

Minimum Wage, Informality, and Earnings Inequality: Evidence from Mexico*

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VERY PRELIMINARY

What are the implications of a decline in the minimum wage for earnings inequality in an economy with a sizable informal sector? We address this question by using rich administrative matched employer-employee data and survey data from Mexico, a country where almost half of the workers are informally employed, combined with an equilibrium search model of the labor market. Between 1988 and 1996, the Mexican economy witnessed two opposite trends: a 61 log point increase in P90-P10 earnings inequality in the formal sector was accompanied by a 48 log point decline in the real minimum wage. On the empirical side, we show that the minimum wage spillover effects reach up to the 70th percentile of the earnings distribution. Next, using the AKM decomposition, we find that the variance of worker fixed effects accounts for about 60% of the total variance of log earnings. Finally, using the model that features both formal and informal sectors, we evaluate the effects of the minimum wage decline on the earnings distribution in the formal sector, employment, and output in Mexico.

JEL: E26, J31, J46. [one more](#)

Keywords: Minimum Wage, Income Inequality, Informality, Inequality Decomposition.

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1 Introduction

The main contributions of this paper are threefold.

To the best of our knowledge, this paper is the first one that

This paper contributes to several strands of literature. First, it is related to the

Next, our paper contributes to the

Alvarez et al. (2018) Verhoogen (2008) Lee (1999) Campos-Vazquez and Esquivel (2020) Song et al. (2019) Engbom and Moser (2021) Engbom et al. (2022) Abowd et al. (1999) Autor et al. (2016) Flinn (2006) Meghir et al. (2015) Burdett and Mortensen (1998) Teulings (2003) Castellanos et al. (2004) Bell (1997) Campos-Vazquez and Esquivel (2021) Bosch and Manacorda (2010) Puggioni et al. (2022) Ulyssea (2020) Lemos (2009) La Porta and Shleifer (2008) Maloney and Mendez (2004) Jales (2018) Caruso Bloeck et al. (2019) Dube (2019) Neumark et al. (2004) Neumark et al. (2005) Berger et al. (2022)

The rest of the paper is organized as follows. In Section ?? we provide !!! . Section 3 describes the !!! . Section 5 lays out the search model that features !!! . Section 6 discusses the parameterization. Section 7 concludes.

2 Minimum Wages in Mexico: Institutional Background

Starting from 1986, all Mexican municipalities have been assigned to one of three minimum wage areas. These areas are denoted by A, B, and C.

3 Data

The main sources of data for our analysis are the

4 Empirical Findings

4.1 Earnings Inequality in Mexico

¹

4.2 Minimum Wage in Mexico

Exposure to min wage

¹ We are aware of . In the subsequent versions of the paper, we will also report the results !!! Bonhomme et al. (2019) and Kline et al. (2020).

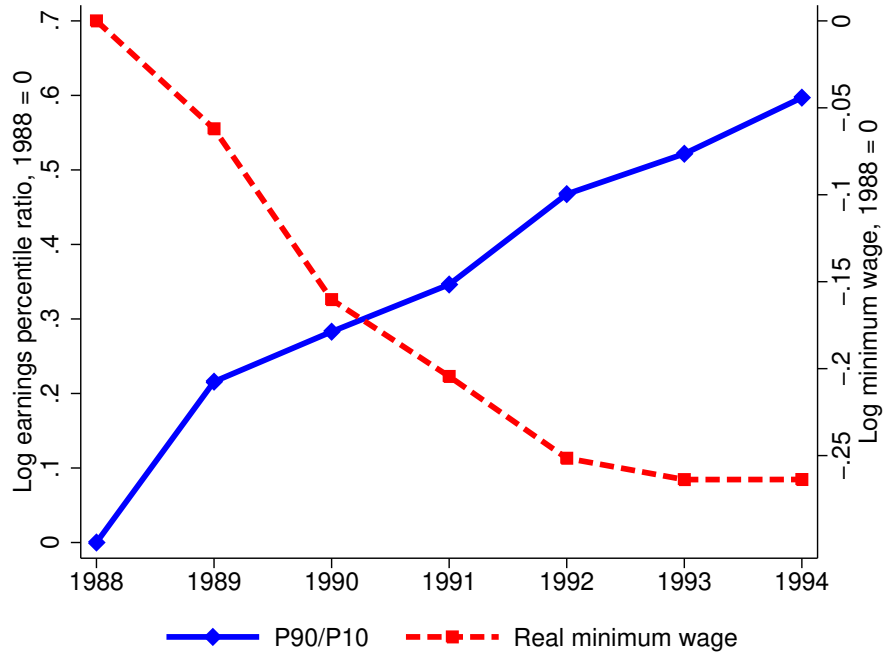


Figure 1: Earnings inequality and real minimum wage in Mexico

NOTES: .

4.3 Spillover Effects of Minimum Wage

Marginal effect	(1)
$p = 10$	0.744 (0.115)***
$p = 20$	0.504 (0.056)***
$p = 30$	0.176 (0.017)***
$p = 40$	0.061 (0.011)***
$p = 60$	-0.029 (0.010)***
$p = 70$	-0.034 (0.019)*
$p = 80$	-0.009 (0.027)
$p = 90$	-0.047 (0.033)
Year FE	Yes

NOTES: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Time period: 1988-2012. Marginal effects are evaluated at the worker-weighted mean across states and years.

4.4 Informality in Mexico

formal informal share + time spent in formal

5 Model

5.1 Model Environment

Workers.

Firms.

5.2 Worker's Problem

Value of unemployed workers:

$$\rho U_\theta = b_\theta + \underbrace{\lambda_{01}^\theta \int_{\underline{w}_1}^{\bar{w}_1} \max\{W_\theta^1(w) - U_\theta, 0\} dF_\theta^1(w)}_{\text{unemployment} \rightarrow \text{formal sector}} + \underbrace{\lambda_{02}^\theta \int_{\underline{w}_2}^{\bar{w}_2} \max\{W_\theta^2(w) - U_\theta, 0\} dF_\theta^2(w)}_{\text{unemployment} \rightarrow \text{informal sector}} \quad (1)$$

Value of workers employed in the formal sector:

$$\begin{aligned} \rho W_\theta^1(w) = & w + \underbrace{\lambda_{10}^\theta [U_\theta + s \cdot w - W_\theta^1(w)]}_{\text{formal} \rightarrow \text{unemployment}} + \underbrace{\lambda_{11}^\theta \int_w^{\bar{w}_1} [W_\theta^1(w') - W_\theta^1(w)] dF_\theta^1(w')}_{\text{formal} \rightarrow \text{formal}} + \\ & \underbrace{\lambda_{12}^\theta \int_w^{\bar{w}_2} [W_\theta^2(w') - W_\theta^1(w)] dF_\theta^2(w')}_{\text{formal} \rightarrow \text{informal}} \quad (2) \end{aligned}$$

Value of workers employed in the informal sector:

$$\begin{aligned} \rho W_\theta^2(w) = & w + \underbrace{\lambda_{20}^\theta [U_\theta - W_\theta^2(w)]}_{\text{informal} \rightarrow \text{unemployment}} + \underbrace{\lambda_{21}^\theta \int_w^{\bar{w}_1} [W_\theta^1(w') - W_\theta^2(w)] dF_\theta^1(w')}_{\text{informal} \rightarrow \text{formal}} + \\ & \underbrace{\lambda_{22}^\theta \int_w^{\bar{w}_2} [W_\theta^2(w') - W_\theta^2(w)] dF_\theta^2(w')}_{\text{informal} \rightarrow \text{informal}} \quad (3) \end{aligned}$$

5.3 Firm's Problem

Profit maximization of firms operating in the formal sector:

$$\pi_1(p) = \max_{w_\theta^1 \geq w^{\min}, v_\theta^1} \underbrace{(1-t)\{[p\theta - (1+\tau + \lambda_{10}^\theta s) w_\theta^1] l_\theta^1(w_\theta^1, v_\theta^1) - c_\theta(v_\theta^1)\}}_{\text{profit tax}} \quad \forall \theta \quad (4)$$

vacancy cost

Profit maximization of firms operating in the informal sector:

$$\pi_2(p) = \max_{w_\theta^2, v_\theta^2} [p\theta - w_\theta^2] l_\theta^2(w_\theta^2, v_\theta^2) - \underbrace{c_\theta(v_\theta^2)}_{\text{vacancy cost}} - \underbrace{\mathcal{C}(l_\theta^2(w_\theta^2, v_\theta^2))}_{\text{informality cost}} \quad \forall \theta \quad (5)$$

5.4 Equilibrium

6 Parameter Choices

7 Conclusion

In this paper, we

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Appendix A: Additional Figures

Earnings Percentiles and Minimum Wage in Mexico

State-Level Kaitz Index over Time

P90-50 and P50-10 and Min wage

Appendix B: Additional Tables