

# ERF Policy Brief

## What Is Driving the Decline in Social Insurance Coverage in Egypt?

### Understanding The Relative Role of Structural Change

Ragui Assaad and Sarah Wahby

#### About the authors

Ragui Assaad is a Professor at the Humphrey School of Public Affairs in the University of Minnesota, where he co-chairs the Master of Development Practice Program. He is an ERF research fellow

Sarah Wahby is a PhD student of Public Policy at Humphrey School of Public Affairs, University of Minnesota.

#### In a nutshell

- There has been a secular decline in social insurance coverage rates for both wage and non-wage workers in Egypt since the mid-2000s.
- Although the decline in coverage spans the 2007-2021 period, it is most acute in the 2014-2017 sub-period.
- Only a small fraction of the decline can be attributed to major structural changes in the economy such as the contracting of employment in the public sector and in agriculture and the expansion in non-agricultural private employment.
- Structural changes across industries within private non-agricultural wage employment also account for only a minute fraction of the decline and structural change in non-wage non-agricultural employment would have in fact led to a slight increase in coverage rather than a decline.
- Accounting for the change in other characteristics of jobs and workers, such as firm size, occupation, sex, marital status, education, and job tenure also fails to explain the decline in coverage.
- The decline in coverage was most pronounced for wage workers in private service activities such as health and education, non-wage workers in food service, information, finance and business services, workers in micro and small establishments, workers with no education, single male workers, and workers with less than 4 years of job tenure.
- We conclude that the decline in coverage is not related to structural change or change in the composition of the workforce, but changes in the administration of the social security system that made it more costly to ensure low-paid workers and other policy measures that reduced the net value of coverage for these workers.

**Acknowledgments:** This brief was supported by a grant to the Economic Research Forum by the Ford Foundation for the project “Renewing the Social Contract: Working Toward a More Inclusive Social Insurance System in Egypt.” The authors appreciate the comments of participants in the “Workshop on social insurance in Egypt”.

## Introduction

The Egyptian labor market has always been characterized by a high degree of informality, but what has been notable in recent years is that informality of employment, manifested in the lack of social insurance coverage, has been rising substantially. This informalization is undoubtedly due in part to the long-term decline in the share of the public sector in employment, which began in the mid-1990s, but cannot be entirely attributed to such a decline, which has for the most part been counteracted by the decline of the highly informal agricultural sector. In fact, as we will show below, rates of social insurance coverage have been falling within the private sector among both wage and nonwage workers.

The main question we address in this policy brief is the extent to which the falling rates of social insurance coverage in Egypt can be attributed to changes in the composition of the economy or the workforce, or are they instead due to declines in coverage within specific types of jobs and for specific types of workers.<sup>1</sup> By changes in the composition of the economy, we mean changes in the employment shares of specific sectors, such as public vs private, agriculture vs non-agriculture, changes in the share of wage and non-wage workers, changes in industrial composition, and changes in the size distribution of firms. By changes in the composition of workforce, we mean changes by occupation, educational attainment, sex, marital status, potential experience, and tenure on the job. If changes in composition of the economy or the workforce can be ruled out as the main drivers of the decline in coverage, then the observed decline must be attributed to changes in the cost-benefit calculus of obtaining coverage among employers and workers brought about by changes in the administration of the social insurance system itself or by changes in related policies.

As shown in Figure 1, the share of the workforce covered by social insurance in Egypt fell from 44% in 2007 to 36% in 2021, with substantial declines affecting both wage and non-wage workers. Three distinct periods are apparent from the trend. An initial period of relatively slow decline from 2007 to 2014, a period of more rapid decline from 2014 to 2017 and a period of slower decline,

<sup>1</sup> This policy brief is based on Assaad and Wahby (2023) a paper prepared under the auspices of an ERF project entitled *Renewing the Social Contract: Working Toward a More Inclusive Social Insurance System in Egypt* funded by the Ford Foundation.

even some recovery among nonwage workers, from 2017 to 2021. We will follow this periodization for the decomposition analysis we undertake below.

## The Relative Contribution of Structural Change to the Decline in Social Insurance Coverage: A Decomposition Analysis

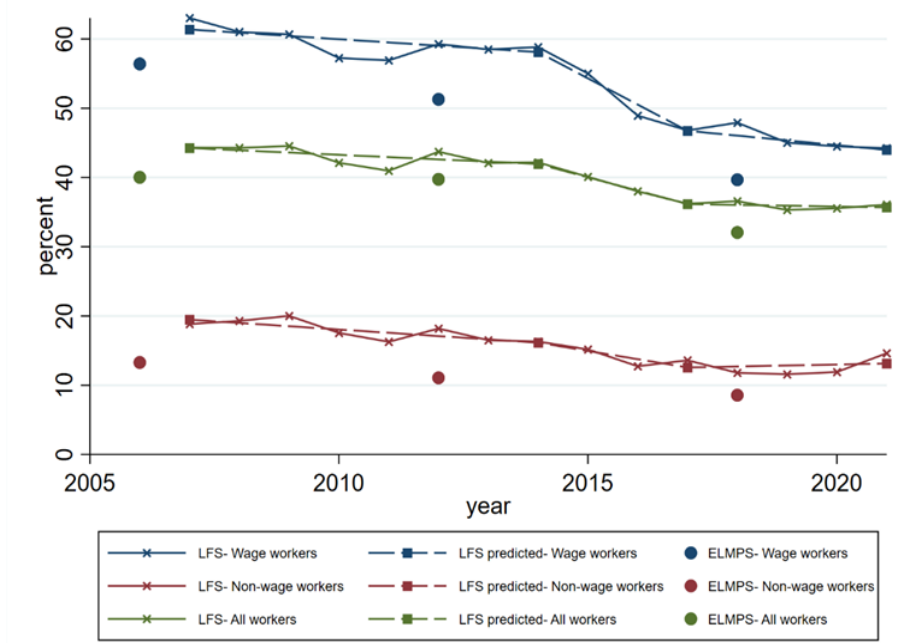
We first assess the contribution of structural change to the decline in coverage at a fairly aggregate level, dividing the economy into five sectors: (i) government/public sector, (ii) private wage non-agriculture, (iii) non-wage non-agriculture, (iv) wage agriculture, (v) non-wage agriculture. Over the 2007-2021 period, the share of employment in the government/public sector fell from 29% to 22% and the share of employment in agriculture fell from 33% to 21%. The shift was mostly in favor of the private wage non-agricultural sector, which increased its share from 25% to 41%. The non-wage non-agricultural sector only increased its share from 15% to 17%. These structural changes had opposing effects on coverage given the very high coverage rates in the government/public sector and the very low coverage rates in agriculture.

In fact, as shown in Figure 1, a decomposition analysis of the change in social insurance coverage in Egypt from 2007 to 2021 reveals that the vast majority of the decline in coverage can be attributed to within-sector change rather than structural change. The negative structural change components associated with the decline in the government/public sector is almost entirely counteracted by the positive structural change component associated with the growth of private wage non-agriculture. During the first period 2007-2014, the structural change component would have contributed positively to coverage, but was more than counteracted by the within-sector component. In the second period (2014-2017) when more than half of the measured decline occurred, the entire change can be accounted for by within-sector changes in coverage. In the third period (2017-2021) when the decline slowed down, both structural change and within-sector changes contributed to the measured decline.

Both the private wage and non-wage non-agricultural sectors experienced substantial declines in social insurance coverage during the 2007 to 2021 period, begging the question whether these declines were due to structural change within these sectors. Coverage



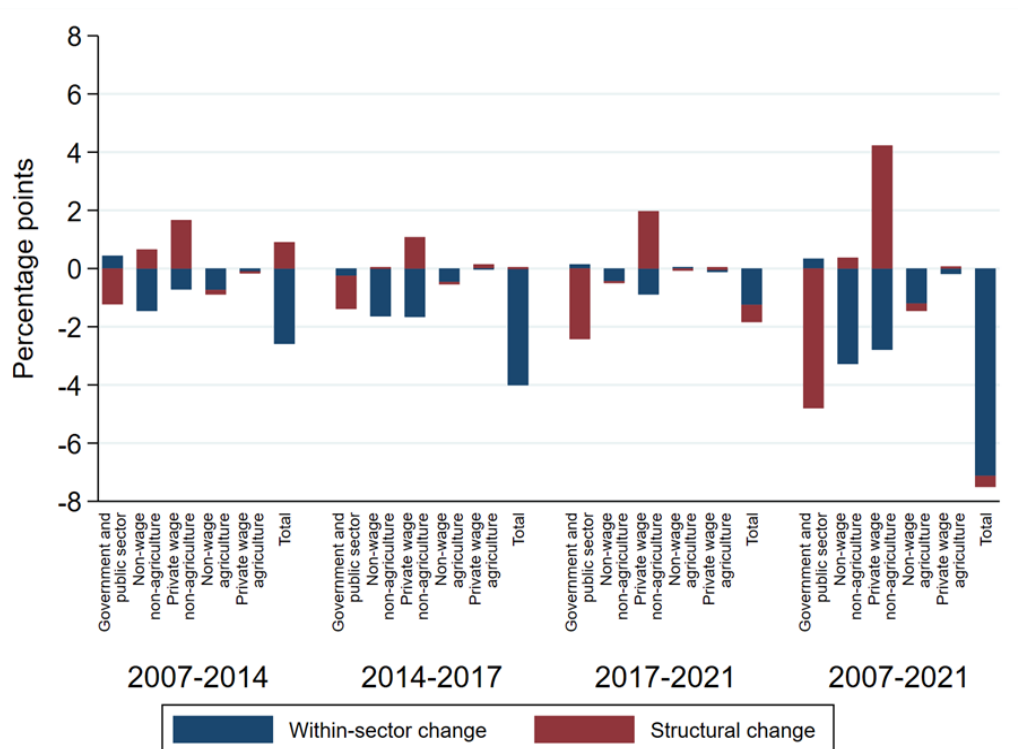
Figure 1: Percent of workers with social insurance coverage by employment status, year and survey type



Source: Assaad and Wahby (2023)

Note: Wage workers are employees. Nonwage workers include employers, own-account workers, and unpaid contributing family workers.

Figure 2: Contribution to the change in social insurance coverage from the within-sector change and the structural change components by sector and time period – Aggregate



Source : Assaad and Wahby (2023).

Note: Annual data from Labour Force survey is smoothed by fitting trend lines for each time period (2007-2014, 2014-2017, 2017-2021).



in the private wage non-agriculture sector fell from 38% in 2007 to 27% in 2021, with the most rapid decline occurring from 2014 to 2017. Coverage in nonwage non-agricultural employment fell even more from 42% in 2007 to 20% in 2021, again with the most rapid pace of decline happening from 2014 to 2017. Looking within these two sectors, we don't see substantial shifts in industry composition over time. In fact, the vast majority of the drop in coverage in both sectors is attributable to within-industry changes rather than compositional shifts. In fact, structural change alone in the non-wage non-agricultural sector would have resulted in a slight increase in coverage rather than the large decline that was actually observed.

**The Contribution of Shifts in other Compositional Factors: A Multivariate Analysis**

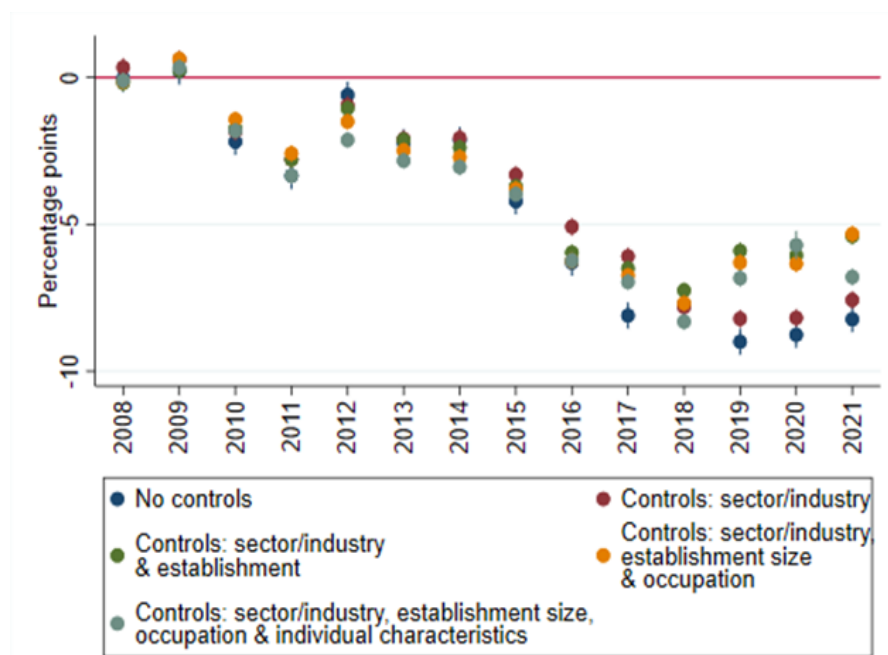
Having ruled out compositional shifts in sector of ownership, employment status, and branch of economic activity as main contributors to the observed decline in coverage, using multivariate analysis, we go on to investigate the contribution of other compositional factors, such as the share of workers working outside establishments, and for those in establishments, the size distribution of establishments, occupational class,

educational composition, sex, marital status, potential experience, and tenure on the job (Assaad & Wahby 2023). We sequentially add controls for each of these compositional factors to the detailed sector/industry controls we already considered in the decomposition above to determine how the observed trend in coverage is altered as we increasingly control for firm and workforce composition.

As shown in Figure 3, the estimated trend in coverage relative to 2007 is not strongly altered by the addition of various compositional controls until 2018. The rapid decline observed from 2014 to 2017 remains essentially in place when all the compositional factors are controlled for, and it even extends to 2018. Starting in 2019 the observed trend (no controls) and the estimated trends start to deviate especially when the composition of jobs by work in establishments and establishment size is controlled for. This suggests that had the composition of the workforce not shifted toward categories of jobs that are more difficult to cover, such as work outside establishments and jobs in micro and small establishments, coverage rates would have actually increased during this period substantially more than the modest increases that are observed in 2020 and 2021.

Having determined that compositional shifts in the type of jobs and workers do not explain the large declines in

*Figure 3: Estimated trend in social insurance coverage as compositional factors related to sector, establishment size, occupational grouping, and individual characteristics are sequentially controlled for*



Source: Assaad and Wahby (2023)

Note: individual characteristics included are potential experience, education level, sex, marital status and tenure on the job.



coverage observed from 2014 to 2017, we proceed to determine which types of jobs and workers experienced the largest drops in coverage over the period under consideration. Our analysis indicates that controlling for other factors, private wage workers in services such as education and health had the largest drop in coverage, but because of its size, it was the mining, manufacturing, and utilities sector that contributed the most to the drop in coverage. Among non-wage non-agricultural workers, workers in accommodation and food services and other services experienced the largest drops in coverage, but again, because of its size, it was the wholesale and retail trade sub-sector that contributed the most to the drop in coverage.

As shown in Figure 4, workers in micro (1-4 workers) and small establishments (5-24 workers) also experienced large drops in coverage. Coverage also dropped temporarily from 2014 to 2017 for workers in medium (25-99 workers) establishments but recovered from 2017 to 2021. This could explain the acceleration of the drop in the 2014 to 2017 period.

Further analysis of the trend in coverage by individual characteristics reveals that the drop in coverage was almost exclusively confined to workers with no formal educational certificates, single males and, more recently ever married males, and workers with less than 5 years of tenure on the job.

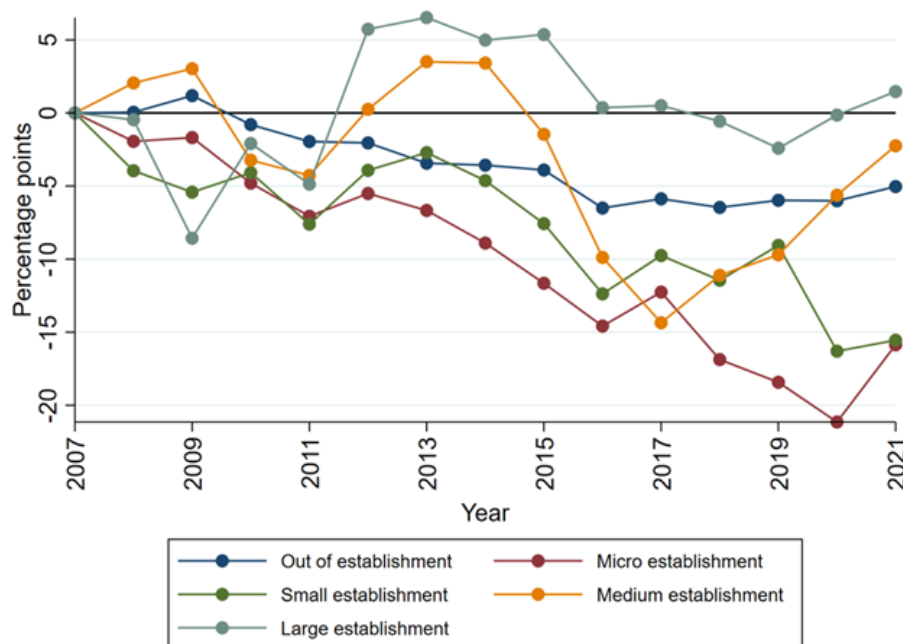
## Conclusions and Policy Implications

In general, we find that structural change in the economy, meaning the compositional shifts in the type of jobs generated by the economy, had a limited effect on the change in coverage. At the aggregate level, the expected positive effect on coverage resulting from the declining share of agricultural employment was counteracted by the negative effect on coverage of the declining share of the government/public sector. Most of the decline in coverage occurred in the private wage and non-wage non-agricultural sectors, leading us to examine more closely what was happening in these sectors.

Within the private wage non-agricultural sector, the within-sector component vastly dominates the structural change component and occurs primarily in the 2014-2017 period. The largest sub-sector contributing to the fall in coverage within private wage non-agriculture is mining, manufacturing and utilities, which contributed negatively to both the within-sector component and the structural change component.

The within-sector component also dominates the structural change component in the drop in coverage in non-wage non-agricultural employment. In fact, structural change alone in that sector would have contributed to a slight increase in coverage. The sub-sector contributing the most to the within-sector drop in coverage is wholesale

*Figure 4: Trend of social insurance coverage across establishment size controlling for job and individual characteristics*



Source: Assaad and Wahby (2023)





and retail trade, which experienced substantial drops in coverage and makes up about 45 percent of nonwage non-agricultural employment.

Regression analysis confirms that the observed declines in coverage between 2014 and 2017 would have occurred even if compositional changes in the structure of employment are controlled for. They reveal however, that coverage would have recovered somewhat in the period from 2018 to 2021 had the percent working in establishments and establishment sizes not changed. Controlling for individual characteristics does not change the results of the regression which means that the decline in social insurance coverage cannot be explained by a change in the composition of the workforce.

Our results show that declines in coverage were concentrated among workers in micro and small establishments, and temporarily from 2014 to 2017 among workers in medium establishments. Along individual characteristics, declines in coverage were largest for male workers with no education. Finally, the decline in coverage is concentrated among new entrants (with less than 5 years of job tenure), suggesting that the decline is due to new workers acquiring coverage at lower rates rather than currently insured workers losing their coverage. This is also the conclusion that Krafft and Hannafi (2023) come to after studying the dynamics of social insurance coverage in Egypt.

We conclude from this analysis that the drop in social insurance coverage in Egypt, especially the drop that occurred in the period from 2014 to 2017 or even 2018 occurred because specific types of jobs were less likely to be covered rather than because the mix of jobs in the economy changed. This suggests that the decline is due to changes intrinsic to the social insurance system itself or in the proximate policy environment that affects the calculus of employers and workers to obtain coverage. Selwaness and Barsoum (2023) make a convincing case that changes in the rules defining the minimum insurable wage starting in 2015 substantially increased the ratio of the minimum insurable wage to the actual wage in the subsequent period. This was particularly pronounced for workers in the lowest wage quintile. Such changes would have clearly changed the calculus of employers about whether to enroll low-wage workers in social insurance. If these rules also apply to nonwage workers, they could explain why lower income nonwage workers would no longer find it worth it to acquire social insurance. The moderation of the decline in coverage brought about by these rule changes towards the end of the study period may have had to do with the introduction of stiff fines for non-coverage of

eligible workers in the new 2019 social insurance law. An evaluation of the impact of this law is outside the scope of this paper and will require a more in-depth analysis.

An additional hypothesis worth investigating is the effect of the introduction of the Takaful and Karama cash transfer program in 2015. One of the eligibility conditions for Takaful and Karama is to not have social insurance coverage. It is therefore possible that many workers who could otherwise be eligible (low-paid or less educated workers) increasingly opted not to obtain coverage in order to increase their chance of eligibility for Takaful and Karama.

The main policy lesson to draw from this experience is to always anticipate the behavioral responses to policy changes. The authorities may have wanted to curb the practice of declaring an insurable wage that is below the actual wage, but the solution they came up with – raising the minimum insurable wage—made it less likely that employers would enroll their low-paid workers in social insurance and also less likely that low-earning self-employed workers would self-enroll. Whether the 2019 law has change this calculus by imposing substantial fines for non-coverage of workers remains to be seen. The possible interaction with the conditions for eligibility for the Takaful and Karama program also indicates the need to anticipate the unintended consequences of such conditionality. Had the Takaful and Karama program been available for all deserving households irrespective of their social insurance status, it would not have led to a possible drop in coverage for some of the most vulnerable workers.

### *References*

- Assaad, R. and S. Wahby. 2023. Why is social insurance coverage declining in Egypt? A Decomposition analysis. ERF Working Paper No. 1658. Economic Research Forum, Cairo, Egypt.
- Krafft, C. and C. Hannafi. 2023. The Dynamics of Social Insurance in Egypt. ERF working Paper No. 1655. Economic Research Forum, Cairo, Egypt.
- Selwaness, I and G. Barsoum. 2023. When formality is costly and informality is legal: Social insurance design woes at a time of economic crises. ERF Working Paper No. 1661, Economic Research Forum, Cairo, Egypt.





**ERF at a Glance:** *The Economic Research Forum (ERF) is a regional network dedicated to promoting high-quality economic research for sustainable development in the Arab countries, Iran and Turkey. Established in 1993, ERF's core objectives are to build a strong research capacity in the region; to encourage the production of independent, high-quality research; and to disseminate research output to a wide and diverse audience. To achieve these objectives, ERF's portfolio of activities includes managing carefully selected regional research initiatives; providing training and mentoring to junior researchers; and disseminating the research findings through seminars, conferences and a variety of publications. The network is headquartered in Egypt but its affiliates come primarily from different countries in the region.*

### Contact Information

#### ERF Office

**Address:** 21 Al-Sad Al-Aaly St. Dokki, Giza, Egypt

PO Box 12311

**Tel:** +202 333 18 600 - 603

**Fax:** +202 333 18 604

**Email:** erf@erf.org.eg

**Website:** <http://www.erf.org.eg>

### Follow us



[economic-research-forum](https://www.linkedin.com/company/economic-research-forum)



[ERFLatest](#)



[TheERFLatest](#)



[www.erf.org.eg](http://www.erf.org.eg)

