowest wealth quintile households who received retirement pensions increased from 21% in 2006 to 27% in 2018, thus reaching similar levels to households in the fourth and fifth wealth quintiles. The lowest percentage of households benefiting from retirement pensions is now witnessed among the second wealth quintile households (22%) who also, as mentioned above, experienced a decline in social assistance pensions receipt. With the falling proportion of households with at least one actively contributing member, it is likely that, in the future, the proportion of households receiving retirement pensions would shrink too.

³⁰ We use terms like social pensions or social assistance pensions interchangeably to designate non-contributory tax-financed pensions/transfers.

³¹ The more disaggregated categories of social protection transfers, as depicted in Figure 11, and their association with wealth quintiles are shown in Appendix Figure 4.

³² In order to highlight issues of coverage gap and targeting efficiency, we only show association, not causation, between wealth quintiles and the incidence of receiving specific types of benefits.

Figure 12. The percentage of households who received non-contributory social pensions or contributory retirement pensions by household wealth quintiles, 2006, 2012, 2018



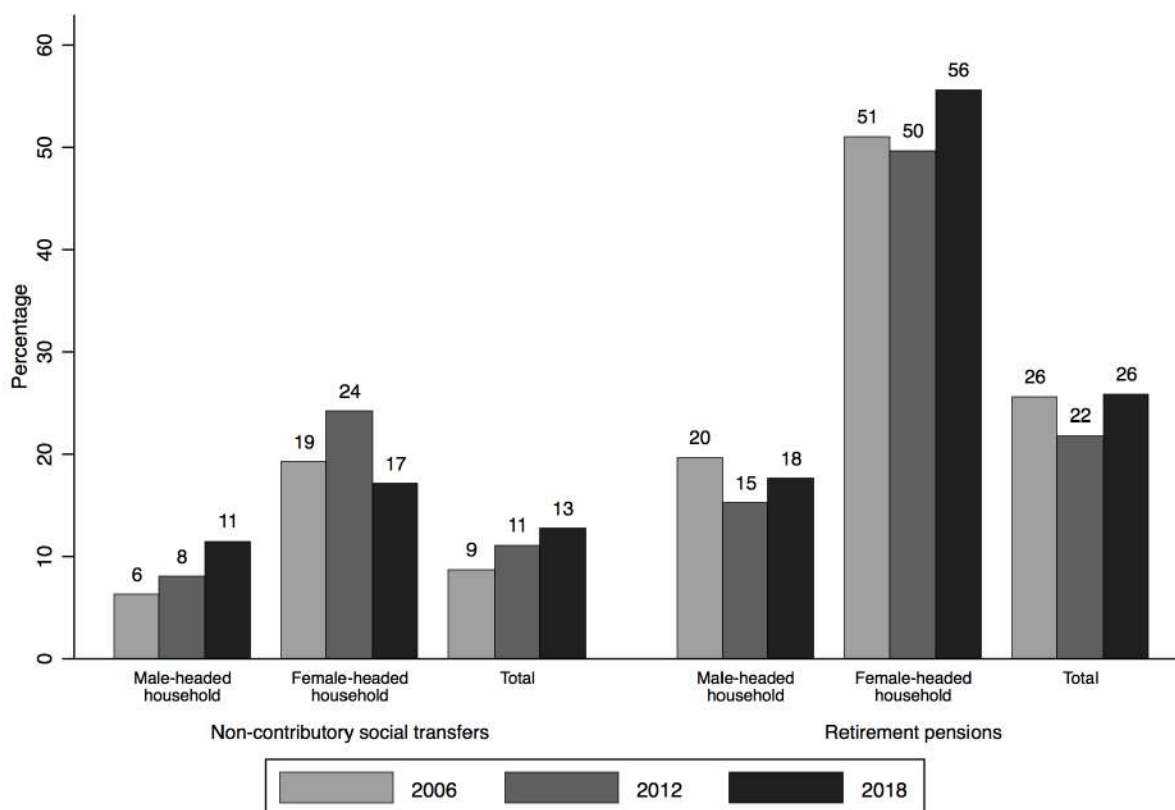
Source: Authors' calculations based on ELMPS 2006, 2012 and 2018.

Interestingly, the percentage of households covered by either social assistance or retirement pensions was also associated with the gender of the head of household. Overall, female-headed households were three times more likely than male-headed households to receive social assistance pensions (left panel of Figure 13) or retirement pensions (right panel of Figure 13). Yet, the proportion of female-headed households who benefitted from social pensions has substantially declined from 22% in 2006 and 25% in 2012 to 18% of all female-headed households in 2018. On the other hand, the percentage of male-headed households who received social pensions increased from 7-8% in 2006-2012 to 12% in 2018, likely due to the introduction of *Takaful/Karama*.

As for households who received retirement pensions, around 50-51% of all female-headed households received retirement pensions between 2006-2012, which increased to 56% in 2018. Thus, female-headed households were three times more likely to receive retirement pensions,

rather than social pensions. As for male-headed households, the proportion receiving retirement pensions declined from 20% to 15% between 2006 and 2012, before it increased to 18% in 2018.³³

Figure 13. The percentage of households who received non-contributory social pensions or contributory retirement pensions by household head sex, 2006, 2012, 2018



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

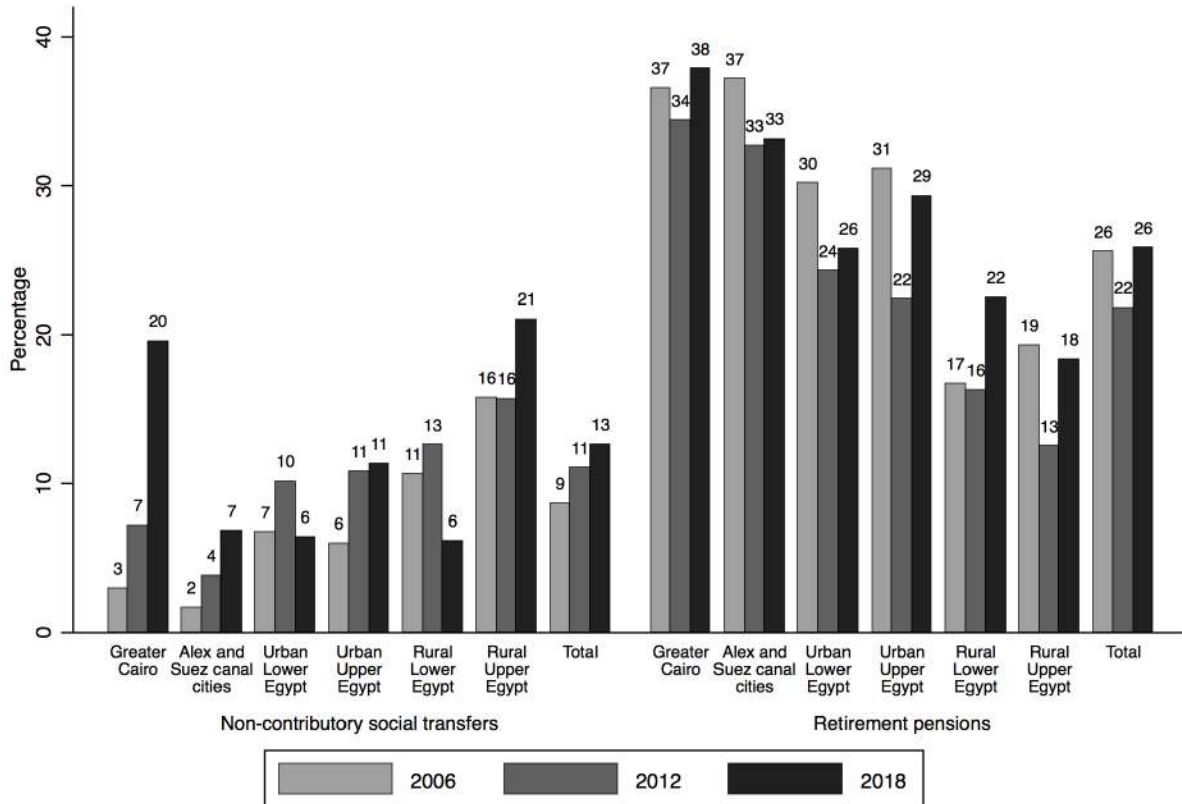
The receipt of social pensions or retirement pensions also has important differences at the regional level. In 2006 and 2012, households in rural Upper Egypt were the most likely to be receiving social transfers, as opposed to Greater Cairo and Alexandria and the Suez Canal cities where the proportion of such households was the lowest (Figure 14). In 2018, the pattern of receipt rates of social pensions had changed. It rose in Greater Cairo to reach around 20% of households, rendering Greater Cairo at almost similar rates as rural Upper Egypt. Households in rural Upper Egypt also became more likely to receive social pensions in 2018 (22%) than in 2006 (17%) and 2012 (16%). As for Lower Egypt, the receipt of social pensions among households in both its urban or rural

³³ The gender difference in receiving retirement pensions is likely due to marital, age, and working status. Female-heads were more likely to be widowed (67%) than male-heads (3%). They are also more likely to have no jobs (73%), compared to their male-peers (20%); and to be above 65 years old (31%) relative to male-heads (12%). Therefore, the higher rate of receiving retirement (including survivor) pensions observed among female-headed households is likely associated to a combination of these factors.

areas has declined. In 2018, it was 6-7% of all households in that region, as opposed to 10-13% in 2012 and 8-11% in 2006.

The regional pattern of retirement pension receipt is opposite to that of social pensions receipt (right panel of Figure 14). Between 2006 and 2012, Greater Cairo and Alexandria and the Suez Canal Cities had the highest receipt rates of retirement pensions, reaching around a third of households in these areas. Rural areas in Lower and Upper Egypt were associated with the lowest percentage of households receiving contributory pensions (16-17% in Lower Egypt and 13-19% in Upper Egypt). This pattern is largely due to regional patterns of job formality and social insurance coverage. In 2018, the rise in the percentage of households receiving retirement pensions occurred to various extents across the regions.

Figure 14. The percentage of households who received non-contributory social pensions or contributory retirement pensions by region of residence, 2006, 2012, 2018



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

4.3. Characteristics of households receiving social pensions

Moving to targeting, we examine the characteristics of households covered with social assistance non-contributory pensions (Table 1). In doing so, we examine the distribution of beneficiary households by relevant household and head of household characteristics. As expected, the majority of these households belong to the lowest and second wealth quintiles (64-72% over 2006 to 2018). However, by 2018, they became less concentrated in these quintiles and more concentrated in the fourth (12%) and fifth (8%) wealth quintiles. Around 42% (2006) or 40% (2012) of beneficiary households were headed by women, but the share of female-headed households sharply dropped to 24% in 2018, as reflected in their falling coverage rates shown in Figure 13. In 2006 and 2012, beneficiary households were more concentrated in rural areas of Lower Egypt where around 36-37% of household beneficiaries resided, and Upper Egypt, where 33-38% of beneficiary households were. This pattern has changed in 2018, with relatively more social pension receiving households in rural Upper Egypt (47%), fewer in rural Lower Egypt (17%), and more concentration in Greater Cairo (20%). This in line with the changes in the percentage of households receiving social pensions, shown in Figure 14.

Table 1. Characteristics of households and heads of households receiving non-contributory social pensions (percentage), 2006, 2012 and 2018

	2006	2012	2018
Household wealth quintile			
Lowest	48	40	41
Second	24	28	23
Third	17	18	16
Fourth	8	9	12
Highest	3	5	8
Gender of head of household			
Male-headed household	58	60	76
Female-headed household	42	40	24
Region of residence			
Greater Cairo	6	12	20
Alex and Suez Canal cities	2	3	4
Urban Lower Egypt	9	10	5
Urban Upper Egypt	9	7	7
Rural Lower Egypt	37	36	17
Rural Upper Egypt	38	33	47
Household size			
1-4 individuals	47	58	51
5-8 individuals	42	37	47
More than 8	11	6	2
Education of head of household			
Illiterate or read & write	79	71	55
Below secondary	9	12	14
secondary	9	14	26
University and above	2	4	6
Work status of head of household			
Public	9	8	8
Private wage work	14	17	41
Non-wage	37	23	21
No Job	40	52	30
Total (%)	100	100	100
N	650	1185	1479
Percentage receiving	10	12	13
N	8351	12060	15720

Source: Authors' calculations based on ELMPS 2012 and 2018.

4.3.1. Takaful and Karama coverage and targeting

As described in the introduction, the *Takaful* or *Karama* CCT program was launched in 2015, aiming to provide income support to poor people. We first examine the proportion of households covered by *Takaful* and/or *Karama* during the last month. Second, we analyze the characteristics of beneficiary households and individuals in these households. Table 2 shows both the rate of receiving *Takaful* and/or *Karama* at the household level in 2018 by household and head of

household characteristics, as well as the characteristics of beneficiary households. As above shown in Figure 11, these transfers covered 5% of households. Moreover, the rate of receipt of these cash transfers was inversely associated with wealth quintiles.³⁴ The poorest households, in the lowest wealth quintile, were the most likely to be receiving such cash transfers (13%), followed by the second quintile where 7% of households did. Moreover, around 14% of households living in rural Upper Egypt and 6% in urban Upper Egypt, were *Takaful* and *Karama* beneficiaries. The lowest coverage rate of this program was among households residing in Greater Cairo and urban Lower Egypt where only 1% of households were enrolled. Households whose head had no education (8%), or was engaged in private wage work (8%), or in non-wage work (7%), were more likely to receive *Takaful* or *Karama* than average.

Looking at beneficiary households shows that the majority of households were among the poorest households (78% of recipient households belonged to the lowest two wealth quintiles). Also, despite the low incidence in rural Lower Egypt (2%), they represented 14% of *Takaful* and/or *Karama* beneficiary households. Together with more than two-thirds (68%) of beneficiary households living in rural Upper Egypt, rural areas included more than 80% of all *Takaful* and/or *Karama* recipient households. In terms of household structure, 62% of beneficiary households were households with 5-8 individuals.

³⁴ To mitigate from any risk of reverse causality, we extracted the 2012 wealth quintiles for these beneficiary households from the panel data for the households who were tracked between 2012 and 2018. In doing so, the sample size of households for this variable became 11,992 (down from 15,742 households in 2018), so we lost around 3,750 households. Yet, when we compared the lagged wealth quintile and the 2018 wealth quintiles, the incidence rates of receiving those transfers and distribution of beneficiary households remained almost unchanged with quite similar association in terms of magnitude and direction. Thus, we opted to keep the full sample of 2018 and use the 2018 wealth quintiles.

Table 2. The percentage of households receiving Takaful and/or Karama (rate of receipt) and the distribution (percentage) of recipients by household and head of household characteristics, 2018

	Rate of receipt Percent	N	Distribution of recipients (percent)
Household wealth quintile			
Lowest	13	3,491	51
Second	7	3,383	27
Third	3	3,028	13
Fourth	2	3,034	6
Highest	1	2,808	2
Gender of head of household			
Male-headed household	6	12,729	87
Female-headed household	3	3,017	13
Region of residence			
Greater Cairo	1	1,316	3
Alex and Suez Canal cities	2	1,009	4
Urban Lower Egypt	1	1,717	2
Urban Upper Egypt	6	2,000	9
Rural Lower Egypt	2	4,562	14
Rural Upper Egypt	14	5,142	68
Household size			
1-4 individuals	3	10,057	36
5-8 individuals	9	5,517	62
More than 8	13	172	3
Education of head of household			
Illiterate or read & write	8	5,718	55
Below secondary	5	1,991	13
Secondary	5	5,522	30
University and above	1	2,371	2
Missing	2	144	0
Work status of head of household			
Public sector	1	2598	2
Private wage work	8	5527	53
Non-wage	7	3252	25
No Job	3	4369	20
Age group of head of household			
0-14			0
15-24	1	519	1
25-29	5	1567	7
30-64	6	11320	84
65+	3	2322	9
Percentage receiving	5		100
N		15746	958

Source: Authors' calculations based on data from ELMPS 2018.

As to the characteristics of individuals who received *Takaful* and/or *Karama* in beneficiary households (Table 3), the majority of individual direct recipients were women (80%), illiterate or can read and write (62%), had no job (56%), and were aged between 30-64 years old (61%).³⁵ The second largest group of individual recipients in beneficiary households, in terms of working status, were non-wage workers who represented 34% of *Takaful* and/or *Karama* beneficiaries. A comparison reveals interesting differences between the characteristics of recipients at the household level and those at the individual level. While male-headed households represented around 87% of recipient households, women constituted 80% of direct individual beneficiaries. Moreover, more than half of recipient households were headed by a private wage worker (52%), whereas receiving individuals were likely to have no job (56%), since the majority of recipients were women.

Table 3. The characteristics of individuals receiving Takaful and/or Karama in beneficiary households (percentage), 2018

	Distribution of recipients (percent)
Sex	
Men	20
Women	80
Education	
Illiterate or read & write	62
Below secondary	16
Secondary	19
University and above	1
Missing	2
Work status	
Public sector	0
Private wage work	9
Non-wage	34
No Job	56
Age group	
0-14	12
15-24	7
25-29	13
30-64	61
65+	7
Percentage receiving	100
N	977

Source: Authors' calculations based on data from ELMPS 2018.

³⁵ For households receiving any type of benefit entitlement, the questionnaire included information on who were the family members to which these benefits accrued. Therefore, we can examine their characteristics.

4.4. Food ration card coverage

There have been major reforms in the food ration card system. The government has been suffering from increased expenditures on food subsidies, weak targeting and high leakage to the non-poor. In 2000, the Egyptian government tried to improve the targeting through self-targeting where they offered products with lower quality to discourage rich people from buying them. However, the government spending on food subsidies was still high and required restructuring (Ghoneim, 2013). In 2006, the smart food ration card system was introduced to improve both the targeting and efficiency of the food subsidy system. In 2010, regulations governing the smart ration cards have been set and revised. Until 2014, the number of beneficiaries on the smart food ration cards was restricted to a maximum of four individuals per household. In 2014, this number of individuals per family restriction was removed in accordance with the ministerial Decree No. 215 for the year 2014. Afterwards, the beneficiaries used their savings from the Balady bread consumption subsidy to purchase goods under the ration cards. Thus, not only the number of individuals became unrestricted but also two subsidy systems were merged into one system (Abdalla & Al-Shawarby, 2017). As mentioned above, around 79% of households in 2018 have smart food ration cards.

As shown in Table 4 (column 1), despite the efforts made for improving the targeting of the food subsidy, we see that even among the richest wealth quintiles, three-quarters of households have these cards (77% of households in the fourth and 70% in the fifth wealth quintile). Food ration cards possession is highest in rural Upper Egypt (86% of households), and lowest in Alexandria and the Suez Canal cities (56%), followed by Greater Cairo (68%). Receipt of these smart cards is slightly higher for female-headed households (82%) compared to male-headed households (78%). Households whose head was engaged in non-wage work were more likely to possess these cards (86%) compared to those whose head was in private sector wage work (73%). Possession of cards was inversely related to education level, where 85% of households whose head had no education had them, compared to 70% of those with university-educated heads.

We also examine having food ration cards among the households who were not covered by any other type of the aforementioned benefits and with no actively contributing members. We found that the chance of having food-ration cards was slightly lower (70%) among the households who fall out of any other type of coverage, relative to the average rate of receipt (79%) computed for all households. Female headed-households with no other safety net became less likely (67%) to have food-ration cards than male-headed households (71%), contrary to the pattern observed including all households. Households with no other benefits in Greater Cairo (49%) and Alexandria and Suez Canal (31%) had much lower rates of food ration cards than average (70%) and compared to other regions.

Table 4. Percentage of households who have smart food ration cards by household and head of household characteristics, ELMPS 2018

	Households having food ration cards		Households with food ration cards among those with no other benefits/coverage	
	Percent (1)	N (2)	Percent (3)	N (4)
Household wealth quintile				
Lowest	84	3,491	75	1,514
Second	84	3,383	76	1,781
Third	82	3,028	73	1,470
Fourth	77	3,034	67	1,411
Highest	69	2,808	57	980
Gender of head of Household				
Male-headed household	79	12,729	71	6,268
Female-headed household	82	3,017	67	890
Region of residence				
Greater Cairo	68	1,316	49	351
Alexandria and Suez Canal	56	1,009	31	359
Urban Lower Egypt	83	1,717	75	814
Urban Upper Egypt	84	2,000	76	772
Rural Lower Egypt	84	4,562	77	2,379
Rural Upper Egypt	86	5,142	78	2,483
Household size				
1-4 individuals	75	10,057	64	4,714
5-8 individuals	86	5,517	81	2,381
More than 8	87	172	74	63
Education of head of household				
Illiterate or read & write	85	5,718	75	2,429
Below secondary	80	1,991	71	1,002
Secondary	79	5,522	72	2,837
University and above	70	2,371	58	776
Missing	46	144	37	114
Work status of head of household				
Public sector	84	2,598	75	378
Private wage work	73	5,527	69	3,659
Non-wage	85	3,252	81	1,874
No Job	80	4,369	59	1,247
Percentage receiving	79	15,746	70	7,158

Source: Authors' calculations based on data from ELMPS 2018.

5. Health insurance coverage

In this section, we explore health insurance coverage and its pattern in 2012 and 2018. The question of health insurance coverage, along with the available different types of health insurance (in case the individual is covered), was administered in 2012 for all individuals aged 15 years and above. In 2018, it was administered for all individuals aged 6 years and above, in order to also capture the patterns of health insurance among school-aged children and youth. This enables us to examine the pattern and evolution of health insurance coverage between 2012 and 2018 for individuals aged 15 years and above. We undertake this analysis by various characteristics including gender, age categories, household wealth quintiles, and location (urban/rural). In addition, and to exploit the new piece of information available for 2018, we also investigate the patterns of health insurance coverage among children aged between 6 and 14 years in 2018.

We grouped the different modalities of health insurance coverage into five categories: coverage through the general agency for health insurance,³⁶ coverage by syndicates, coverage through school if the individual is still in schooling,³⁷ coverage through employer or privately purchased insurance,³⁸ and no health insurance coverage. Figure 15 shows how individuals aged 15+ are distributed along these different categories of health insurance coverage and its evolution over time. An important share of the population (72%) reported not being covered by any type of health insurance in 2018, up from 68% in 2012. Such a decrease in health insurance coverage is associated with a commensurate decline in the share of those who reported being covered by health insurance through the general agency for health insurance, which declined to 15% in 2018, down from 20% in 2012. On the other hand, though they represented a tiny share of all individuals (around 3-4%), the percentage of those insured through an employer or those who purchased private health insurance increased by one p.p. during 2012-2018. This shows not only the limited health insurance coverage among the population but also a slight worsening in the coverage gap over time, just like the evolution of the social insurance coverage gap.

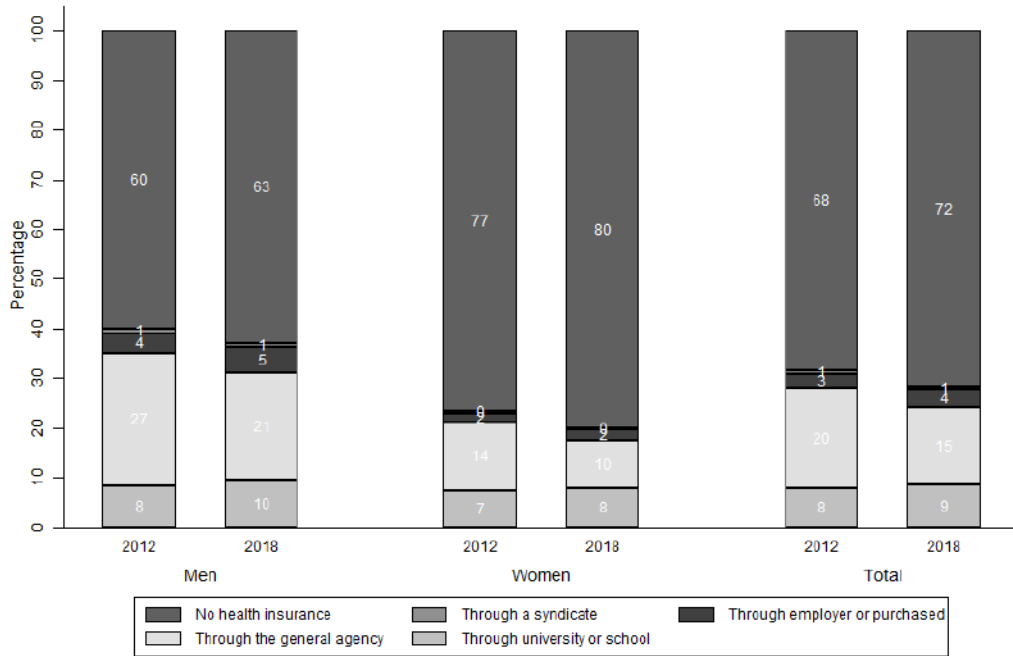
There were gender differences in the health insurance coverage rates. As expected, due to the low levels of women's labor force participation, they were much more likely to fall out of health insurance coverage (77% in 2012 and 80% in 2018, respectively) than men (60% in 2012 and 63% in 2018). Women were the most vulnerable to the absence of universal health insurance.

³⁶ This category includes treatment at the state's expense.

³⁷ Through school or university. This type represents the students' general health insurance system available in Egypt.

³⁸ This category includes health insurance through armed forces, private health insurance through own employer or employer of a family working member, or if individuals purchased their own insurance.

Figure 15. Health insurance coverage (percentage) by sex and wave, individuals aged 15+, 2012 and 2018



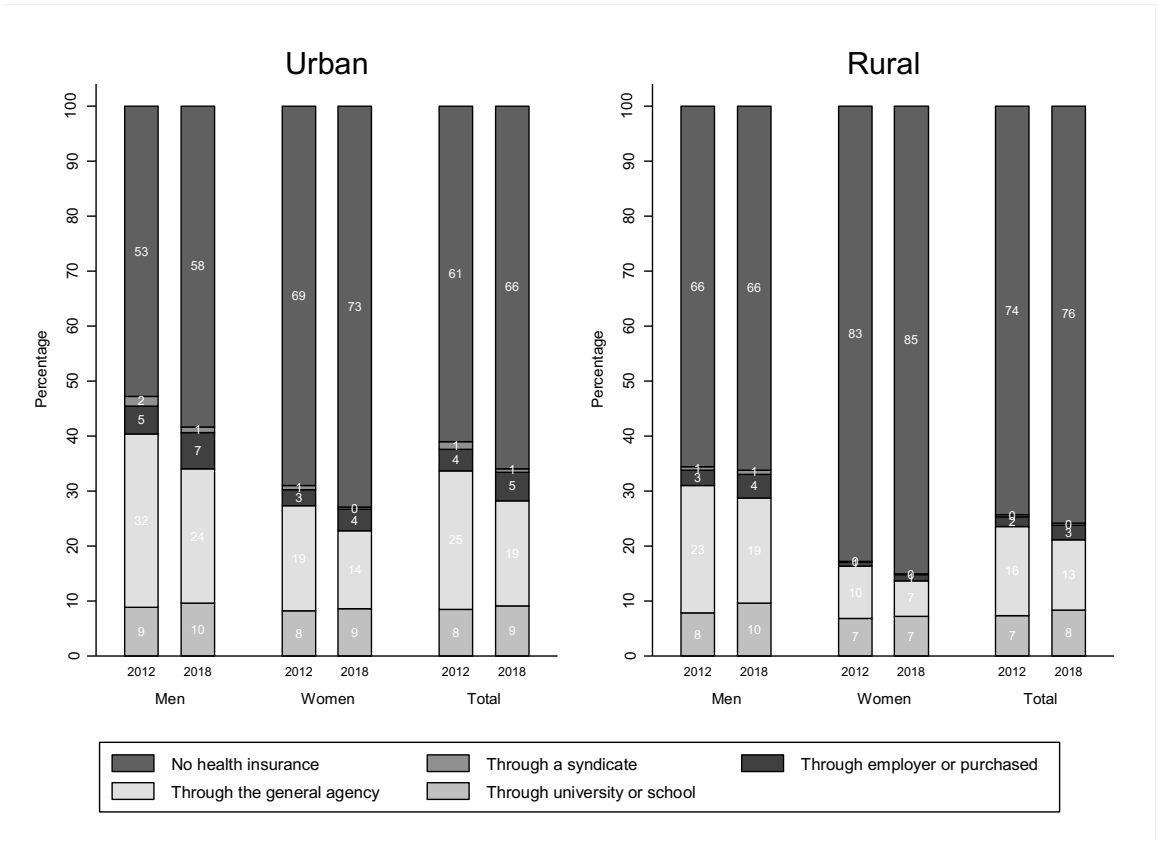
Source: Authors' calculations based on data from ELMPS 2012 and 2018.

Notes: The category by employer/purchased includes private health insurance purchased through the employer of another family member, or health insurance through the armed forces. Health insurance through the general agency includes treatment at state's expense.

Looking at the patterns of health insurance coverage rates by location, while there is an increasing percentage of uninsured individuals in urban areas, for both men and women, the coverage in urban areas substantially exceeded that in rural areas (Figure 16). Also, while women in general were more likely to lack health insurance coverage, rural women specifically were the most vulnerable in terms of health insurance coverage.³⁹

³⁹ See Keo, Krafft, & Fedi (2019) for further discussion on vulnerability among rural women in Egypt.

Figure 16. Health insurance coverage (percentage) by sex, location, and wave, individuals aged 15+, 2012 and 2018

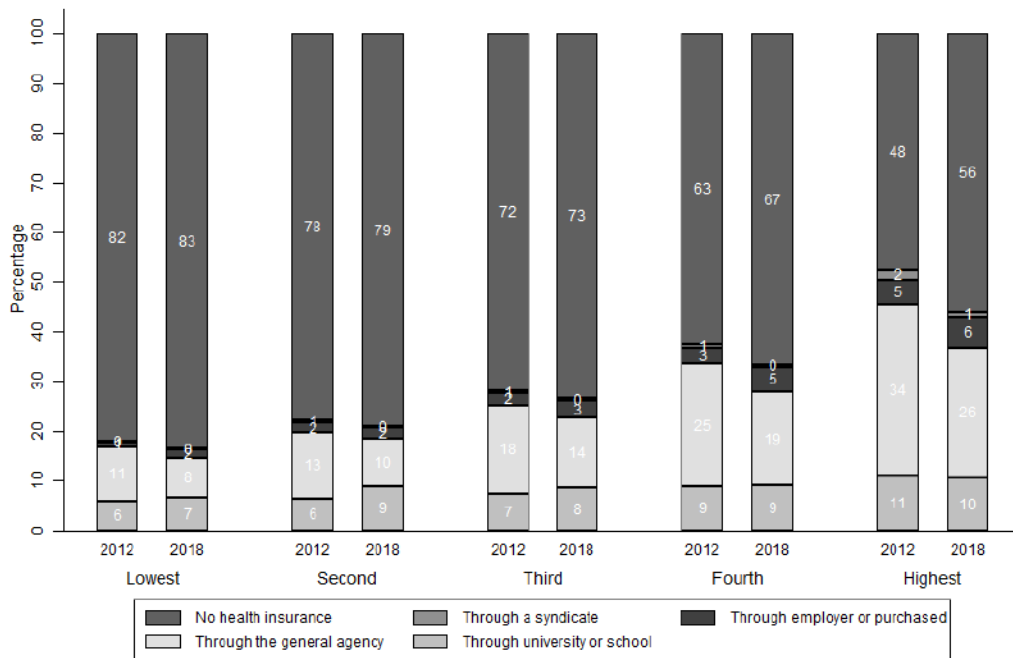


Source: Authors' calculations based on data from ELMPS 2012 and 2018.

Notes: The category by employer/purchased includes private health insurance purchased through the employer of another family member, or health insurance through the armed forces. Health insurance through the general agency includes treatment at the state's expense.

Figure 17 examines health insurance coverage by household wealth quintiles. There was a rise in the percentage of uninsured individuals in all wealth quintiles between 2012 and 2018. Nevertheless, there was a positive association between health insurance and wealth. Individuals in the lowest wealth quintiles were the most likely to lack health insurance coverage (84% in 2018), compared to 56% of the highest quintile. This indicates that the less fortunate were worse off in terms of health insurance coverage and access to health services, raising issues of vulnerability and coping with shocks as well as social justice. In parallel to this decrease in coverage, the percentage of those insured through the general agency for health insurance declined for all the wealth quintiles.

Figure 17. Health insurance coverage (percentage) by wealth quintile and wave, individuals aged 15+, 2012 and 2018

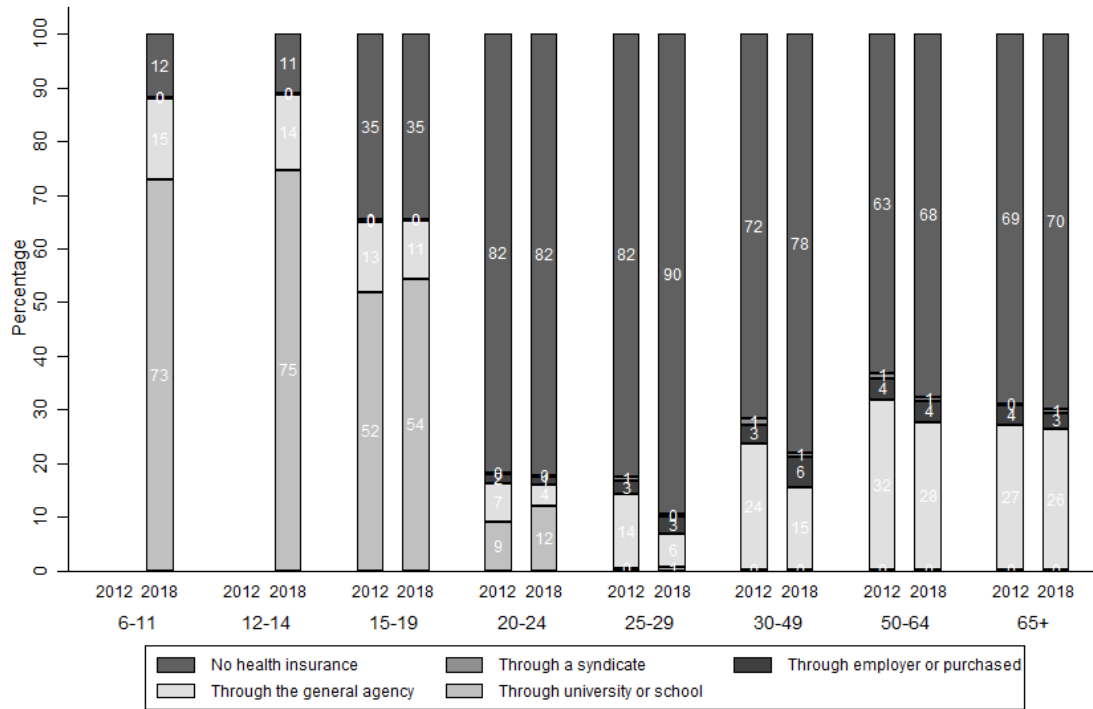


Source: Authors’ calculations based on data from ELMPS 2012 and 2018.

Notes: The category by employer/purchased includes private health insurance purchased through the employer of another family member, or health insurance through the armed forces. Health insurance through the general agency includes treatment at the state’s expense.

Furthermore, examining health insurance coverage by age groups reveals the highest coverage was among those aged 19 or younger (Figure 18). This is because they are largely insured by the schools’ health insurance system. The coverage gap is highest among those aged 20-24 (only 18% insured in 2018) and 25-29 (only 10% insured in 2018).

Figure 18. Health insurance coverage (percentage) by age group and wave, individuals aged 6+, 2012 and 2018

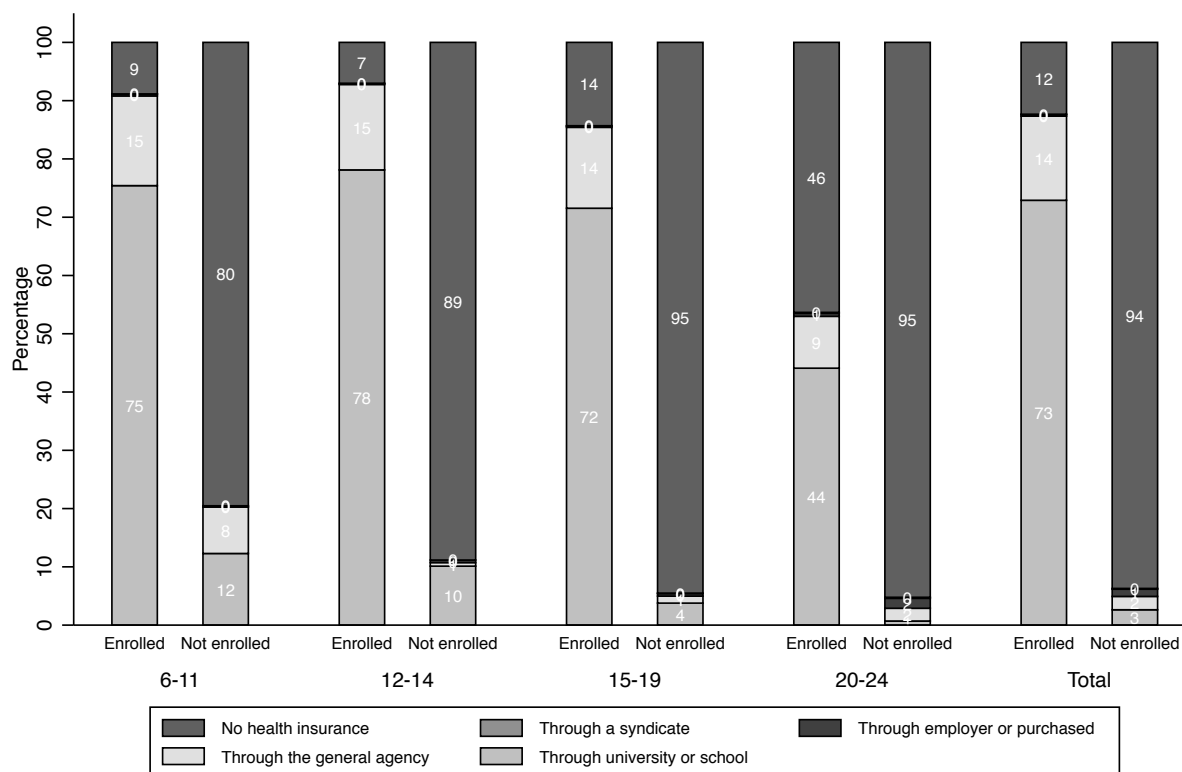


Source: Authors' calculations based on data from ELMPS 2012 and 2018.

Notes: (i) The category by employer/purchased includes private health insurance purchased through the employer of another family member, or health insurance through the armed forces. Health insurance through the general agency includes treatment at the state's expense. (ii) Because no information was available on health insurance for ages 6-14 in 2012, we only show it for 2018.

We now explore the patterns of health insurance coverage by age groups for individuals aged 6-24 years old by education enrollment status using ELMPS 2018, distinguishing between the group of children aged 6-11 who should be in compulsory education (primary education), those aged 12-14 (who are supposed to be in preparatory education phase), young individuals aged 15-19 (which is the age range corresponding to secondary education and beginning of university education), and those aged 20-24. Among the enrolled ones, the majority of children aged 6-11 and 12-14, as well as young people 15-19 were primarily insured through school health insurance system and to lesser extent through the general agency for health insurance. In addition, the rate of no health insurance was relatively low. It is noteworthy that education enrollment rates for the 6-11 and 12-14 age groups were almost universal reaching 95%, and 75% for the 15-19 age group (Appendix Table 2). However, for the older youth (20-24) among whom only 25% were enrolled in education, the pattern of health insurance coverage is different. Among those who were enrolled, only 44% were covered through the university whereas 46% of them were not insured. The vast majority of their non-enrolled peers were deprived of any health insurance coverage (only 5% covered). Thus, the important coverage gap among youth aged 20-24, shown in Figure 18, is driven by their low enrollment rates and the patterns of low coverage among the non-enrolled individuals.

Figure 19. Health insurance coverage (percentage) by age groups and education enrollment status, individuals aged 6-24 years old, 2018



Source: Authors' calculations based on data from ELMPS 2012, and 2018.

6. Discussion and Conclusion

This paper presented a comprehensive review of the state of social protection in Egypt, focusing on three components: social insurance schemes, pension entitlements whether based on contributory (retirement) or non-contributory (social assistance) schemes, and health insurance. The paper first examined issues of social insurance coverage at work, how it evolved over time, and the time it takes to gain social insurance on the labor market. Second, it explored social protection coverage at the national level, namely the proportion of households receiving different types of contributory and non-contributory cash benefits, or having at least one working member who was actively contributing to a social insurance scheme. We also investigated relationships between receiving non-contributory social assistance pensions and contributory retirement pensions, and various factors such as wealth, household head sex, and region of residence. Moreover, with ELMPS 2018 providing the first nationally available and representative data on the extent of coverage of the new launched CCT programs *Takaful* and *Karama*, the paper contributes to filling the gap about their outreach and targeting, at the household level. We also tackled the incidence of having food-ration cards, at the household level, drawing on new

information available in the 2018 wave. Finally, the paper investigated health insurance coverage in Egypt, as a third component of social protection.

In 2018, the social insurance coverage gap had worsened. The percentage of workers who had social insurance coverage was only 30%. This development was mostly associated with the expansion of private sector wage employment outside of establishments. Moreover, non-wage workers witnessed important drops in their access to social insurance coverage. Both findings, holding for both men and women, were alarming since they reflect a heightened sense of vulnerability among Egyptian workers. In particular, with the shrinking role of the public sector, this is not good news for women who do not have an alternative except non-wage work and private wage work.

Social insurance coverage sharply declined across all wage quintiles in 2018, especially among private sector wage workers. Workers in the lowest and second wage quintiles had the lowest coverage, followed by those in the third and fourth quintiles. The low coverage among poorest workers is consistent with the international literature discussing their strong preference for liquidity and high discount rates; but also partly due to them primarily working in informal firms. Yet, we also found that the fourth and fifth wage quintiles experienced some of the sharpest declines in their proportion of workers covered. This is a new finding that calls for further research to study the reasons for such trends. A plausible explanation is that the deterioration of the job quality over the past twenty years, with jobs becoming increasingly outside of establishments, affected even the high-earners in the labor market.

Coverage patterns among private sector wage workers by firm size indicate that the rapidly growing segments of outside of establishments and small firms hired increasingly socially uncovered workers in 2018. This holds for men. Yet coverage rates increased in small firms among women. Workers in manufacturing and “other services” sectors were more likely to be socially covered. Yet, with the de-industrialization trend that was found and highlighted in Assaad, Krafft, Rahman, & Selwaness (2019), an even wider coverage gap is expected unless efforts are deployed to close the coverage gap and improve job quality. The extent of coverage associated with different profiles of workers (occupation level, education level, and age) was contingent on the type of jobs associated with such profiles (outside versus inside, etc.). For instance, the lowest coverage rates would be always observed among those who are most likely to work in volatile or bad quality jobs such as blue-collar high skilled/low-skilled workers, the less educated, and the young. Yet, the worsened coverage gap over time seems to affect all different profiles, but in a differentiated manner, depending on the concentration of bad quality jobs (and those in informal firms) among them.

Finally, the dynamic analysis of access to social insurance coverage over time shows that the coverage gap does not close with years of work and is highly contingent on the type of first job,

and the characteristics of the first job firm in terms of formality and size. The chances of acquiring social insurance coverage if a worker started in private sector wage work outside of an establishment were very low. Those who started inside of establishments had better prospects of getting covered, yet their rates remained quite low and far from universal, especially if they started in informal firms.

The analysis of social protection coverage reveals that the proportion of households covered with at least one type of social protection benefit or that had an actively contributing member to social insurance schemes declined to 57% of households in 2018, down from 62% in 2012 and 68% in 2006. This was because of the falling trend in social insurance coverage among workers, which led to relatively fewer households with at least one socially covered working member (27% in 2018). A key source of cash benefits for households was retirement pensions (26%), followed by non-contributory social assistance pensions (13%). If the social insurance coverage gap continues to widen, it is expected that social protection coverage will be strongly affected both through a decline in the proportion of households who would receive retirement pensions, and through a decline in the proportion of households with at least one working member who is actively contributing to social insurance schemes.

The proportion of households receiving social assistance pensions was inversely related to wealth. The opposite was true for the incidence of receiving retirement pensions which increases with wealth. Female-headed households were more likely to receive retirement pensions than social assistance pensions. They were also more likely to be covered by any of these two types of pensions than male-headed households, although they became less likely to receive social pensions in 2018. As for social pension targeting, which is reflected by the distribution of beneficiaries by their household characteristics, there was a slight increase in the share of the fourth and highest quintiles in total beneficiaries of social pensions, raising some targeting flags. There are still needed efforts to raise the rate of receiving social pensions, i.e. extent of coverage, among the households in the lowest quintiles, as it is still low. Finally, despite the efforts made for improving the targeting of the food subsidy, we see that close to three-quarters of households in the two highest quintiles hold these cards, though no information is available on whether or not they actually use them. Efforts are needed to cover households who fall out of the receipt of any social protection benefit.

In regards to health insurance, the majority of individuals (aged 15+) did not have health insurance. Women in general and rural women in particular, as well as the youth aged 20-29 were the most vulnerable groups in terms of health insurance coverage. Among the insured, the main source of health insurance was through the general agency for health insurance for those who were above 30 years old, and through university or school for those who are between 6 and 24 years old. This pattern shows that the health insurance coverage gap occurs mainly at the transition from school-to-work and becomes persistent afterwards. Unfortunately, households in the lowest quintile were

more likely to fall out of health insurance coverage. This shows the importance of a universal health insurance coverage, that would particularly benefit women, youth and the poor.

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Appendix Table 1. The percentage of private sector wage workers covered by social insurance, by job and individual characteristics, sex and wave, ages 18–59, 1998, 2006, 2012 and 2018

	Men								Women					
	Percent				N				Percent			N		
	1998	2006	2012	2018	1998	2006	2012	2018	2006	2012	2018	2006	2012	2018
Socially insured in private sector	23	25	23	17	1714	3315	5423	7304	23	31	26	409	416	658
Private wage outside establishment	10	11	9	6	739	1381	2803	4138	0	3	7	53	84	184
Private wage inside establishment	34	35	37	29	975	1934	2620	3166	28	38	31	356	332	474
Economic activity (ISIC, 1st digit)														
Agriculture	3	4	2	2	279	441	921	1437	2	0	3	32	45	112
Broad Manufacturing & utilities	34	39	40	34	459	789	1087	1120	27	43	30	106	83	99
Construction	9	8	6	8	321	655	1276	1860						
Wholesale & retail trade, hotels & accommodation	25	21	22	16	290	758	1081	1399	13	22	19	93	73	104
Transp., storage & communication	57	47	43	25	172	439	638	856						
Other Services	27	40	41	27	193	232	420	627	32	30	23	149	195	309
Occupation														
White-collar, high-skilled	66	67	63	48	184	411	578	692	45	50	42	138	171	194
White-collar, low-skilled	29	25	22	19	315	679	881	1403	11	23	25	146	87	216
Blue-collar, high-skilled	8	9	6	5	933	1594	2735	3749	12	6	3	69	57	144
Blue-collar, low-skilled	42	38	40	23	282	630	1229	1402	19	18	12	56	101	99
Firm Size														
Outside establishment	10	11	9	6	738	1381	2803	4134	0	3	7	53	84	184
1-4 workers	9	9	8	7	331	737	851	909	7	3	4	111	85	126
5-24 workers	26	29	20	12	311	492	643	1014	21	15	21	98	79	154
25-99 workers	56	55	48	42	122	268	310	355	52	59	38	62	67	62
More than 100/DK	70	70	70	59	197	416	816	892	43	62	54	77	101	132
Age group														
18-29	16	16	16	10	841	1797	2660	2821	19	28	20	256	202	263
30-49	30	34	29	21	738	1330	2436	3959	30	32	28	135	189	337

50-59	24	40	36	22	128	181	307	496			36			54
Education														
Illiterate or read & write	12	15	12	8	638	915	1258	1837	4	7	4	80	95	180
Below secondary	19	20	19	14	414	665	1087	1195	23	13	15	40	47	74
Secondary	30	25	24	17	499	1328	2362	3363	22	36	35	181	133	214
University and above	63	54	49	36	157	406	713	907	44	48	36	108	139	190
Head of Household														
Head	17	17	15	10	907	1617	2001	2056	24	34	22	383	371	592
Otherwise	29	33	29	20	807	1698	3422	5248		7	48		45	66
Marital Status														
Never Married	16	16	14	11	789	1336	1652	1866	20	34	25	242	173	188
Ever Married	27	32	28	19	925	1979	3771	5426	28	28	27	167	243	469

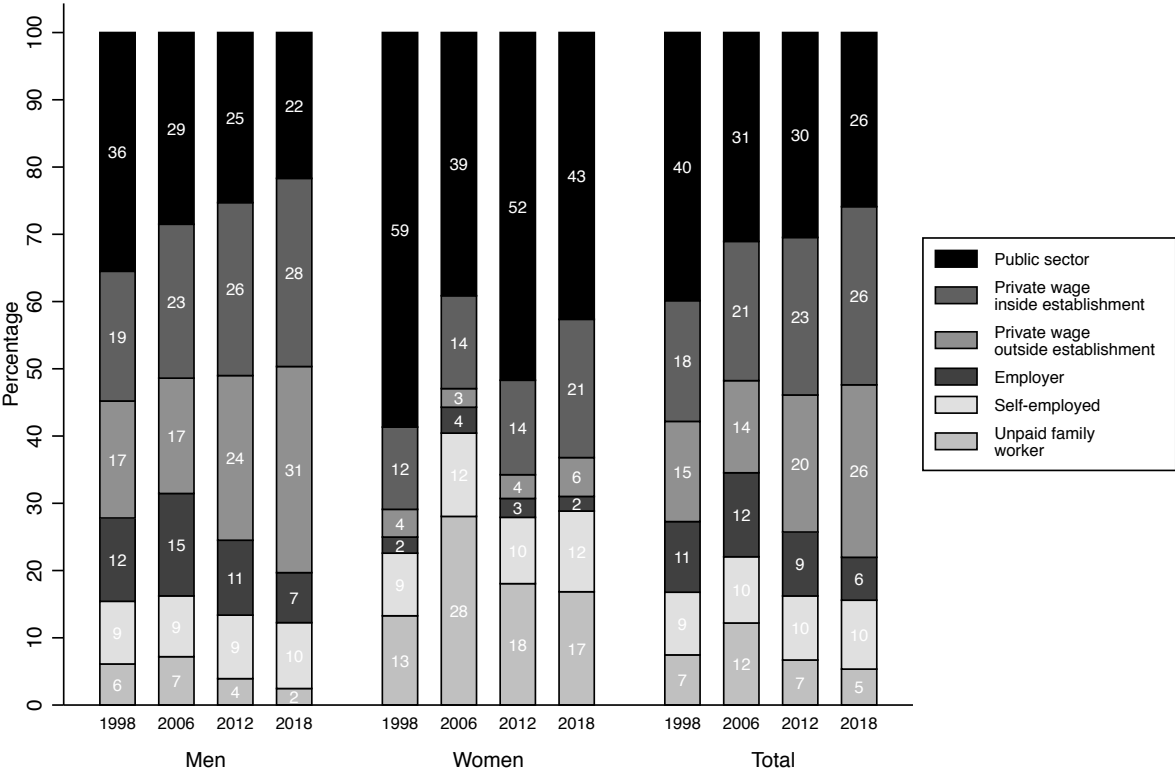
Source: Authors' calculations based on data from ELMPS 1998, 2006, 2012, and 2018.

Appendix Table 2. Enrollment rate (percentage) in education by age groups, individuals aged 6-24, 2018

Age groups	Enrolled (Percent)	N
6-11	96	8,236
12-14	95	3,261
15-19	75	4,915
20-24	26	4,940
Total	77	21,352

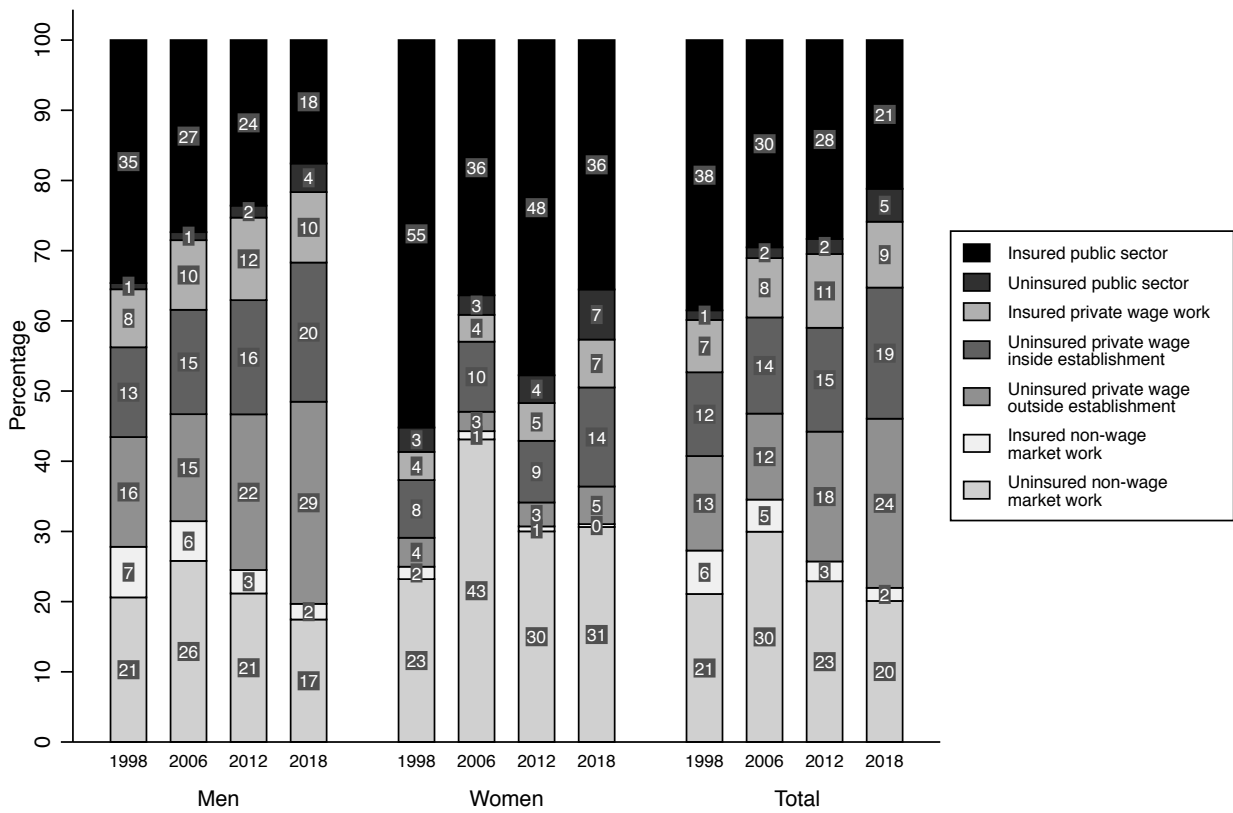
Source: Authors' calculations based on data from ELMPS 2018.

Appendix Figure 1. Employment structure (percentage) by institutional sector and sex, employed individuals aged 18-59, 1998-2018



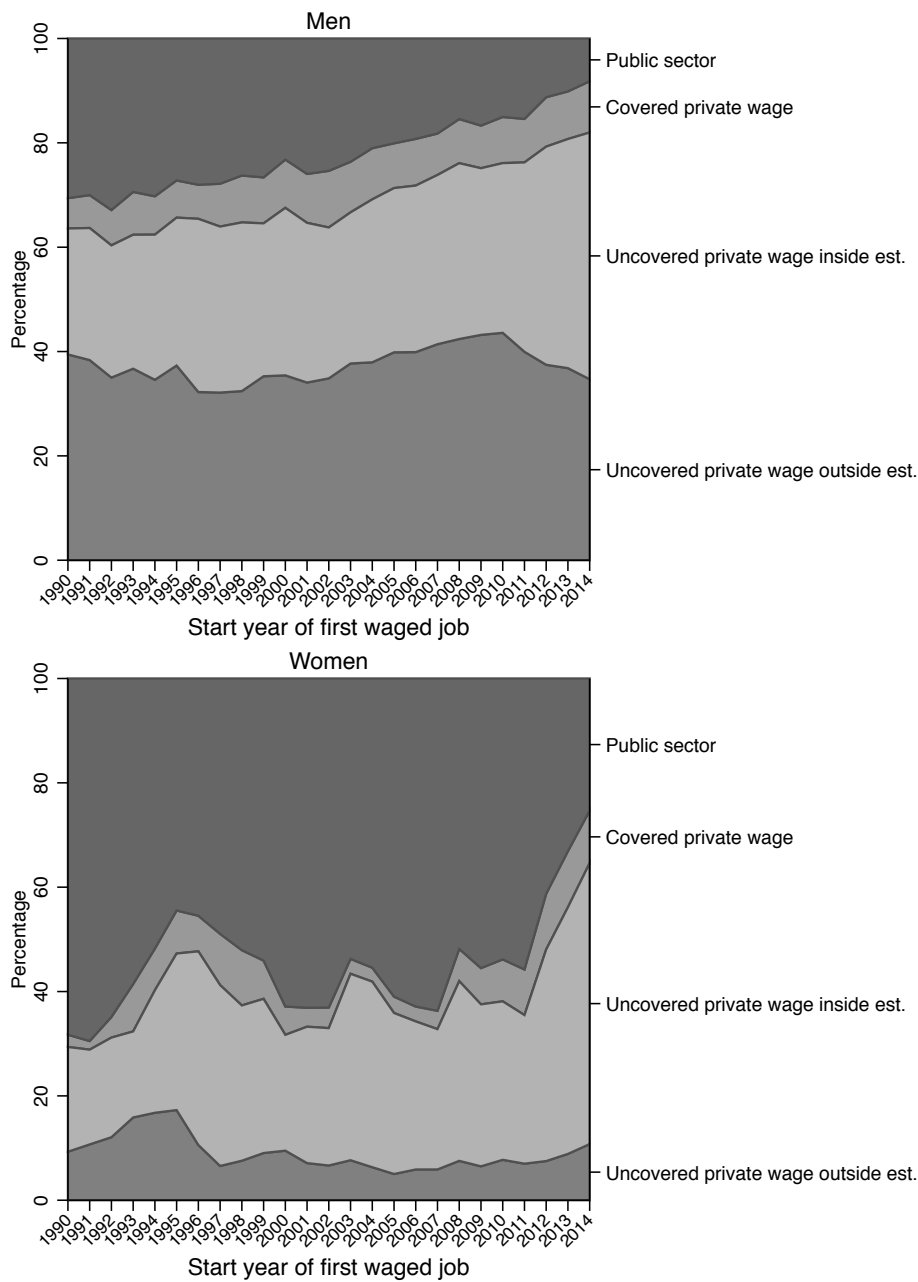
Source: Authors' calculations based on data from ELMPS 1998, 2006, 2012, and 2018.

Appendix Figure 2. Employment structure (percentage) by institutional sector, coverage status, and sex, employed individuals aged 18-59, 1998-2018



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

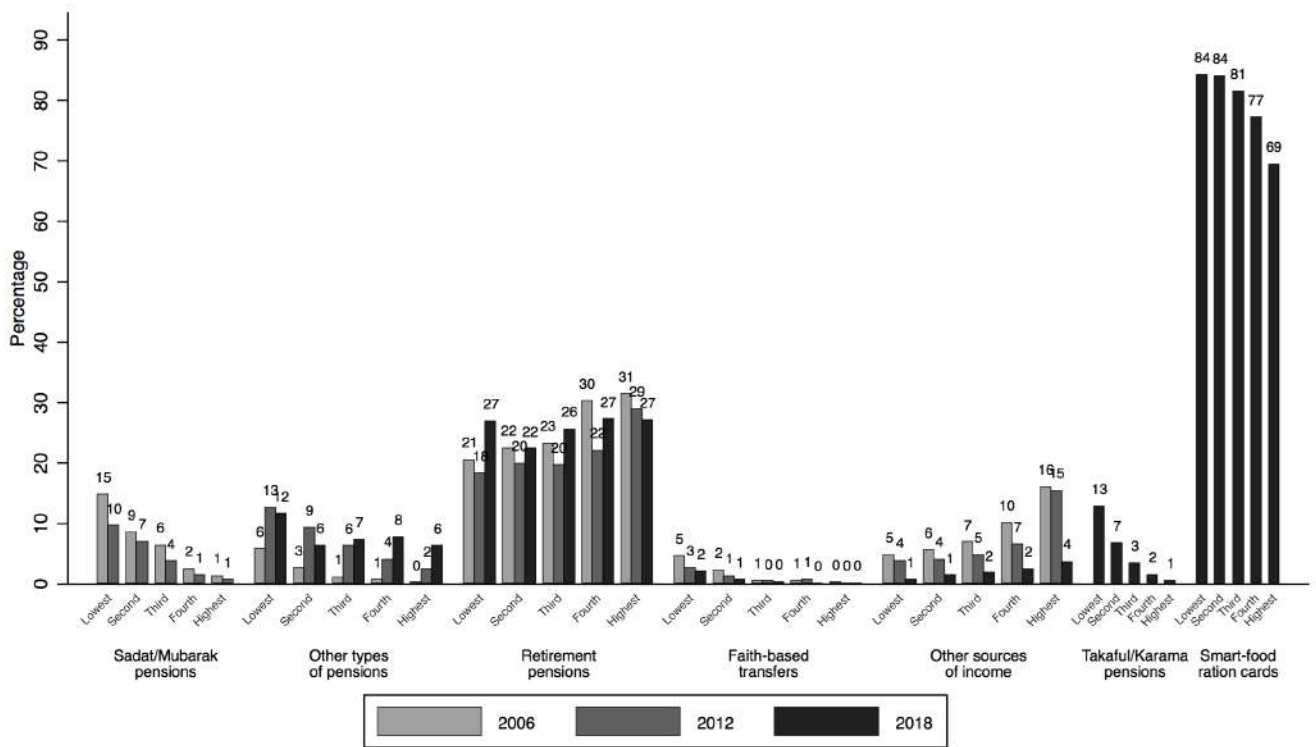
Appendix Figure 3. The structure of first waged jobs (percentage) by year of first waged job, from 1990 to 2016, three-year moving average, ELMPS 2018



Source: Authors' calculations based on retrospective data from ELMPS 2018.

Notes: The figure shows the structure of first waged jobs among workers for each year of entry from 1990 to 2016 by their coverage status and institutional sector of work, for men and women. The trend is plotted by the year an individual gets his/her first wage work, even if he/she did not start their career in wage work. Those who never had a waged job were not shown in this graph, as we mainly focus on the coverage gap among wage workers and how it evolved over time for new entrants to the labor market or to wage work (i.e. those who used to be engaged in non-wage market work then moved to wage work).

Appendix Figure 4. The rate of receiving benefits by wealth quintile and by wave (percentage of households), 2006, 2012, 2018



Source: Authors' calculations based on data from ELMPS 2006, 2012, and 2018.