

Minimum Wage Policy and Inequality in Latin America and the Caribbean

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I. Introduction

In this chapter we review the literature and inform policy debates about the effects of minimum wages (MW) on income inequality in Latin America and the Caribbean (LAC). Earnings are the primary source of income among families, especially in the lower part of the earnings and household income distribution. It is reasonable, therefore, to expect increases in the minimum wage to have a significant impact on earnings and income inequality.

Simple correlations between minimum wages and inequality in many LAC countries in the early 21st century appear to back up the conclusion that higher MW reduce income inequality. One example is Brazil. From 1998 through 2015 there was an unprecedented fall in household income inequality; and over the same period, MW increased as a proportion of average wages from around 30% of average formal wages to over 35%. The correlation coefficient between the MW and inequality from 1998 to 2020 was -0.93. However, correlation is not causation. There were many other factors in Brazil that could be primarily responsible for the fall in inequality. For example, from 1998 to 2015 there was a dramatic increase in social spending, especially on education, and an expansion of the coverage of poverty-reduction policies such as the CCT Bolsa Familia. Further, throughout LAC in the early 2000s the decline in inequality occurred during the commodity boom, a slow-down in the rate of skill-biased technological change, and a period of economic growth. In this case, again, the correlation between MW and inequality could be spurious.

Despite a valuable recent literature, we have quite an incomplete understanding of the causal impact of MWs on inequality. This is in part because of conceptual complexity. Theoretically, effects on inequality can go in opposite directions depending on a large number of aspects, such as whether the focus is on

earnings or household income inequality, the extent of monopsony in the labor market, and the impact of MW on legally uncovered and sub-MW workers. Moreover, in LAC changes in MW are not always enforced, bringing another layer of complexity.

This paper contributes to previous reviews of the literature on the impact of MW in LAC and other middle income countries in several ways (for a recent review, see Neumark and Munguía-Corella, 2021). First, we focus on the impact of MW on inequality rather than the more commonly reported impact on employment, discussing alternative mechanisms and channels of influence. Second, we emphasize the importance of enforcement and compliance in understanding the effects of MW in the LAC institutional setting. Third, we provide some novel descriptive data about the actors and institutions fixing and enforcing minimum wages in the region. Fourth, we devote more space to the political arena, and try to integrate the labor politics and labor economics literatures.

II. Description of Minimum Wage Policy in LAC

Theoretically, there is little doubt that the demand and supply of labor depends on the real costs and benefits of working conditions, not only on in-form regulations. Despite the conceptual clarity, most the empirical work only covers the letter of the regulation. This is quite problematic, particularly in the region, because the law is in many cases ignored. Furthermore, from a political economy perspective, changes in enforcement could go in the opposite direction of changes in the MW.

This section describes first the characteristics of in-form MW regulation in the region, including the structure and setting mechanisms. Then we present novel descriptive evidence of MW enforcement, and finally, data about compliance.

a. In-Form Minimum Wage Regulations

ILO (2020), as well as other reports and websites, provide useful descriptions of MW regulations all over the world. Here we focus on Latin American and Caribbean countries. Table 1 describes several aspects of MW policy. A few characteristics are worth emphasizing.

Except for Cuba, every country in LAC has a MW. In other regions of the world a slightly smaller share of countries use this policy (Tijdens, 2017). The actors and institutions that fix the MW vary across countries. The government sets the MW (i.e., “statutory”) in every Latin American country, while in other regions, and particularly Europe, MWs are more likely to be set by social actors (employers and workers) via collective bargaining (CB). This distinction between the government and social actors,

however, is more blurred in practice for several reasons. First, many countries such as Brazil and Argentina, have a statutory national MW and also set higher floors for some sectors via CB. Second, the government can influence the content of collective agreements signed by employers and workers, particularly in countries where labor relations are politicized. Third, social actors do have voice in countries where the government sets a statutory MW, but this voice is relatively weak except in those cases where there is an institutionalized tripartite consultation body (Messina and Silva, 2018). Column (3) in Table 1 attempts to capture this last aspect, distinguishing between countries where the statutory MW is set by a tripartite body that includes representatives of the government, labor unions and employers' organizations, and countries where the MW is set unilaterally by the Government without any formal consultation with the so-called "social partners" (ILO 2014; Boeri 2012).

Table 1 – Characteristics of Minimum Wages (MW)

Country	Statutory MW	Formal Participation of Social Partners	Multiple statutory MW	Legal Exclusion of some employees	MW in PPP 2019 ILO	MW to mean wage, ILO	MW to mean wage, A
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Argentina	Yes & CB	1	No	No	813	0.47	0.48
Bahamas	-	-	-	No	910	-	0.34
Belize	Yes	.	No	No	488	-	0.09
Bolivia	Yes	0	No	AGRI	786	-	0.45
Brazil	Yes & CB	0	Yes	No	443	0.44	0.36
Chile	Yes	0	Yes	No	726	0.40	0.45
Colombia	Yes	0	No	No	602	0.57	0.43
Costa Rica	Yes	1	Yes	No	880	0.67	0.59
Dominican Rep.	Yes	1	Yes	DOMS	485	0.50	0.39
Ecuador	Yes	1	Yes	No	755	0.60	0.60
El Salvador	Yes	1	Yes	DOMS	664	-	0.60
Guatemala	Yes	1	Yes	No	694	0.40	0.55
Guyana	Yes	1	No	No	437	0.50	0.48
Haiti	Yes	.	Yes	No	359	-	-
Honduras	Yes	1	Yes	DOMS	816	1.02	0.76
Jamaica	Yes	1	Yes	No	430	-	0.66
Mexico	Yes	1	Yes	No	289	0.35	0.25
Nicaragua	Yes	1	Yes	No	500	-	0.29
Panama	Yes	0	Yes	No	953	-	0.56
Paraguay	Yes	1	Yes	No	874	-	0.62

Peru	Yes	0	No	DOMS	534	-	0.46
Suriname	Yes	.	Yes	No	634	-	0.44
Trinidad Tobago	Yes	.	No	No	851	-	0.48
Uruguay	Yes & CB	0	Yes	No	616	0.35	0.41
Venezuela	Yes	0	No	No	-	-	0.68
World	93%	-	48%	18%	486	0.45	-

Notes: The variable “Participation of social partners” is equal to 0 if the government sets minimum wages (*de jure* or *de facto*) unilaterally, and 1 if there is real consultation with labor unions and business associations. Countries are categorized as setting MW via CB only if the MW set via CB covers at least 50% of employees. AGRI means agriculture, and DOMS means domestic service. Sources: Own elaboration based on ILO Minimum wage database, ILO (2020), Boeri (2012), UNDP (2021).

While all Latin American countries set a national wage floor, many countries also set multiple legal MWs (Column 4). Bolivia, Ecuador, Panama, Nicaragua, El Salvador, Guatemala, the Dominican Republic, and Haiti set separate MWs by industry sector and/or occupation. Costa Rica sets MWs by occupation and skill level, including for some workers with wages in the top decile of the distribution. Chile and Venezuela set separate lower MWs for youth and apprentices. Honduras, Panama and Suriname set MWs by firm size. Argentina, Belize, Colombia, Guyana, Peru, Trinidad and Tobago and Venezuela have a single national MW.

Interestingly, and despite the within-country regional heterogeneity in productivity and cost of living, few countries set different MWs by jurisdiction. For example, the two federal countries located in North America (Canada and the United States) set different MWs across jurisdictions despite relatively little variation within countries. On the contrary, federal countries in LAC, like Argentina and Mexico, have a single nominal national MW and much larger heterogeneity, although Mexico sets a higher MW in the frontier with the US (*Zona Libre de la Frontera Norte*). Brazil, also used to have a single national MW, but since 2000, states are allowed to set higher floors.

Legal exclusion, that is, lack of in-form regulation, occurs for MWs among agricultural workers in Bolivia, and domestic workers in Peru, El Salvador, Honduras, and the Dominican Republic. Further, self-employed workers are also, in practice, legally uncovered since they cannot be forced to pay themselves the MW.¹

¹ Some self-employees, however, could be disguised employees; and hence, more likely to be affected by the MW. This is, however, a subject that requires further exploration.

The level of the MW (PPP) in 2019 as computed by the ILO (2020) is in column (5) of table 1; and the last two columns of table 1, present estimates of the Kaitz-index (defined as the MW-average wage ratio). The estimates computed by the ILO (2020) indicate that the MW-mean wage ratio is 0.52 in the 12 LAC countries included in the study. This value is similar to the average ratio in other countries in the world (0.46). One limitation of these figures is that about half of LAC countries are not included in the analysis. Therefore, column (7) presents alternative estimates of the MW-mean wage ratio for those countries. The results do not differ much: the MW-average wage ratio is 0.48 in the alternative LAC sample, and the correlation coefficient between both series is 0.82.

Most countries in LAC effectively have MW that are between 40 and 60 of the average wage in the economy. But there are a few exceptions: Honduras has extremely high, and Belize and St. Lucia have extremely low, MW. Our interpretation of the evidence summarized in this chapter is that both extremes should be avoided.

b. Enforcement Efforts

Enforcement is defined as all those efforts devoted to achieving compliance with the MW. This is, on the one hand, a quite complex definition to empirically operationalize since there is debate among scholars about the determinants of compliance. But, on the other hand, it is rather obvious that certain elements, such as fines and inspections, affect the expected penalty and serve as deterrent. We first discuss those elements, and then present novel descriptive evidence for a few of them.

The employee usually knows for which business she/he works. Therefore, any free and informed employee who suffers a MW violation would get the case solved if the judiciary is accessible, fair, and effective. Here we have a major component of labor enforcement: workers' access to the judiciary. How to measure this concept, however, is unclear. Moreover, we are not aware of any comparable cross-country data capturing even some simple aspects such as: In which countries do workers need legal representation to denounce a MW violation? Which countries have specialized labor courts? Who has the burden of proof, the employer or the employee? How much time does a simple MW violation case takes to get solved? In this paper we follow Kanbur and Ronconi (2018) and use workers' trust in the judiciary as a proxy. The data is in column (1) of Table 2.

Note that "*free and informed employees*" is a necessary condition for private enforcement to be effective at achieving compliance. Do workers in LAC effectively know which is the MW level that applies to them? How "*free*" they are? The first question is easier to answer, and anecdotal evidence suggests

that workers' knowledge is high in countries such as Brazil, but far from perfect in Central American countries with multiple minimum wages. Therefore, information campaigns as well as public enforcement become relevant (Gindling et al., 2015).

One of the main policy instruments to enforce labor regulations is government inspection. In LAC countries this is usually conducted by a generalist labor inspectorate that controls all labor standards. This is very different from the US, where a specialized agency enforces the MW (i.e., the Department of Labor's Wage and Hour Division in the case of the federal MW). See Piore and Schrank (2008). The mechanisms by which inspectors can enforce MW and other labor regulations differ by country, but in many LAC countries the inspection process is more collaborative than punitive. For example, if a labor regulation violation is found by inspectors in Costa Rica, the firm has several months to correct the violation. A follow up inspection is held and if the violation has been corrected nothing further is done. If the firm is still in violation only then the case is referred to the judiciary.

There is no single source of information to measure the resources and activities of labor inspection agencies across countries. Therefore, we use an updated version of the dataset first constructed by Ronconi (2012). More specifically, *labor inspections* which is simply the number of inspections conducted per year by the government per 10,000 workers. Figures are in column (2) of Table 2.

Penalty schedules for MW violations also vary widely across countries and their legal frameworks. Penalties typically take the form of financial fines, either set as a monetary amount or as a proportion of the MW. In some countries, the law explicitly requires that inspectors notify the employer before issuing any penalty; and fines can only be applied to employers that do not then correct the violation. A few countries also include criminal fines and imprisonment, such as Mexico. In this case, we simply take the estimates of two variables computed by Kanbur and Ronconi (2018): *Criminal penalty* and *Financial fine*.² Note that these two variables only capture the letter of the regulation. Regrettably, there is very little information about the effective implementation of these penalties.

Finally, in column (5) of Table 2, we provide a proxy for *strength of organized labor*. More powerful labor unions usually produce higher enforcement of workers' rights, at least among those workers that are members of the organization. The proxy is based on the opinions of Latin American citizens and the source is *Latinobarómetro*. The proxy measures the share of individuals who consider that labor unions

² The variable *Criminal penalty* equals 1 in countries where noncompliance with the minimum wage can lead to imprisonment. *Financial fine* is the average between the maximum and the minimum financial penalty.

are among the top three most powerful institutions in their country out of a list of eight.³ A similar picture emerges from the more traditional measure of labor union density (UNDP, 2021).

Table 2 – Enforcement of Minimum Wages (MW)

Country	Trust in Judiciary	Labor Inspections	Criminal penalty	Financial Fine U\$	Strength organized labor	Labor union density	Share wages ≤ MW
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Argentina	19.6	632	No	76	29.8	30.1	39.1
Bahamas	-	-	No	-	-		-
Belize	-	610	No	28	-	9.5	-
Bolivia	14.3	45	No	397	23.5	26.6	40.4
Brazil	52.2	271	No	10,743	10.6	18.1	29.6
Chile	30.7	1,473	No	1,367	1.8	15.8	35.9
Colombia	13.2	36	No	7,857	11.0	9.4	48.8
Costa Rica	-	677	No	0	17.7	18.6	51.9
Dominican Rep.	-	1,722	No	449	12.8	9.3	25.1
Ecuador	41.0	251	No	1,242	11.5	7.6	55.9
El Salvador	-	747	No	0	1.9	15.2	51.9
Guatemala	14.0	158	No	676	6.0	3.2	67.1
Guyana	-	966	No	38	-	12.1	29.2
Haiti	7.5	13	No	25	-	2.0	-
Honduras	-	425	No	15	3.9	11.3	79.8
Jamaica	-	149	Yes	4,420	-	16.3	55.5
Mexico	22.5	137	Yes	1,546	21.9	14.2	33.7
Nicaragua	22.5	292	No	1,378	3.6	5.3	42.8
Panama	-	1,141	No	150	13.4	11.0	54.3
Paraguay	-	42	No	180	8.0	7.2	62.6
Peru	9.7	452	No	146	8.7	4.0	53.7
Suriname	-	174	Yes	1	-	11.0	37.0
Trinidad Tobago	32.6	166	No	882	-	21.0	-
Uruguay	59.9	2,433	No	7	17.4	28.8	30.2
Venezuela	16.1	163	No	1,077	9.3	0.2	50.7

Notes: Trust in the courts represents the share of the population that has a great deal or quite a lot of confidence in the judiciary/courts (from the World Values Survey). See Kanbur and Ronconi (2018) for fines and inspections. Strength of organized labor and Labor union density are from UNDP (2021). Column (7) shows the share of the employed population with labor income ≤ MW main occupation (from IDB Social data).

³ Government, political parties, congress, businesses, banks, media, and the military.

The World Values Survey measures trust in the judiciary in 14 Latin American countries and in another 88 countries all over the world. The results indicate that trust in the judiciary is extremely low in the region, with only 24% of the population reporting that they trust the judiciary “a great deal” or “quite a lot”, while the remaining 76% reporting that they “don’t trust very much” or “none at all”. For the sample of countries in other parts of the world, the figures are 57% and 43% respectively. This low trust in the judiciary, combined with workers’ partial knowledge of their own rights, suggests that private enforcement of the MW is insufficient. It should be noted, however, that there is substantial heterogeneity in the region. In some countries such as Brazil and Uruguay, the level of trust is similar to other parts of the world but in countries such as Haiti and Peru is extremely low.

Government inspection efforts appear as reasonable in some countries, such as Uruguay, but are extremely low in other places such as Paraguay. The data about fines and imprisonment is difficult to interpret without knowledge about its effective implementation. Finally, labor unions are relatively weak in the region, particularly those that operate in the private sector, with a few exceptions such as Argentina, and to a lower extent Brazil and Mexico (UNDP, 2021). Interestingly, countries that set higher MWs tend to have less enforcement. The correlation between the Kaitz ratio and the average financial fine equals -0.13, and between the Kaitz ratio and the number of labor inspections is -0.14. These results caution about the potential pitfalls of ignoring enforcement when attempting to estimate a causal effect of MW.

c. MW, Compliance and Inequality across countries

We now turn to provide descriptive evidence of the potential links between MW policy, compliance and inequality. These are simple cross-country correlations; thus, any interpretation is very speculative. Figure 1 shows the correlation between the Kaitz-index (defined as the MW-average wage ratio) and noncompliance (defined as the share of workers with labor income \leq MW). The correlation is strong and positive. A potential interpretation is that setting a legal floor that is too high with respect to workers’ productivity leads to higher noncompliance.

Figure 1 – Minimum Wages and Noncompliance, cross-country LAC

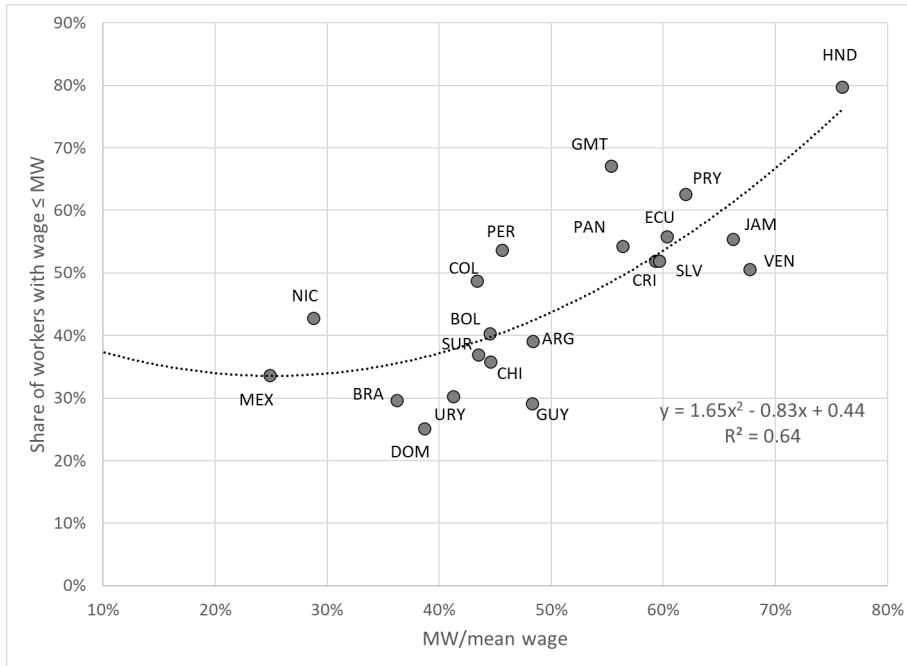
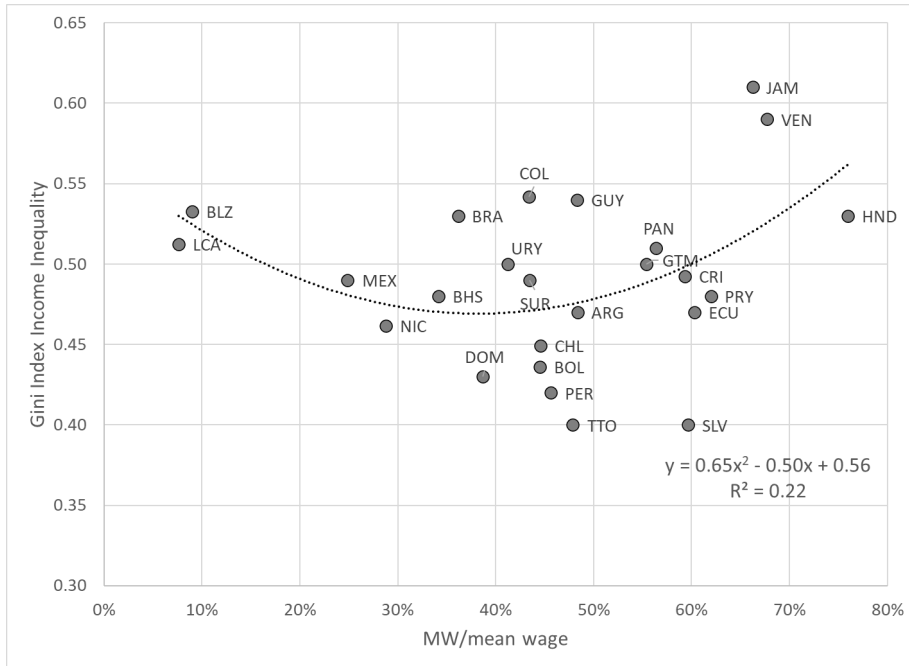


Figure 1 illustrates one of the potential negative consequences of setting an ambitiously high MW in countries with partial rule of law. The other main potential negative consequence is lower employment. Minimum Wages, on the other hand, have the potential positive consequences of reducing workers' exploitation and improving their productivity. These arguments suggest that MW policy should avoid both extremes (i.e., neither too low, nor too high) to produce positive outcomes (World Bank, 2013). Consistent with this idea, Figure 2 shows that there is a U relationship across countries in LAC between MW levels and income inequality. According to this perspective, Belize and Saint Lucia have too low MW, while Honduras and Venezuela the opposite.

Figure 2 – Minimum Wage and Income Inequality, cross country LAC



III. Theoretical Frameworks

a. MWs and the distribution of earnings among Formal/Compliant Wage Employees.

Classic analyses of the impact of MWs focus on the employment effect in a labor market where all employers comply with legal MWs. In LAC such a market structure is most likely to characterize the labor market for formal wage employees.

In the neo-classical competitive labor market where all workers are legally covered by MW regulations and there is full compliance, imposing a MW that is above the competitive equilibrium wage will reduce employment. In this case, workers who retain their jobs after the MW increase benefit from the MW increase, while others are hurt because they lose their jobs or their hours are reduced. The effect of increasing the MW on wage inequality is ambiguous and depends on the relative magnitudes of the increase in wage and the decline in employment.

If workers are heterogenous, MW increases are likely to have larger negative employment effects if the MW is high and if the increase in MWs is large. This is because a higher MW will mean that more workers, including higher skilled and higher wage workers, will be affected by the MW. On the other hand, a MW below the competitive wage will have no impact on either wages or employment. If the

MW is too low, then increases in the MW will have no impact on inequality, while if the MW is too high then increases in the MW may cause large reductions in employment and increase inequality.

The theoretical predictions about the employment and wage effects of MWs are different if the labor market is characterized by monopsony, where there is only one employer. Recent research presents evidence that monopsony may be common in Latin American and other developing country labor markets (for example, see the discussions in Chau et al. 2022; Amodio et al. 2022). Monopsony conditions may also occur because of labor market frictions related to the search process where workers may have only one, or a few, job offers from employers in any a period of time (Dickens et al., 1999).

In a classic article, Stigler (1946) showed that imposing a MW on a monopsonist may result in increasing both the wage paid to workers and increasing employment. However, even in the monopsonist case a higher MW has a negative employment effect if the MW is set above the competitive equilibrium wage.

In summary, both the competitive model and the monopsonist model predict that if MWs are set below the competitive equilibrium wage, then increases in the MW will not reduce formal wage employment, while if MWs are set above the competitive equilibrium wage, the increases in the MW will reduce employment.

Spillover effects are when increases in the MW increase the wages of not only MW workers, but also of workers with wages above the minimum. The impact of higher MWs on formal earnings inequality may also be affected by another characteristic of MWs in Latin America, multiple MWs based on region, industry, occupation or skill. If legal MWs are increased at a greater rate for the lowest-paid MW categories, this can be expected to reduce inequality among formal wage employees. Social norms/social contracts may also cause spillovers of formal wage employees who earn above the MW (Engbom and Moser, 2022). Spillover (or numeraire) effects are more likely in periods of high inflation when market wages are hard to determine.

b. MWs and the distribution of earnings among All Workers: Formal Wage Employees, Uncovered Wage Employees and Self-employed Workers

Studies of the impact of MWs among formal wage employees can help to understand the mechanisms by which higher MWs affect earnings and income inequality. However, a significant proportion of workers in most Latin American economies are either not legally covered by legal MWs or are illegally paid less than the legal minimum. Even if higher MWs reduce earnings inequality among formal wage employees, they may still increase earnings inequality among all workers.

We first consider the situation where some workers are not legally covered by MW, which is effectively true in many Latin American countries. An even larger group of workers, the self-employed, who represent an average of 38% of all workers in some Latin American, are not effectively legally covered by MW regulations.⁴ Jacob Mincer (1976) develops a well-known model of a competitive labor market with two sectors: a sector covered by MWs and a sector not covered by MWs. Mincer (1976) concludes that higher MWs will always cause covered (formal) employment to decrease, covered sector wages to increase, a decline in total labor income, and a fall in total employment (covered plus uncovered). On the other hand, higher MWs may cause uncovered sector employment and wages to increase or decrease, depending on the demand elasticity in the covered sector and the covered sector separation rate. If uncovered sector employment falls when MWs increase, then both covered and uncovered sector wages increase and a higher MW may decrease earnings inequality. Alternatively, if covered sector employees who lose their jobs move to the uncovered sector, this would increase in uncovered sector employment and decrease uncovered sector wages, most likely increasing earnings inequality.

Even if employees are legally covered by MW regulations, because of incomplete enforcement some wage employees may be illegally paid below the minimum. In this case, the impact of MWs on inequality will depend not only on the level of the MW that is set, but also on the degree of compliance and enforcement. Further, enforcement may be endogenous and higher MWs may cause enforcement officials to decrease enforcement effort.

A small number of theoretical articles have examined non-compliance by comparing the costs vs. benefits of compliance. Employers will pay sub-MWs if the marginal benefits exceed the marginal costs. For example, in Basu et al. (2009), costs to employers are related to the probability of inspection and fines for violations, while benefits include the lower cost of labor if sub-MWs are paid. The costs of non-compliance may also include social approbation for violation of social norms and peer effects. Inspections of firms are initiated in two ways: targeted inspections by the enforcement authority or complaints initiated by employees.

As in models that consider simpler labor market structures, if labor markets are competitive then an increase in MWs will decrease formal wage-employment (Bhorat et al., 2015), while if labor markets are

⁴ Data for 2019 from the International Labour Organization. "ILO modelled estimates database", ILOSTAT. ilostat.ilo.org/data.

characterized by monopsony then higher MWs will not decrease employment as long as the MW is below the competitive wage (Basu et al., 2009).

Further, changes in enforcement and compliance of MWs will also affect earnings inequality among all workers. The impact of increased enforcement effort will decrease the proportion of sub-minimum workers, both because of some firms become compliant and because other firms paying sub-MWs go out of business. Firms with a higher marginal productivity of labor will pay the minimum because of the increased probability of getting caught. Firms with a lower marginal productivity of labor may decide to go out of business as the probability of getting caught raises the expected wage they will need to pay above their productivity. An implication of this is that an increase in enforcement effort is more likely to have a larger negative impact on employment if the wage gap between the MW and the wage paid to uncovered workers is larger.

Basu et al. (2009) also model the possible decisions of a social planner. In conditions where higher MWs reduce employment and the planner cares about efficiency, that planner may allow non-compliance (“turn a blind eye”) in order to reduce the possible covered sector employment reduction of an increase in the MW. This suggests that with higher MW the social planner may reduce enforcement intensity and therefore cause a shift workers from covered to uncovered sector employment. This may mitigate the impact of higher MWs on employment and wage inequality.

c. The Political Economy of Minimum Wages

Basu et al. (2009) assume that a social planner sets and implements the MW to maximize social welfare. However, evidence suggests that the MWs does not usually emerge from rational technical debates but from struggle and shifting power relations (Grossman 1978; Seltzer 1995; Sobel 1999; Brown 2009).⁵ Moreover, the assumption of a benevolent social planner is usually quite inaccurate for most countries in LAC. In the region, lack of state capacities (such as a professional bureaucracy), or state-capture (either by economic or political actors), suggests that the individuals and institutions that set and implement the MW are not likely to maximize a social welfare function (Centeno et al. 2017; Scartascini et al. 2013). In this section, we discuss the theoretical and empirical implications of this scenario.

⁵ Sobel (1999: 780) finds that “during periods of high relative union strength, not only did the minimum wage change more frequently, but also the magnitude of the changes is higher than it was later when interest group strength shifted more in favor of business.”

The political economy of wage regulation has a long tradition in social science. Leonard (2000) describes the debates over the MW between classical political economists like J.S. Mills, A. Marshall, and S. Webb at the turn of the nineteenth century. Most political economy approaches view MW regulation as the result of struggles between different groups in society, what is nowadays known as interest group theory. The most traditional conflict is between capital and labor, wherein an organized and powerful workforce -relative to business- is expected to lead to higher MWs (Webb and Webb [1897] 1920).⁶

The new political economy literature, however, is relatively small (Zavodny, 2020). In the 1970s, Silberman and Durden (1976) and Kau and Rubin (1978) contributed to the theory of political decision making applied to MWs. Both assumed that legislators maximize their utility by responding to the preferences of voters.⁷ Other arguments, however, stress the importance of elections, and the party affiliation and ideology of policymakers (Dickson and Myatt, 2002). These ideas have been used to develop models of both wage setting and enforcement institutions.⁸

These initial insights already suggest several reasons why in-form MW regulation and enforcement could be negatively correlated. For example, a government can introduce a higher MW and at the same time reduce the intensity of enforcement to satisfy different constituencies; or the executive power can reduce the number of inspections in order to “reverse” an increase in the MW passed by an opposing Congress. Note that in these examples, although rules-in-form become more costly, employers could actually face a decline in labor costs if the reduction in enforcement is sufficiently large. If econometricians attempt to estimate the effect of a MW change on employment and inequality using a *de jure* measure and ignoring enforcement, then they could obtain a coefficient with the wrong sign. In our view, this is an important message that labor economics should take from political economy: An adequate strategy to identify the economic effects of changes in the MW should take into account that enforcement matters, and that effective MW policy is endogenous to power configurations.

⁶ According to Karl Marx (1865), however, the efforts of labor unions to set minimum wages, are palliatives that do not cure the malady. For Marx it is not possible to increase real wages in the long run within a capitalist mode of production. “[T]he working class ... instead of the conservative motto, ‘A fair day’s wage for a fair day’s work!’ they ought to inscribe on their banner the revolutionary watchword, ‘Abolition of the wages system!’”

⁷ Interestingly, these two papers find contradictory results that resemble the actual debate about the extent of monopsony power in the labor market. The former finds that the share of low-wage workers in a US congressional district is positively associated with voting for higher minimum wages by representatives from the district, while the latter finds the opposite.

⁸ Models of enforcement usually cover labor regulations in general rather than exclusively the minimum wage, in part because in most countries in the world the same state agency is responsible for enforcing labor regulations. See Holland (2016) and Ronconi (2019).

We proceed now to briefly present four recent views about the determinants of MW policy. All share a common feature: MWs are highly endogenous to economic, political, and social outcomes. First, a median voter model has been used to analyze labor regulations leading to the influential insider–outsider theory (Saint Paul 2000; Lindbeck and Snower 2002). According to this theory, labor regulations such as the MW reduce overall welfare but are nonetheless in place because the median voter is an insider (a legally covered worker who benefits from labor regulations). Workers who are unemployed, under-the-table, or in subsistence self-employment (i.e., the outsiders) would like to eliminate the MW because they are negatively affected by it; but they do not have sufficient political power to translate their preferences to the policy process. Whether this model applies to Latin America, however, is more questionable. Ronconi et al. (2022) empirically explore a key prediction of the insider-outsider model: that outsiders should oppose the MW and other protective employment regulations. They present descriptive evidence and find, however, exactly the opposite, most outsiders support an increase in the MW calling for a rethink of a sharp insider-outsider divide.

A potential explanation for the fact that outsiders support the MW is social norms, wherein fairness concerns or the entitlement effect affects workers' reservation wages (Falk et al., 2006). Aghion et al. (2011) provide an interesting perspective about social norms and MW policy. They argue that the demand for MW regulation is endogenous to deeper social relations, such as the extent of trust between workers and employers. The idea is that workers demand state intervention in the labor market (such as setting the MW) when they do not trust employers. This leads to a vicious cycle because high state intervention crowds out the possibility of workers and employers to learn about the benefits of cooperation. Conversely, in those countries where the initial level of trust is high, then workers do not demand MW, which allows employers and workers to get into a virtuous cycle of cooperation, trust and lack of distortionary regulation. This argument is closely related to broader theories that attempt to explain the negative correlation between trust in political institutions and demand for higher state-intervention (Aghion et al., 2010).

Third, legal origin theory predicts lower MW in common law countries. The theory points to a fundamental difference in the strategy of social control between common and civil law countries. “Common law [seeks a balance between private disorder and public abuse of power] by shoring up markets, civil law by restricting them or even replacing them with state commands” (La Porta et al. 2008: 307). This theory, when applied to the regulation of labor, predicts that civil law countries have more protective legal provisions (Botero et al. 2004). Finally, models of international political economy

predict that, under certain circumstances, international competition can produce a race-to-the bottom across countries either in *de jure* MW or in its effective enforcement (Boulhol 2009; Ronconi 2012).

All these theories are important to understand the complex endogeneity of MW policy. Studies that attempt to estimate a causal effect of MW on labor market outcomes should consider that: (1) The same government that increases the MW can at the same time reduce enforcement, implying that research that does not measure enforcement can suffer internal validity. (2) The effects of MW are likely to differ depending on the composition of the fixing and enforcement regime, the electoral business cycle, the extent of trade openness, the extent of knowledge workers have about their rights, and even the level of trust. However, we could find few empirical studies of MW in Latin America that incorporate these issues.

Following the literature on the political economy of labor protection, we speculate that the key to whether there is an active MW policy are strong social norms (trust) and the power of workers to negotiate wages in the private sector. We speculate about three possible scenarios leading to an inverted U-shaped relationship between workers' power and MWs: (1) If workers' power is very low, then voters can support MWs, but there is no effective pressure on the government to have an active MW policy. Lack of workers' power implies that there will be no worker involvement in the MW setting process. MWs are set by the government (usually the executive) and enforcement will be weak. (2) If there is some worker/union power, but it is not strong, and there is little collective bargaining, then MW acts as a way for formal workers to bargain with formal employers with the government acting as enforcer and mediator. This is likely to be the case especially if unions are weak in the private sector but strong in the public sector because the public sector unions pressure the government to intervene in wage setting. In this case, enforcement will be higher, but focused on the organized/formal sector. (3) Finally, if there is strong worker power in the private sector and wages are generally negotiated directly between private employers and workers. In this case, there is no need for an active MW policy and MWs are likely to be low.

IV. Pathways by which changes in minimum wage affect inequality

The pathways by which higher MWs might affect labor earnings and household income inequality depend on the type of earnings and income considered. Not all researchers have access to the same measures of earnings and household income, and different studies measure the impact of MWs on

different types of inequality. These include: (a) earnings of only wage employees (*asalariados*) whose employers comply with MW regulations, which we will refer to as *formal or compliant wage employees*; (b) earnings of all wage employees, including formal (compliant) wage employees plus those wage employees illegally earning below the MW, which we will refer to as *sub-minimum or informal wage employees*; (c) earnings of *all workers*, including formal (compliant), informal (sub-minimum) wage employees plus self-employed workers, who are not legally covered by MW regulations; and (d) *household income*, which is the sum of the earnings of all household members and include both labor and non-labor income. Below we discuss each in turn.⁹

a. Compliant (formal) wage employees

The impact of higher MWs on the wage distribution among compliant/formal wage employees depends on the impact on the employment and wages of formal workers, and will almost always reduce inequality among these workers. Wages among compliant wage employees will become compressed if wages rise for low-wage workers and employment does not change. In addition, even if compliant employment falls because of higher MWs, then measured reductions in the distribution of actual wages could be due to the loss of workers at the lower end of the distribution of formal wage employees; in this case measured inequality among compliant employees will fall even if the wages of no individual workers increase.

The impact of higher MWs on formal earnings inequality may also be affected by multiple MWs based on region, industry, occupation or skill. If legal MWs increase at a greater rate for the lowest-paid MW categories, this can be expected to reduce inequality among formal wage employees, and vice-versa.

b. Compliant (formal) and non-compliant (informal) wage employees

The impact of higher MWs on the distribution of earnings of all wage employees will depend on their effect on the employment and wages of formal wage employees (discussed in the last sub-section) and their impact on the employment and wages of sub-minimum (non-compliant) wage employees. Even if higher MWs reduce earnings inequality among compliant wage employees, they may still cause increased earnings inequality among all wage employees. Clearly, sub-minimum wage employees earn less than compliant/formal wage employees. In this case, if MWs increase the earnings of compliant wage employees but not sub-MW workers, this may cause increased earnings inequality among all wage

⁹ Theoretically, an increase in the nominal minimum wage can lead to an increase in prices, particularly of the goods and services purchased by MW earners. Evidence for Mexico, however, indicates that an increase in the minimum wage has little effects on prices (Campos-Vazquez and Esquivel, 2020).

employees. Further, higher MWs among formal/compliant wage employees may result in shifts in employment and wages that reduce or increase wages among sub-MW workers.

An increase in the number of sub-minimum workers will also increase inequality. On other hand, if sub-MWs also increase with higher MWs then earnings inequality may decrease, or at least the increase in inequality will be mitigated. This last phenomenon is often called the “lighthouse effect.”

The impact of higher MWs on earnings inequality will also depend on the intensity of enforcement, such as the number of inspections and the penalties for violating MWs. The degree of enforcement itself may also affect the distribution of earnings because increased enforcement will increase the cost of violating MW regulations, which in turn may result in more employees becoming compliant. In addition, the impact of higher MWs will also implicitly depend on social norms, which affects the “penalty” for violating MW regulations.

c. All workers (formal and informal wage employees plus self-employed workers)

A large proportion of workers in Latin America, on average 38%, are self-employed and are not legally covered by legal MWs. If MWs increase the earnings of compliant/formal wage employees but not uncovered workers, then this may cause increased earnings inequality among all workers because it may result in shifts in employment and wages that reduce or increase wages among uncovered and sub-MW workers. Thus, the impact of higher MWs on the earnings of all workers will depend on the impact of higher MWs on the employment and wages of uncovered (self-employed) workers.

d. Household incomes

The household income distribution is not the same as the distribution of earnings. Household income includes the sum of the incomes of all family members, some of whom may be high wage workers and others low wage workers, and still others non-workers. Because of this, MWs may have different impacts on earnings and income inequality. Even if earnings inequality falls, income inequality may still rise. For example, if MW workers live in high income households, then income inequality may increase even if earnings inequality falls if MW workers live in high income households.

The impact of MWs on the household income distribution will also depend on which household members are affected by the MW. For example, if MWs cause the main earner of the household to lose their jobs, this will cause a large decrease in household incomes. If the main earner keeps their job and earn higher wages this will have a large positive impact on household incomes. On the other hand, if a

secondary and low-earning family worker loses their job, then this will have a much smaller impact on household income.

Household income also includes non-labor income, some of which may be affected by MWs. For example, if higher MWs increase the share of income going to labor and reduce the share going to capital (which disproportionately goes to the very highest income households), then excluding non-labor income will cause the researcher to underestimate the impact of MWs on reducing income inequality. Some social transfers may be indexed to the MW (i.e., CCTs and pensions). The impact of the increased transfer payments will depend on where in the distribution of family income recipients are located. CCTs send income to low-income families, contributory pensions send income to high-income families (formal and high wage workers contributed more), and non-contributory pension payments send income to low income families. About one-third of countries link at least one government program, such as old-age pensions and disability payments, to the level of the MW (Eyraud and Saget 2005). In Mexico, “not only wages, but also social benefits, pensions, fellowships, and even fines have traditionally been expressed in multiples of the MW” (Bosch and Manacorda, 2010: 135). Taxes may also be indexed to MWs. For example, in Mexico the minimum social insurance tax for the self-employed and informal employees is tied to the MW.

V. Empirical studies of the impact of minimum wages on inequality

Not all researchers have access to the same measures of earnings and household income, and therefore different studies will measure the impact of MWs on different types of inequality. This is partly due to lack of data on all sources of household income. We examine published studies that examined many different types of earnings inequality in turn: (a) Formal (compliant) wage employees only; (b) Formal (compliant) plus uncovered wage employees; (c) All workers (all wage employees plus self-employed) and (d) household incomes. We consider evidence on each of these in turn.¹⁰

Simultaneity and missing variables are key limitations to overcome in empirical studies of MWs, as MWs, actual wages and employment are all likely to increase at the same time. That is, MWs, employment, actual paid wages, compliance and business cycles are simultaneously determined. Missing control variables may also bias the estimate of the causal relationship between MWs, labor market outcomes

¹⁰ Employers can react to an increase in the MW by reducing other forms of compensation, either monetary or non-monetary, such as grocery vouchers or annual bonus. This is an issues that has not received any attention in LAC. We thank Raymundo Campos-Vazquez for making this suggestion.

and inequality. In our review of the empirical literature we put greater weight on studies that use plausibly exogenous changes in the MW; studies that use instrumental variables to control for the endogeneity of the MW; and studies that control for other factors aside from MWs that might affect earnings and income inequality. Further, we primarily consider studies published in peer-reviewed journals or book chapters (and not reports and working papers that have not been peer-reviewed), as this is a measure of the confidence we can have in the research conclusions.

a. Inequality in the distribution of formal /compliant wage employees.

If MWs are complied with among formal wage employees, then, by construction, higher MWs will compress the distribution of wages among formal wage employees. Consistent with this, published studies find that higher MWs compress the distribution of wages among formal/compliant wage employees.

As noted previously, the measured impact of higher MWs on inequality and the actual wages of formal wage employees could occur even if the wages of no individual workers increase. In reviewing the econometric analyses of higher MWs of formal wage employees we put higher weight on studies that use worker-level panel data which allow the research to follow whether wages for the same workers increase after MW changes. Using worker-level panel data, econometric studies present evidence of a positive wage effect among formal sector workers in Brazil, Trinidad and Tobago, Ecuador, Nicaragua and Mexico (Fajnzylber 2001; Neumark et al. 2006; Strobl and Walsh 2003; Alaniz et al. 2011; Wong 2019; Campos-Vazquez et al. 2017). Other studies that use multiple cross-sections also find wage effects on formal wage employees, including in Costa Rica, Honduras, Colombia, and Nicaragua (Gindling and Terrell 2007; Ham 2018; Perez-Perez 2020; Alaniz et al. 2011).

Evidence of spillover effects have been found in Brazil, Mexico, and Colombia (Lemos, 2009; Engom and Moser, 2002; Cunningham and Siga, 2007; Bosch and Manacorda; Martinez-Gonzalez, 2020; Maloney and Nunez, 2004). These studies find spikes in the distribution of wages at different points above the MW. In Mexico, in particular, the spikes appear to be at multiples of the MW. However, in a more recent paper that uses panel data and exploits a plausibly exogenous change in the MW in Colombia, Perez-Perez (2020), finds no evidence of spillover effects. Similarly, in Mexico, Sotomayor (2021) finds evidence of a spillover effects from 1995 to 2001, but only weak evidence of spillover effects 2003-2015.

The results from the more recent studies suggest that spillover effects only exist in specific circumstances when countries are experiencing high inflation rates.¹¹

With a few exceptions, published studies conclude that MWs reduce employment among formal/compliant workers. Puerto Rico presents an example of the impact of an exogenous MW increase in a region where compliance is high, and the MW relative to median wages is high. This example may provide guidance for Latin American countries as enforcement becomes more complete. In 1974, the U.S. Congress mandating that mainland U.S. MWs be introduced in Puerto Rico. Prior to 1974 MWs in Puerto Rico were set independently in some 40 industries by committees that were instructed to minimize negative employment effects. From 1974 to the mid-1980s MWs were gradually increased until all were at the single U.S. minimum. Studies of this change find large negative employment effects after the MW change (Castillo-Freeman and Freeman, 1992; Santiago, 1986 and 1989). Castillo-Freeman and Freeman (1992) estimate that the introduction of the U.S. MW reduced total employment in Puerto Rico by 9%.¹²

Negative formal employment effects are also found after plausibly exogenous MW changes in Honduras, Costa Rica, and Trinidad and Tobago (Ham 2018; Gindling and Terrell 2007; Strobl and Walsh 2003). These and other studies from LAC are more likely to find larger negative employment impacts among workers who are likely to earn near the MW and who are expected to earn low wages: women, young workers and the less-skilled.

On the other hand, studies of the impact of a plausibly exogenous MW changes in Mexico find no evidence of a negative employment effects. Campos-Vazquez et al. (2017), using panel data, present evidence that not only are formal workers more likely to keep their jobs after a MW increase, but that informal workers are more likely to obtain formal employment. Martinez-Gonzalez (2020) also finds no evidence of overall negative employment effects, but does find negative employment effects for workers around the MW. Other countries where there is little evidence of a negative employment effect

¹¹ It is worth noting that none of the studies that find spillover effects use panel data. As noted above, the average changes in wages may be due to composition effects; without panel data that allows the researcher to follow the same workers from one period to the next it is difficult to test whether the same workers see their wages increase.

¹² A contrary conclusion is made by Krueger (1995) in an NBER working paper, who finds that the negative employment impact found by Castillo-Freeman and Freeman (1992) is sensitive to the to the methodology and specification used.

include Argentina and Brazil (for example Groisman 2016; Lemos 2009; Campos-Vazquez et al. 2017; Campos-Vazquez and Esquivel 2020; Engbom and Moser 2009).¹³

Moving on to studies that explicitly examine the impact of MWs on poverty, in Mexico Campos-Vazquez and Esquivel (2021) examine the impact of a plausibly exogenous January 1, 2019 increase in MWs in Mexico that was much larger in certain northern border municipalities (100%) than in the rest of Mexico (16%). The difference between regions is clearly not entirely exogenous, but the magnitude of the difference between regions was not likely anticipated or completely driven by macroeconomic or labor market conditions. The authors argue that this MW change is at least “weakly exogenous.” Before the MW change the MW to average wage ratio was approximately 35-40 percent in the entire country, after the change the ratio was approximately 60% in the northern border municipalities, while the ratio in the rest of the countries stayed pretty much the same. The main empirical model uses a Difference-in-Difference technique to compare the municipalities that experienced the larger increase with other parts of Mexico that did not.

Campos-Vazquez and Esquivel (2021) use Social Security data to create individual-level panel data. As workers with Social Security are, by definition, formal employees, the results apply only to formal workers. They find significant and large positive wage impacts of higher MWs concentrated in the bottom of the formal employee wage distribution, and no evidence of negative employment effects; clear evidence that higher MWs compress the distribution of formal wage employees.

In Brazil, Engbom and Moser (2002) estimate the impacts of higher MWs in a labor market with complete compliance on formal/compliant employment, wages and wage inequality in Brazil. They use the historical wealth by region as an instrumental variable predictor of the bindingness of the MW. They find that higher MWs reduce inequality and have little impact of higher MWs on employment, formality and hours worked. Their methodology includes a disaggregation of the log variance of wages between changes in worker composition and reallocation of worker within and between firms. They find that the variance of wages depends on both the human capital of workers and between firms and pay policies of

¹³ We could find no studies that explicitly examined whether the impact of higher minimum wages on employment differed depending on the level of enforcement. In a review of the literature on the employment effects of minimum wages in developing economies Neumark and Munguia-Corella (2020) use a meta regression analysis to conclude that studies that find negative employment effects are those in countries where enforcement is strong, that only examine the formal sector, where the data focus on vulnerable groups (young, women, low-skilled) and where minimum wages are binding.

firms, which justifies a focus on the impact of MWs on the wage gaps and employment distribution between firms.

Results show evidence of significant spillover effects, up to the 70th-90th percentiles in the wage distribution, in part because firms raise wages to maintain their rank in the wage distribution. Positive wage effects are larger near the MW, and spillover effects become smaller up the wage distribution. The employment effects of MWs depend on the productivity of firms. Low productivity firms reduce employment as MWs reduce profit margins. This lowers recruitment costs for high productivity firms and induces these firms to increase job offers, especially for the low productivity workers let go by low productivity firms, causing shifts from low skilled employment low productivity firms to high productivity firms, which reduces wage inequality. They argue that this also explains both spillover effects and the lack of negative employment effects. Engbom and Moser (2002) conclude that the reduction in wage inequality will be larger when mean worker ability is lower, if the productivity of high productivity firms is relatively low compared to low productivity firms and if the job search process is more efficient.

Lombardo et al. (2021) also find that higher MWs reduce wage inequality among formal/covered employees (those with Social Security) using data from the six largest economies in Latin America: Argentina, Brazil, Chile, Colombia, Mexico and Peru. Following Engbom and Moser (2020) they also use historic wealth by region as an instrumental variable to predict the bindingness of MWs. Lombardo et al. (2021) further find that during a period of sustained economic growth and strong labor markets the equalizing impact of MWs on wage inequality was large, while in a period of weaker growth and labor markets the equalizing impact MWs disappears. They also look separately at the impact of MW on wage inequality among informal wage employees, finding that the MW resulted in an increase in inequity in informal wages.

b. Impact on the distribution of all wage employees (formal plus sub-minimum wage employees)

The evidence on whether higher MWs change employment levels of uncovered and sub-minimum workers is mixed. The competitive two-sector model predicts that employment losses among covered workers may push workers into the un-covered sector, increasing supply and reducing wages. Ham (2018) finds results consistent with this: that a large, exogenous increase in MWs in Honduras lead to increased informal employment and decreased informal earnings which was the result of decreased

formal employment (and higher formal earnings). Gindling and Terrell (2007) present evidence that in Costa Rica increases in MWs increased the proportion of uncovered (self-employed) workers.

There is little evidence that increases in MWs increase the proportion of self-employed or sub-MW employees in Brazil (for example, Engbom and Moser, 2022). Perez-Perez (2020) finds evidence of a negative employment effect of higher MWs among informal but not formal wage employees in Brazil.

On the other hand, the literature suggests that the lighthouse effect among sub-MW employees is widespread in LAC, although evidence on how far down into the distribution of earnings the lighthouse effect reaches can differ between countries. Several studies find evidence of lighthouse effects in Brazil (Fajnzylber 2001; Lemos 2009; Engbom and Moser 2022). Khamis (2013) finds strong evidence of a lighthouse effect in Argentina. Using panel data, she finds that workers without social security contribution experienced significant wage increases when the MW was raised (bigger than for formal workers).

While a lighthouse effect on sub-minimum and other informal wage employees is found in many countries, in almost all studies the MW has no impact on self-employed workers; exceptions are Brazil (Lemos, 2009) and Colombia (Maloney and Nunez, 2004). As self-employed workers tend to have lower wages than formal/compliant wage employees, this suggests that the lighthouse effect will not affect the very lowest paid workers.¹⁴ Lighthouse effects among sub-minimum workers are largest near the MW. Therefore, it is likely that if the MW is near the middle of the earnings distribution, then it will have no impact on the lowest paid workers, and increases will therefore not reduce earnings inequality.

There is relatively little empirical literature on the impact of increased enforcement on inequality. The only studies we have found are for Costa Rica (Gindling et al., 2015) and Argentina (Ronconi 2007, 2010). Both present evidence that increased enforcement leads to increased wages and employment for covered workers, reduced uncovered employment, and no impact on uncovered wages. This suggests that, at least in Costa Rica and Argentina, increased enforcement reduces earnings inequality.

¹⁴ Examining kernel density estimates of the distribution of wages, Cunningham (2006) finds evidence of lighthouse effects in Brazil, Chile, Colombia, Ecuador, El Salvador, Mexico, Nicaragua, Panama, Paraguay, Peru, Venezuela, but not in Argentina, Bolivia, Costa Rica, Dominican Republic, Guatemala, Honduras, Jamaica, Uruguay. Evidence of spikes lower in the informal wage distribution have been found in Brazil and Mexico (Maloney and Nunez 2003; Cunningham 2007; Kristensen and Cunningham 2006; Bosch and Manacorda 2001; and Campos-Vazquez et al. 2021). But even in Mexico and Brazil the largest spikes are at the minimum wage.

Turning to studies that directly examine the impact of minimum wages on inequality, evidence from Mexico suggests that higher MWs have a larger positive wage impact on workers at the very bottom of the distribution of all wage employees, unambiguously reducing earnings inequality among formal plus informal wage employees. For example, Bosch and Manacorda (2012) study the impact of MWs on the distribution of wages in urban Mexico for wage employees. They use municipality-level data, regional and time variation in MWs in Mexico, and instrument for the MW changes to address possible endogeneity. They present evidence that increases in the MW have a significant positive impact on the wages of employees at the very bottom of the distribution. The results allow them to conclude that most of the growth in inequality in Mexico between the late 1980s and early 2000s was due to the decline in the real value of the MW.

c. Impact on the distribution of all workers (covered and uncovered wage employees plus self-employed)

In most countries the evidence is that higher MWs reduce earnings inequality among all workers, although generally the impact is small compared to other influences on earnings inequality. The only reliable study that shows a clear increase in earnings inequality among all workers with a higher MW is for Honduras when the initial MW was very high relative to average wages (above the median actual wage).

In Mexico, Campos-Vazquez et al. (2017) study the impact of increases in MWs on inequality in the earnings distribution of all workers. In January 2012, Mexico had three zones with different MWs. Zone A had the highest MW and Zone C the lowest. At the end of November 2012 the government unexpectedly announced that the MW of Zone B increased to that in Zone A. The article exploits this exogenous MW change and uses an individual-level panel data set to estimate a Difference-in-Difference model to examine changes in the hourly wage and monthly earnings.

The results show that the increase in the MW did not have a negative effect on employment or hours worked. Indeed, the panel data showed that some individuals who had a formal job before the rise in the MW were more likely to keep it afterwards. Similarly, the probability of individuals who had an informal job still having that type of work after the rise in the MW decreased, and the probability of them securing a formal job increased. The conclusion is that higher MWs reduced earnings inequality among all workers.

In Brazil, Menezes-Filho et al. (2009) use the technique developed in DiNardo et al. (1996) to investigate the impact of MWs on earnings inequality over 1982 to 1999. They present evidence that falling real MW contributed significantly to an increase in earnings inequality from 1981 to 1988. On the other hand, from 1988 to 1999 MW had no impact on the fall in earnings inequality over this period.

Ferreira et al. (2021) also study Brazil, using unconditional quantile regressions of wages and income inequality measures regressed on education, experience, formal wage employees/informal wage employees/self-employed, gender, race, region, and industrial sector. They find that the biggest cause of falling inequality from 1995-2012 was falling returns to experience (responsible for 53% of the fall in inequality), followed by reductions in earnings gaps by gender, race, and informality plus falling earnings gaps by special location. They then add the proportion of workers earning below the MW (by state) to the regression as an independent variable. While Ferreira et al. (2011) note that “the RIF framework does not naturally lend itself to the study of the effects of MWs on inequality,” their result suggest that changes in MWs led to a small fall in inequality over the entire 1995-2012 period. The impact of MWs was small compared to other factors driving down inequality.

Further, Ferreira et al. (2021) find evidence that during a period of slow economic and income growth, higher MWs increased earnings inequality. On the other hand, during a period of rapid economic growth, higher MWs decreased earnings inequality. The rise in inequality during the slow growth period occurred primarily because higher MWs were associated with an increase in the proportion of workers earning below the minimum (increased non-compliance). During the period of economic growth the wages for workers around the MW increased but higher MWs were not associated with an increase in the proportion of workers earning below the minimum. This was because of both a reduction in non-compliance and an increase in wages for those earning near the MW during the period of economic growth.¹⁵

¹⁵ Substantial reductions in earnings inequality are generally found in studies that compare the actual distribution of wages with a constructed counterfactual distribution for before the minimum wage change but assuming the new minimum wage. An example is Maurizio and Vazquez (2016), who examine Argentina, Brazil, Chile and Uruguay during the period of falling inequality in the early first decade of the 2000s. Using data on full-time urban wage employees, they compare the actual distribution of earnings in the early 2000s with this same distribution if minimum wages were at 2011-2012 levels. They conclude that higher minimum wages had substantial equalizing effect on earnings inequality in Argentina, Brazil and Uruguay by compressing the lower tail of the earnings distribution. Studies such as the above, which generally construct a counterfactual distribution generally follow DiNardo et al. (1996), which has limitations. For example, Maurizio and Vasquez (2016) assumes that there are no or small negative employment effects, no spillovers into the upper part of the distribution, and no lighthouse effects. Maurizio and Vazquez (2016) also note that this technique cannot distinguish earnings and distributional

In Costa Rica, Gindling and Terrell (2007) use exogenous changes in legal MWs by MW category. They regress an outcome variable (hourly wages, employment and hours worked) on the real MW by category, MW category fixed effects and year fixed effects. Regressions were estimated separately for workers in each decile of the wage distribution. Gindling and Terrell (2007) find that MWs have the largest impact on both the wages and employment of workers at the 2nd through 4th decile in the skill distribution. As the wage increase estimates are higher than the employment loss estimates for this group, these results suggest that higher MWs reduce earnings inequality..

d. Impacts on the distribution of household incomes

Household income distribution is not the same as the distribution of earnings for two important reasons. First, household income includes the sum of the incomes of *all* family members, some of whom may be high wage workers and others low wage workers. Because of this, MWs may have different impacts on earnings and income inequality. Second, household income should include all types of labor incomes and also *non-labor income*. This is important since it allows for the possibility of including the effects of MW policy on the functional distribution of income, that is between labor and capital.

Table 3 - Proportion (%) of minimum wage workers in each decile in the per capita household income distribution

Country	Poorest decile	2	3	4	5	6	7	8	9	10
Bolivia	1	1	7	12	13	15	15	15	15	7
Chile	3	7	9	11	14	16	16	13	8	2
Ecuador	0	2	4	8	13	15	17	19	16	7
Guatemala	0	0	5	13	17	17	17	14	9	7
Uruguay	4	10	14	13	15	17	12	9	5	2

Source: ILO, Global Wage Report: 2020-2021

effects due to minimum wage increases and censoring effects caused by the loss of low-wage workers because of disemployment effects. As Neumark notes, “simulations are problematic, because they ignore a number of dimensions along which workers and families may bear the effects of minimum wages or adjust to minimum wage changes, including the indirect effects on higher-wage workers via spillovers or relative demand shifts.” (Neumark, et al. 2006, p. 137). As important, Latin American studies using the DiNardo et al. (1996) control for personal characteristics of workers, but generally assume all other changes are due to the minimum wage (unlike the original DiNardo, et al 1996 article). Also, as we have noted, there were many policy changes in the countries studied that have also been identified as contributing to reduced earnings inequality. Therefore, the relationship between higher minimum wages and reduced earnings inequality may be spurious and not causal, but rather an indication that higher minimum wages and falling earnings inequality may be simultaneously determined by other factors.

The 2020-2021 ILO Global Wage Report provides evidence on the potential impact of MWs on household per capita income inequality. For a sample of countries, the report divides households into income deciles. They then look at whether workers earning the MW live low income households. They present the proportion of MW workers living in families at each decile of the distribution of household income, which shows that wage employees earning within 5% of the MW are disproportionately in households in the 5th through 8th deciles of the per capita household income distribution see (Table 3). Of the LAC countries studied this is true in Guatemala, Ecuador, Bolivia and Chile, but not Uruguay. Wage employees earning near the MW are in the upper half of the household income distribution even though MW levels are well below the median wage in Ecuador, Bolivia and Chile. In Bolivia, 73% of MW workers live in households at the upper half of the household income distribution, in Chile the corresponding proportion is 67%, 74% in Guatemala, and 80% in Ecuador.

On the other hand, the proportion of workers earning less than the MW, and the proportion of workers who are self-employed, are highest for those who are in the bottom deciles of the household income distribution. As these workers are less likely to be affected by MWs, this is consistent with no impact of MWs on the lowest income households. Similarly, for some countries (Guatemala, Ecuador and Chile) labor force participation is lowest at the bottom of the distribution, suggesting that some of these low-income households may not have any wage employees, and therefore changes in MWs will have little direct impact on these households.

These are descriptive statistics and are not causal estimates of the impact of higher MWs on household income inequality. However, they do provide suggestive evidence that higher MWs are likely to have a disequalizing or (at best) a small equalizing effect on the household income distribution. On the other hand, they also provide suggestive evidence that reducing non-compliance has the potential to significantly reduce income inequality.

Econometric evidence from Mexico suggests that higher MWs may increase household income inequality even when higher MWs reduce earnings inequality among workers. Campos-Vazquez and Esquivel (forthcoming) examine the impact of a January 1, 2019 increase in MWs in Mexico that was much larger in certain northern border municipalities than in the rest of Mexico. The main empirical model uses panel data and a Difference-in-Difference technique to compare the municipalities that experienced the larger increase with other parts of Mexico that did not.

Unconditional quantile regressions are used to estimate the impact of MWs on the per capita household labor incomes at different percentiles in the distribution of income. The unconditional quantile regressions find that the increase in the MW had a negative or insignificant impact of household labor income in the bottom half of the distribution (1st through 5th deciles), but significantly increased the household labor income of the upper half of the distribution (6th through 10th deciles).

The lack of an impact of higher MWs on low income households is at least partly due to these low income households being composed disproportionately of households with no workers and households with self-employed workers who are not affected by MWs. Estimates of the impact of higher MWs on poverty are consistent with the income distribution results. The authors find that the increase in the MW reduced the poverty rate but increased the poverty gap.

In Honduras, Ham (2018) uses exogenous changes in legal MWs that differ by industry sector and firm size. An exogenous MW changes by industry sector and firm size are caused by the election of a populist president in 2008, and not economic conditions. The MW/average wage ratio for all workers (the Kaitz index) ranged from 0.65 in 2005, increasing to 0.93 in 2009 and then to 1.20 by 2012. In addition to the increase in MWs, there were also politically-driven changes in the number of MW categories.

Ham (2018) presents evidence that increases in MWs caused an increase in non-compliance (workers with wages below the MW), reduced formal wage employment, increased informal employment, and caused fewer hours worked, higher formal wages, lower informal wages, a net fall in all wages, and no fall in poverty overall. The effect of a MW increase on overall wages is slightly negative. Higher MWs have no overall statistically significant effect on poverty, but reduce poverty for covered sector workers and increased poverty for informal workers, implying increased earnings and income inequality.

In Brazil, Neumark, Cunningham and Siga (2006) estimate the impact of MW increases on real family incomes at the 10th, 20th and 30th centiles in the income distribution. They exploit regional variation in wages and use the proportion of workers earning below the MW as the measure of the bite of MWs in different regions. There are statistically significant increases in the first quarter after the MW change at the 20th centile. However, after allowing for lagged effects they find no evidence that MW increases lead to increases in income for households at any of the first three deciles, and therefore find no evidence that increases in MWs reduced income inequality in Brazil.

Decomposing the inequality change in Brazil from 2001 to 2007, Barros et al. (2010) find that approximately 50% of the fall in inequality was due to a reduction in earnings inequality. Using

comparisons of the actual earnings distribution with a counterfactual they find that increases in the MW have an ambiguous effect on income inequality, decreasing the income share of the lowest income workers (1st decile) while increasing the income share of the 2nd through 7th deciles. They find that increases in the MWs between 2001-2008 caused the Gini to fall while the 90/10 and 50/10 ratios to increase. Further, to get an idea of the relative importance of the MW and expansion of Bolsa Familia to the fall in income inequality in Brazil between 2001-2007, they simulate the impact of a 10% increase in the MW and the equivalent amount of resources given to Bolsa Familia. They find that “Bolsa Familia is unambiguously more effective than the MW at reducing inequality.” (Barros et al., 2010: 168).¹⁶

Sotomayor (2021), using regional variation in the MW in Brazil to identify the impact of MW changes, finds evidence that higher MWs reduce household labor income inequality in Brazil even though the impact on wage inequality is small. MW effects by household income percentile in the first quarter after the MW change are estimated separately for the 20th to 90th centiles in the household income distribution. The regression estimates by household income found significant and positive MW impacts on household incomes for the 20th, 30th and 40th percentiles. Above the 40th percentile the impact of MWs on household incomes is not statistically significant (although some coefficient magnitudes are large).

In Colombia, Arango and Pachón (2004) use data from Colombia’s seven largest cities and regress household income on the MW bite for workers at different centile in the wage distribution. They find that MW increases have an impact for workers in the bottom-middle of the distribution but not for the very poorest families. Specifically, higher MWs increase household incomes above the 25th percentile but have no significant effects lower in the distribution. The results suggest a U-shaped relationship, with no significant effects for the lowest income households (up to 20th centile), the largest effects between the 25th and 45th percentiles, and then the effect is reduced for the 50th to 90th percentiles. Finally, they find that higher MWs increase the probability that a worker lives in a poor family, again suggesting that higher MWs do not increase the incomes of the lowest-income families. Taken together, these results suggest an ambiguous effect of higher MWs on income inequality.

e. Impact of non-labor income on household income inequality

¹⁶ They also note that “This methodology, by its counterfactual nature, has the advantage of allowing a perfect identification of the impact but the disadvantage of considering only a few channels through which the minimum wage ... benefits may influence income inequality” (Barros et al., 2010: 166).

We found only one study that explicitly examine whether indexing social benefit levels to the MW reduced income inequality (Barros, et al, 2010). In Brazil, the MW acts as a floor for social security benefits. In addition to contributory Social Security benefits, Beneficio de Prestacoa Continuada (BPC) payments are indexed to the MW. These per capita benefits increased by 21% and 55%, respectively as MWs increased by 35% in real terms. Inequality decomposition analysis presents evidence that increases social security benefits were responsible for 30% of the decline in income inequality from 2001-2007. The increase in the generosity of Bolsa Familia and BPC benefits had a very small impact on inequality. Rather, these non-contributory programs had a significant impact on reducing income inequality because of coverage expansion.

f. Some speculative conclusions from comparative analysis

In Table 4 we present descriptive evidence from the five countries where we can directly identify the impact of higher MWs on earnings inequality. Compared to the rest of Latin America, Brazil, Mexico and Honduras are outliers. In Brazil and Mexico there is evidence of no negative formal employment effect or increase in non-compliance, lighthouse effects that reach far into the lower parts of the uncovered sector, and spillover effects higher in the distribution of earnings. In both countries higher MWs are estimated to have an equalizing impact on the distribution of earnings. Honduras is an outlier in another direction, where studies show that higher MWs have large negative formal employment effects, no lighthouse or spillover effects, increases in non-compliance, non-compliance and the MW to average wage ratios are the highest in Latin America. MWs relative to average wages are the highest in LAC. In Honduras, higher MWs are estimated to have a disequalizing effect on wages.

Table 4 - Comparison of impact of minimum wages across countries

	Impact of increases in the MW on					MW/average wage	Non-compliance
	Earnings inequality	Reduced Covered employment	Lighthouse effect asalariados	Lighthouse effect SE	Spillovers		
BRAZIL	↓	N	Y*	y	Y	0.36	30%
MEXICO	↓	N	Y*	Y	Y	0.25	34%
COSTA RICA	↓	Y	Y	N	N	0.52	52%
URUGUAY	↓	Y	Y	N	N	0.41	30%
HONDURAS	↑	Y	Y	N	N	1.21	80%

An important question, then, is: What is different about MW policy in Brazil and Mexico compared to Honduras? Without overlooking the important concerns about the internal and external validity of the evidence, we speculate that a key difference is that both Brazil and Mexico have a MW-mean wage ratio that is relatively low (but not extremely low!), and that most workers know their rights. Table 4 shows that the MW relative to the average wage ratio and the degree of non-compliance in Brazil and Mexico (before the 2019 increase) are among the lowest in LAC (for both measures they are two of the three lowest for countries in which we have studies). In Honduras, on the other hand, both the MW-mean wage ratio and non-compliance are high and trust in the judiciary is low.

In summary, we speculate that in countries where MW are low and compliance is high, an increase in the MW is likely to reduce earnings inequality, while in countries where MW are high and compliance is low, an increase in the MW is likely to increase earnings inequality. Moreover, we speculate that the high levels of compliance with the MW observed in Brazil and Mexico (compared to other countries in the region), are partially explained by institutional factors such as the relatively high levels of trust in the judiciary and the strength of labor unions.

g. Limitations of the literature

Identifying the impact of higher MWs on income inequality depends on whether MW workers live in low- or high-income households, and which workers within households are most affected. However, there is still little econometric evidence on these topics. This is a limitation in the literature that should be addressed.

Scholars, and particularly labor economists, have contributed a great deal to understand the pros and cons of the impact of MW policy on earnings inequality and employment. Despite this valuable literature, we still have only a partial understanding of MW policy in the region. We still have little descriptive evidence about the actors, institutions and rules involved in MW enforcement. We know little about both private and public enforcement. In our view, we do not have good answers to the following basic questions: Are workers in the region aware of the MW? Do workers have easy access to a fair and effective judiciary? How many MW violations fines do labor inspectors impose per year? Are those fines effectively collected? Is the inspection agency captured by special interests? Moreover, the distributional effects of MW policy are likely to vary depending on which actors have more voice and

power, particularly in wage setting and enforcement agencies, as the political economy literature suggests.

Endogeneity between MWs and economic conditions can cause spurious correlations between MWs, employment, wages and inequality. Some studies address the issue of endogeneity by examining MWs that are plausibly exogenous to changes in economic conditions. Labor economists have developed different identification strategies attempting to deal with this problem, but they have quite often only focused on in-form regulations ignoring the possibility of strategic enforcement, wherein the government reduces enforcement when the in-form MW increases to achieve different political objectives. The large distance between de jure regulation and the effective implementation should not be a surprise to development scholars.

Put differently, the theory of the firm indicates that the relevant concept is effective labor regulation. Employer's decisions not only depend on the legislated MW but also on the expected fine in case of noncompliance. In countries where compliance is very high, the main challenge for the researcher who attempts to estimate the labor market effects of an increase in the MW is to break the simultaneous relationship between the legislation and labor outcomes because policymakers usually set MWs depending on the macroeconomic situation. But in countries where noncompliance with regulations is pervasive, such as in many LAC, there is an additional layer of difficulty that has been overlooked. It is necessary to go beyond the letter of the law. Enforcement should be brought into the analysis considering that it is likely to be endogenous because in less developed countries the executive power usually has ample discretion over inspection due to lack of institutionalized and politically insulated bureaucracies.

V. Final Remarks

The published research suggests that the effect of MWs on inequality in LAC depends on what type of inequality is considered. In almost all countries, higher MWs reduce earnings inequality among formal/compliant wage employees and among all wage employees (compliant plus sub-MW employees).

The evidence is more mixed for inequality among all workers (wage employees plus self-employed); reducing inequality in some countries and increasing inequality in others. Higher MWs are more likely to increase earnings inequality when MWs are high. When MWs are high relative to average wages then

higher MWs are likely to increase the earnings of workers in the middle or upper parts of the distribution. Several studies also find that higher MWs increase non-compliance, providing another reason why earnings inequality may increase with higher MWs, especially if MWs are high. Further, even when higher MWs reduce earnings inequality the impact is small compared to other factors that influence inequality.

The effect of higher MWs on household income inequality is nuanced. MWs do not affect the incomes of the poorest households, many of which have no labor income or are composed of only self-employed workers, two groups where MWs have no or a small impact on earnings. In general, MWs have the largest positive impacts on households in the middle or lower-middle part of the household income distribution and have no or little impact on the poorest households. Consistent with this, studies that look at the impact of higher MWs on household incomes find that they have a very small, or no, impact on inequality or extreme poverty.

Finally, we present a few more speculative comments. First, and foremost, it is important to understand the local context before extrapolating any recommendation. As theory and the evidence suggests, MW effects are likely to differ substantially across countries.

In general, MWs have a higher potential to reduce income inequality if a smaller proportion of workers in low income households are own-account workers whose wages are not necessarily affected by MWs.

Our review of the political economy literature suggests that MWs will be more effective at reducing inequality if laws are introduced that allow and promote increased worker bargaining power in the private sector. But unions may have incentives to promote policies that help their members, which tend to be among the higher paid workers. How to increase the agency and power of the lowest-paid workers? One possibility is to incorporate individual workers into the enforcement process. For example, a Costa Rican program the government set up an anonymous tip line where individual workers can report labor law violations directly (Gindling et al., 2015). Each complaint led to an inspection. Another possibility is to promote changes in social norms to improve compliance. For example, in the Costa Rican program the government implemented an extensive advertising campaign to inform the population of labor rights and what to do if rights are violated.

We would like to conclude by calling for studies of the impacts of MWs in LAC to more completely take into account the reactions of political actors and other political economy considerations. As labor economists, we usually base policy recommendations on theoretical insights and empirical estimates of

the economic effects of the analyzed policy. The idea is that once the true parameters of the labor market are estimated through careful empirical analysis, then policymakers would be able to design welfare enhancing labor policies. It could be argued that, despite much effort, this approach has only achieved partial success. We believe that this may be in part because most empirical studies do not sufficiently consider political economy considerations, especially the reactions of enforcement agencies to changes in MWs; political actors may increase or decrease enforcement efforts as MWs change.

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