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Mexico's minimum wage data: Trends, policies, and a research agenda

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ABSTRACT:

The decline of the real value of the minimum wage amid trade liberalization in Mexico has raised concerns about its policy effectiveness and unintended consequences. The literature has examined the impact of minimum wage adjustments on employment levels, worker earnings, poverty, and inequality. However, findings from different sample periods and regions still need to be reconciled. It is necessary to understand the mechanisms connecting minimum wage to other market components. This research note first explores Mexico's minimum wage data from 1980 to 2023 to grasp its spatial and temporal trends. We then discuss several future research directions to explore mechanisms through which minimum wage potentially works, including the welfare effect of the policy, the informal sector, and interactions between different policy tools.

KEYWORDS: Minimum wage; income inequality; policy effectiveness; trade liberalization; Mexican Economy.

JEL CLASSIFICATION: J31; J46; R23; E24.

Datos sobre el salario mínimo en México: tendencias, políticas y una agenda de investigación

RESUMEN:

La disminución del valor real del salario mínimo en medio de la liberalización comercial en México ha generado preocupaciones sobre la efectividad de su política y sus consecuencias no deseadas. La literatura ha examinado el impacto de los ajustes del salario mínimo en los niveles de empleo, los ingresos de los trabajadores, la pobreza y la desigualdad. Sin embargo, aún es necesario conciliar los resultados de diferentes períodos y regiones. Es necesario comprender los mecanismos que conectan el salario mínimo con otros componentes del mercado. Esta investigación explora primero los datos del salario mínimo de México de 1980 a 2023 para captar sus tendencias espaciales y temporales. Luego discute varias líneas de investigación futuras para explorar los mecanismos a través de los cuales el salario mínimo potencialmente funciona, incluido el efecto de la política en el bienestar, el sector informal y las interacciones entre diferentes herramientas políticas.

PALABRAS CLAVE: Salario mínimo; desigualdad del ingreso; efectividad de las políticas; liberalización comercial; Economía Mexicana.

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CLASIFICACIÓN JEL: J31; J46; R23; E24.

1. INTRODUCTION

Mexico has enjoyed rapid industrial development in the past several decades following both its economic reform efforts and globalization. In particular, the country's manufacturing industry has seen unprecedented expansion in the northern states after the North American Free Trade Agreement (NAFTA) due to its proximity to the U.S. markets and cheap labor. According to the U.S. Census Bureau, Mexico's exports to the U.S. have grown from 49.5 billion dollars in 1994 (NAFTA established) to 454.8 billion dollars in 2022 (more than nine times).¹ Meanwhile, according to the World Bank, Mexico's imports and exports of goods and services grew to more than 80% of its GDP as of 2021.² Given such a trade-driven economy, it is not surprising that Mexico's northern regions near the US-Mexico border grow faster than those further from it (Diaz-Dapena et al., 2019). Beyond the regional inequality in economic growth, one major concern about Mexico's rapid industrial growth is the widening worker earnings gap across sectors and regions (Ibarra-Olivo & Rodríguez-Pose, 2022). A common policy remedy for this socioeconomic concern is the minimum wage law, formally introduced in Mexico in 1964 with several major revisions since the 1980s. There has been a growing debate in the literature regarding the effectiveness of minimum wage regulations and their unintended consequences in Mexico (e.g., Bell, 1997; Bouchot Viveros, 2018; Campos-Vazquez & Esquivel, 2021).

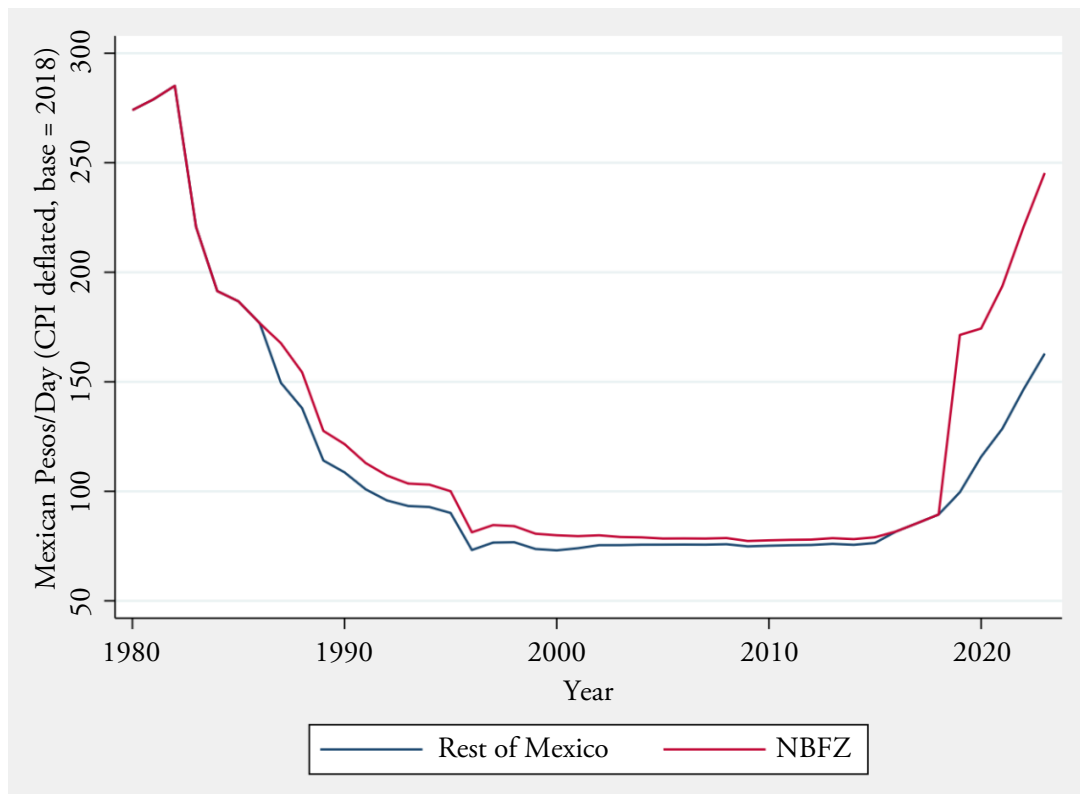
The goal of this research note is twofold. First, we assemble a comprehensive data set of Mexico's minimum wage with a municipal-level resolution and explore its trends and spatial variations, along with other data for comparisons. Second, we review and leverage existing research on Mexico's minimum wage regulations to inspire new research questions. One shocking fact about Mexico's minimum wage is its decline in real value since the 1980s (see Figure 1 for the CPI-deflated minimum wage series in Mexico). Its coincidence with the commencement of NAFTA makes it an even more puzzling economic phenomenon. The literature has shown that trade openness since the 1990s has contributed to wage gaps and regional inequality in Mexico (e.g., Esquivel & Rodríguez-López, 2003; Wang & Garduno-Rivera, 2023). While trade liberalization may seem inevitable within the context of economic globalization, it does pose a question regarding using minimum wage as a policy tool to address adverse effects and unintended consequences related to trade liberalization and other economic reforms. This research note intends to start a conversation on how income and welfare-related policymaking can be inclusive of potential adverse effects and unintended consequences.

We first review existing research to identify knowledge gaps and insights into Mexico's minimum wage-related policy agenda (Section 2). We then analyze the assembled minimum wage data set to explore policy-relevant trends and variations (Section 3). Based on the two, lastly, we discuss potential new research directions integrating the minimum wage data and other associated data sources (Section 4).

¹ In nominal values. See <https://www.census.gov/foreign-trade/balance/c2010.html>, accessed Sep 27, 2023.

² <https://wits.worldbank.org/CountryProfile/en/Country/MEX/Year/LTST/>, accessed Sep 27, 2023.

FIGURE 1.
Real minimum wages in Mexico since the 1980s



Note: Wages are CPI-deflated; base year = 2018; NBFZ: northern border-free zone.³ Data Source: Bank of Mexico.

2. LITERATURE REVIEW

Minimum wages are an important and sometimes controversial topic. An increase in the minimum wage can facilitate an exit from poverty for individuals and families, and it has become a legitimate economic development policy tool in many countries, including Mexico (Moreno-Brid et al., 2014). On the negative side, increasing the minimum wage can result in potential job losses and inflation (Campos-Vazquez et al., 2017). Academic literature on the minimum wage in Mexico has examined its impact from a variety of perspectives. These include its impact on employment levels (Bell, 1997; Feliciano, 1998), poverty rates (Velázquez, 2018), and wages, wage structure and income inequality (Bosch & Manacorda, 2010; Fairris et al., 2008; Krozer et al., 2015; Moreno-Brid et al., 2016).

Twice in recent years (2013 and 2019), the Mexican government has increased the minimum wage in specific parts of the country. The fact that these increases were geographically targeted afforded social scientists the opportunity, using synthetic control methods and difference in differences (DiD) approaches, to identify the impact of an increase in the minimum wage. From 1987 until the end of 2012, Mexico had three minimum wage zones (A, B, and C).⁴ Zone A had the highest minimum wage, while Zone C had the lowest. Towards the end of 2012, the federal government announced that the minimum wage of Zone B would increase to be on par with Zone A. This change represented a 2.9% nominal increase in

³ The border free zone consists of 43 municipalities, according to the Mexican Ministry of Public Administration. See https://www.gob.mx/cms/uploads/image/file/508221/30_ZONA_LIBRE_DE_LA_FRONTERA_NORTE.jpg, accessed on September 27, 2023.

⁴ See https://www.gob.mx/cms/uploads/attachment/file/106627/Region_A_B_y_C.pdf for detailed classification of minimum wage zones, accessed on September 27, 2023. In general, Zone A covers municipalities in the US-Mexico border region.

Zone B's minimum wage, a region that contained about 10% of Mexico's workforce (Bouchot Viveros, 2018). The following section (Data and Trends) discusses Mexico's minimum wage evolution and policy changes.

Two studies (Campos-Vazquez et al., 2017; Bouchot Viveros, 2018) analyzed the impact of the higher minimum wage on wage rates, the distribution of earnings, labor status, and informal employment in Zone B. The findings of these studies were similar to each other. Concerning Zone B, Bouchot Viveros (2018) showed real wages increasing in both formal and informal labor markets, the level of employment increasing marginally, and worker participation in the informal sector decreasing. Regarding earnings distribution, Bouchot Viveros (2018) detected minimum wage spillover effects in which low-paid workers benefited less than high-paid workers—this increased wage dispersion and, hence, earning inequality. Campos-Vazquez et al. (2017) showed that the increased minimum wage had no negative impact on employment numbers, resulting in increased incomes for everyone except the lowest-paid workers. Finally, the increase in the minimum wage enticed some in the informal sector to move into formal employment. The former has been frequently referred to as a perverse factor for Mexico's productivity growth (e.g., Hanson, 2010).

In January 2019, the Mexican federal government introduced several measures to improve living standards for low-wage workers in the Northern Border Free Zone (NBFZ). These included increasing the nominal minimum wage by 100% in 43 municipalities bordering the United States and by 16% in non-border states (Campos-Vazquez & Esquivel, 2023). They also cut the value-added tax (VAT) from 16% to 8%. Campos-Vazquez and Esquivel (2020) found that in the year following the implementation of these policies, inflation decreased by an average of 1.8% throughout border municipalities. They concluded that the impact of doubling the minimum wage on inflation was negligible, with the reduction in the VAT predominating over the effect of the minimum wage increase. These results are similar to the ones found by Alvarado et al. (2023) and Calderón et al. (2023).

In another paper, the same authors explored the impact of doubling the minimum wage on employment earnings in Mexico (Campos-Vazquez & Esquivel, 2021). They found that the increase in the minimum wage had no significant effect on employment but had a positive and significant impact on earnings, especially for those at the bottom of the wage distribution. Campos-Vazquez and Esquivel (2023) also found that the increased minimum wage reduced poverty in border municipalities by between 2.6 and 3 percentage points. This increase in minimum wage was primarily the result of a reduction in the flow of people from non-poverty status into poverty. Despite these positive findings, the authors found an increase in the intensity of poverty. This result occurred because the minimum wage policy did not affect the poorest households with low labor force participation rates.

3. DATA-METHODS

The Mexican minimum wage data presented throughout this research note was assembled from the Bank of Mexico (2023), which records monthly minimum salaries since January 1964. It is important to note that the minimum salary in Mexico is based on a day of work, whereas countries like the U.S. define the minimum wage based on an hour of work. Spatial zones specify the minimum wage, and they have changed over time:

- From 1964 to 1986, there was only one minimum wage nationally.
- From 1987 to 2012, it was divided into three geographical areas (A, B, C).⁵
- From 2013 to 2015, it was reduced to two geographical areas (A & B).⁶
- From 2016 to 2018, there was only one minimum wage again in the country.

⁵ See Footnote 4 for the definition of Zones A, B, and C.

⁶ See https://www.gob.mx/cms/uploads/attachment/file/106624/Region_A_y_B_-_27_nov_2012.pdf, accessed on September 27, 2023.

- In January 2019, it was divided into two geographical areas: One minimum wage for the NBFZ and another for the rest of Mexico.⁷

The minimum wage had a large increase in January 2019. The 43 municipalities inside the NBFZ had an increase of 100%, whereas the rest of the country had an increase of only 16% (Campos-Vazquez & Esquivel, 2023). Given the context, it is worth emphasizing that the significant minimum wage hike in the last four years has translated into a strong boost to the purchasing power of Mexicans who benefited from the minimum wage regulation.

4. RESULTS

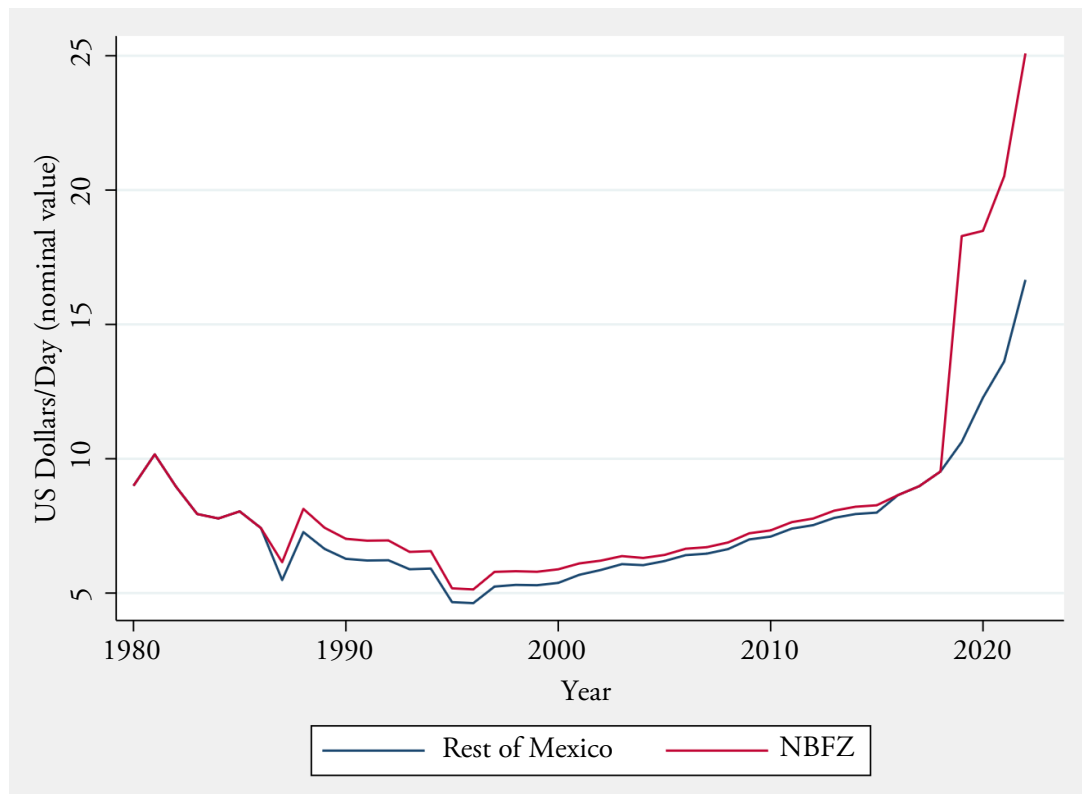
To better understand the data, we first used the National Consumer Price Index (CPI) provided by INEGI (2023) to convert the minimum wage to real Mexican pesos (base year = 2018) and compare it across time. We took the period from 1980 to the present to observe how the minimum wage's real value has changed, with NAFTA coming into effect in the middle (1994). Figure 1 shows the evolution of the average minimum wage by zone in real Mexican pesos. Clearly, the minimum wage plunged during the 1980s and the following decade. The real value of minimum wage reached its lowest point in 2000 when the minimum salary was divided into three zones (Zone A = MXN 37.9, Zone B = MXN 35.1, Zone C = MXN 32.7), with a national average equivalent of \$73.07 in real value (2018 MXN). The downfall made the minimum wage ineffective since it was way below the average salary, and people should have taken it as the labor market's price (wage) floor (Bell, 1997). It is important to underline that the minimum wage hike introduced in January 2019 merely started to catch up with the average minimum wage observed during the 1980s in terms of real value. Still, there is a long way to go from the almost four lost decades when the minimum wage plunged to an irrelevant level, along with an expanded dispersion of wages (Bouchot Viveros, 2018).

Nevertheless, the real value of minimum wage is only part of history. To better understand the minimum wage trend, we adjusted the data with the Purchasing Power Parity (PPP) provided by the OECD (2023). The conversion allows us to grasp the purchasing power that a Mexican, with a minimum wage, has earned over time compared to other countries. Figure 2 illustrates Mexico's minimum wage across time, adjusted by the PPP (to nominal dollars). As observed, during almost four decades (1980 to 2018), Mexico had a minimum salary between five and ten dollars per workday. Only in January 2019 did the current Mexican administration significantly increase the minimum salary to catch up with its NAFTA counterparts (Canada and the United States). However, it is still far from catching up since the minimum salary that a Mexican worker earns for a day's work (around \$25 in 2022) in the NBFZ is what their counterparts in Arizona, California, New Mexico, and Texas earn in less than 2 hours of work.⁸ Figure 3 compares the Mexican minimum wages with the four U.S. southwestern states in equivalent terms (nominal dollars). The wage difference has been substantial, so it has been very attractive for Mexican workers to migrate to the United States to get a better-paid job and other benefits (Arends-Kuenning et al., 2019).

⁷ See Footnote 3 for the definition of NBFZ zones.

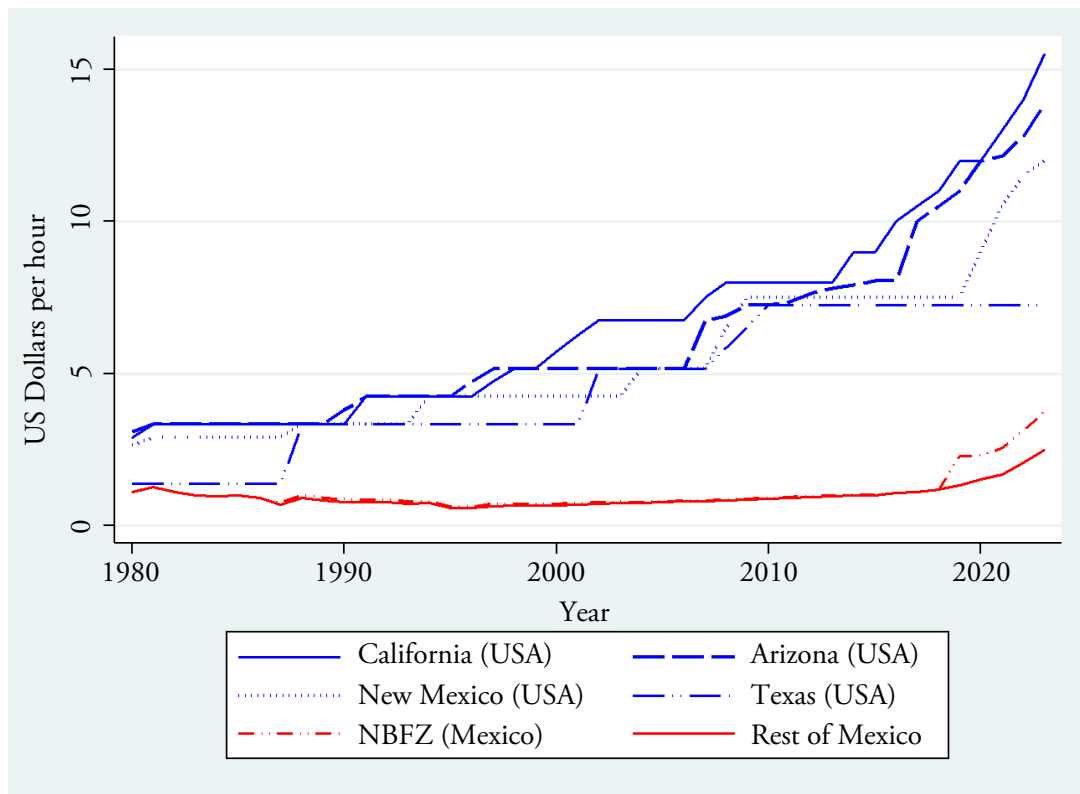
⁸ The 2022 hourly minimum wage in these states is \$12.80 (Arizona), \$14.00 (California), \$11.50 (New Mexico), and \$7.25 (Texas); all in nominal values.

FIGURE 2.
Mexican minimum wages adjusted by PPP



Data Source: Bank of Mexico and OECD.

FIGURE 3.
Mexican minimum wages compared to the U.S. southwestern states



Data Source: The Federal Reserve Bank of St. Louis and Bank of Mexico.

5. DISCUSSION AND CONCLUSIONS

Despite the significant adjustments in the last few years, Mexico has the lowest minimum wage (PPP adjusted) among the OECD countries. Even smaller economies of the OECD, such as Colombia, Chile, Latvia, and Slovakia, have higher minimum wages than Mexico. The low minimum wage and its recent decline trend have brought the attention of diverse economic studies since the policy tool has yet to reach its desired outcome of narrowing the wage dispersion and reducing informality in the Mexican economy. Recent studies (including those discussed in Section 2) have focused on the impact of minimum wage increases on employment, earnings, inflation, and poverty in Mexico. However, we need to ask and analyze the fundamental research question, as Bell (1997) did, if the minimum wage in Mexico is an effective economic policy tool, even after doubling it in the last decade. If the minimum wage is barely binding, then we have little understanding of the labor market mechanisms in the Mexican economy, and some of the existing findings may be spurious.

A critical research question is: Does the minimum wage policy act as a “price floor” in the Mexican labor market? This research question is the prerequisite to answer other socioeconomic questions related to minimum wage. For example, is the prevailing minimum wage sufficient to afford a basic standard of living, which is the policy's welfare goal? The historical data and existing research suggest that the Mexican minimum wage has not been enough to afford a basic standard of living in recent decades. The full effect of the recent minimum wage adjustment is yet to be seen, especially considering the recent high inflation experienced in the North American region (Adler et al., 2023).

Another related research question is: Does the minimum wage regulation help attract workers from the informal sector to formal sectors? Some existing studies (see Section 2) suggest that minimum wage

hikes do help increase employment in formal sectors. However, it is difficult to tell if the increase is due to the growth of the entire economy or workers flowing from the informal sector to the formal sector. One challenge here is to estimate the size of Mexico's informal economy (Fernández & Meza, 2015). Common knowledge suggests that the Mexican labor market has a potential workforce leakage through the informal sector and migration to the U.S. Is a higher minimum wage the policy remedy for the situation? It is an important question for future research to explore.

Lastly, it is worth noting that there are complicated interactions between minimum wage regulation and other fiscal policy tools, such as taxation. A few recent studies have touched on the topic (e.g., Campos-Vazquez & Esquivel, 2020; Calderón et al., 2023). A general research question is: Will policy bundling make minimum wage regulation in Mexico more effective in terms of labor market outcomes? Of course, policy bundling should not be limited to fiscal policy (e.g., minimum wage and taxes) only. Other options, such as trade and industrial policies, should be considered.

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