

POLICY BRIEF

Wage Transparency Induces Wage Increases: The effect of IMSS RPCI*

1 Motivation

According to the International Labour Organization, close to 60 percent of workers worldwide work in the informal sector (ILO, 2018). The informal sector comprises close to a third of economic activity in developing countries, twice as much as in developed ones.¹ The prevalence of informality may not be innocuous. Informality facilitates tax evasion, weakening state capacity. Moreover, having some workers and not others be subject to taxes could cause distortions in the allocation of resources, lowering a country's income (Hsieh and Klenow, 2009).

A desire to evade payroll taxes occurs along several margins. First, firms themselves may not register with the tax authorities. Second, even if the firm is registered, it may hire workers and not report them to the Social Security Administration (IMSS, its acronym in Mexico). These two margins are the focus of the important work of Ulyssea (2018). A third understudied margin revolves around what wage to declare to tax authorities when both the firm and the worker are registered with tax authorities. Payroll taxes create incentives for both firms and workers to report lower salaries, thereby paying lower taxes. Thus, employers may (illegally) unilaterally decide not to register the worker with IMSS while telling him/her they are registered, or may register them with a lower salary. Reporting a low salary has costs for workers that are not incurred by the firm, potentially generating a moral hazard problem. For instance, the amount of disability insurance and the amount contributed to the worker's personal retirement savings account is a function of reported wage. But if the worker (incorrectly) believes she is registered for those benefits, she may accept lower wages today only to find out at retirement that her reported salary was much lower than her actual one, translating into a small retirement pension.

One way to address unilateral underreporting is to provide workers with easily accessible information on whether they are registered as formal workers and their registered salary. The RPCI

*This brief is based on a working paper by the same name written by Marco Medina, Eduardo Alcaraz, Gabriela López, Luis Martínez, and Enrique Seira.

¹<https://www.imf.org/external/pubs/ft/fandd/2020/12/pdf/what-is-the-informal-economy-basics.pdf>

(Reporte Personalizado de Cotizaciones en el IMSS) does just that. RPCI was convinced and developed by the “Dirección de Incorporación y Recaudación” at IMSS, under its director Norma Gabriela Lopez. The RPCI provides workers with easy access to information about their job registration, including their current reported wage and the legal name of their employer. Workers can register for the RPCI through the IMSS app and receive their personalized report on a monthly basis after registration. This enhances workers’ access to information regarding their job registration and promotes compliance through worker enforcement. The initiative has the potential to increase job registration (i.e. job formality) at little cost. The cost IMSS incurred for implementing the RPCI was only \$533,000 pesos. Before RPCI workers had to ask for an appointment to an IMSS office, show IDs, and wait your turn to get the information. This could take weeks of delay and hours of waiting in line and few workers did it.

Figure 1 shows a screenshot of the IMSS app and provides an example of the PDF report that workers receive through the RPCI.

Figure 1: RPCI example

(a) IMSS Digital app



(b) RPCI PDF file



Figure (a) shows the IMSS Digital app, where once the worker is registered for the RPCI, the worker can download their report in PDF or receive it via email. Figure (b) shows an example of the PDF for the RPCI. The report includes the worker job registered information, such as wage and the firm the worker is registered at.

If there is underreporting occurring with the consent of workers, then a policy of providing workers with information about their formal status and wage reported should have no effect. But

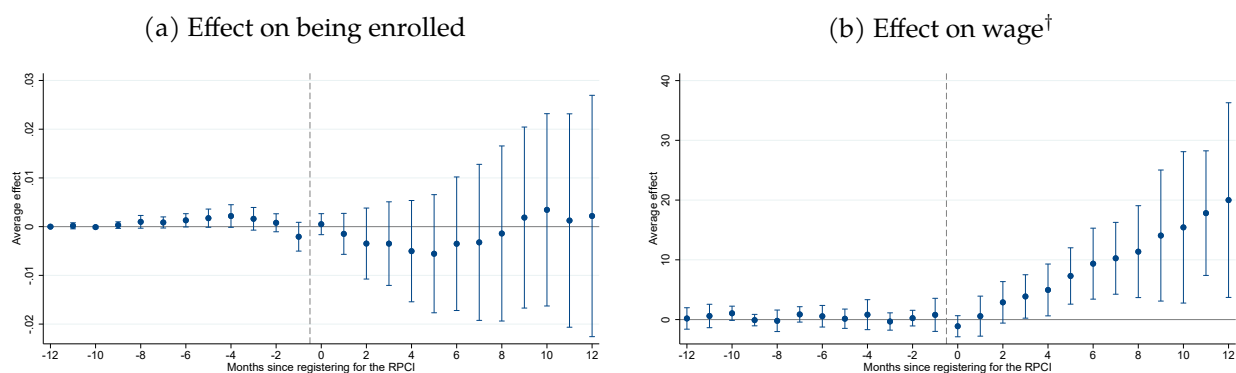
if underreporting occurs behind the worker’s back, we would expect that informing workers about their formality status would lead to changes in behavior, potentially increasing reported wages.

2 Results

We formally test if RPCI caused increases in wages. To do this we exploit the staggered adoption of the RPCI app in a differences-in-differences event study methodology. From February 2021 to August 2022, RPCI incorporated more than 800,000 new users. While adoption was not randomly assigned, as we show below we early and late adopters were on similar pre-trends, lending some credence to a causal interpretation.

Using IMSS administrative data and the differences-in-differences methodology of [de Chaisemartin and D’Haultfoeuille \(2022\)](#), we estimate the effect of downloading the RPCI app study on 2 outcomes: reported wages for those that were already registered (intensive margin), and whether workers are more or less likely to keep that job (extensive margin). Effectively, we compare early adopters to late adopters and non-adopters, allowing for dynamic and heterogeneous treatment effects. We find that, before adoption, early, late RPCI and non-adopters had similar time trends of wages and employment status (IMSS registration). However, we find wages start to increase exactly when the RPCI App is downloaded, reaching an average increase of 20 pesos 1 year after, close to 5% of mean wages. That is, under the identification assumptions in the paper, we find that on average, **wages increased by 5% because they adopted RPCI.**²

Figure 2: Event studies - RPCI effect on enrollment and wages



This figure shows the event studies for the effect of registering to the RPCI on enrollment and the worker’s wage. *Sample:* Panel data for a random sample of the workers enrolled at the Mexican Institute of Social Security (IMSS) during 2020 and January 2021 (before the RPCI launch). *Enrolled* is a dummy variable where 1 means worker i was enrolled at IMSS during period t . *Wage* is the registered wage for worker i during period t (missing when the worker isn’t enrolled). The event studies follow the estimators proposed by [De Chaisemartin and d’Haultfoeuille \(2020\)](#). Robust standard errors clustered by worker.

Second, one may worry that the information causes conflict between workers and their employers, which could lead to job loss. Contrary to this, we detect no effect on the likelihood of being

²We find that the effect is larger for males, older workers (55 to 65), and for those earning 1 to 3 minimum wages, firms that registered agriculture and construction as their industry, and small firms (<50 workers).

registered at IMSS. The evidence suggests that a fraction of workers did not know their wages were underreported and that the RPCI app led to increased reported wages without leading to job loss.

3 Conclusion

We study whether providing information about enrollment and wages to citizens through the RPCI app increased wages without causing workers to exit the formal sector. Compared to a control group that has not installed RPCI, wages increased by 5% of the mean (close to \$20 pesos per day). The results above suggest that a substantial fraction of workers did not know that their employers were reporting lower wages to IMSS.

Using the current payroll tax rate of around 24% and that more than 2 million workers are using RPCI, the \$20 peso increase in wage translates into **an additional annual payroll tax collection of about 2,400 million pesos per year**, implying a cost-benefit of the RPCI implementation of about \$4,500 pesos for each peso invested.

Future research could extend our results along the following lines. First, we use naturally occurring variation in the use of RPCI. Implementing a randomized controlled campaign that very actively invited a random sample of non-RPCI users to install RPCI would lend more robustness to our causal interpretation. Second, we focused on a sample of people who were enrolled in IMSS. Ideally, one would also like to measure the effect on informal workers. Third, an increase in reported wages does not imply increases in wages actually received by workers. To assess worker welfare, one would need to know how much they receive. This could be achieved by asking workers directly. Finally, one could potentially assess how much RPCI decreases evasion by combining IMSS and SAT data.

References

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