Essays on Labor Market Institutions

Dissertation Defense

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April 22, 2024

The purpose of this document is to serve as guide for the defense of my dissertation. The goal is to discuss my research agenda for the future, including submission prospects for working papers and effort allocation towards new projects.

The document is structured as follows. Section 1 discusses comments I received on my job market paper and the next steps for the project. Section 2 discusses other projects and ideas at different states of completion.

1 Collective Bargaining Networks, Rent-Sharing, and the Propagation of Shocks

1.1 Overview

Hermo (2024) studies the effect of product-demand shocks on the labor market outcomes of their workers in the presence of collective bargaining (CB) institutions.

The empirical section of the paper constructs product-demand shocks to firms and CB units relying on a shift-share strategy and exogenous variation arising from world import demand. Table 1 shows the key findings: product-demand shocks that are aggregated at the level of the collective bargaining unit have a strong effect on wages. The evidence indicates that wage floors are the mechanism that accounts for these effects.

The structural part of the paper studies whether the extent of risk-sharing (or spillovers) is related to the structure of CB. Structures with low and high levels of bargaining centralization have lower levels of risk-sharing than structures with intermediate levels of centralization. These results, which are illustrated in Figure 1, are the result of the endogenous level of wage floors and the extent of connections created by CB. In decentralized systems wage floors are high, but there are fewer connections among firms, resulting in limited spillovers of updates in the wage floor. In centralized systems there are many connections across firms, however

wage floors are low and the bite of the wage floor is not strong enough to generate significant spillovers. Intermediate levels of centralization have the right balance of wage floor bite and dense connections across firms to allow for a stronger degree of risk-sharing.

1.2 Comments on framing

1.2.1 Rent-sharing

I am still unsure about how to frame both rent-sharing and risk-sharing into the paper (or whether I should). Across presentations, people found the idea that aggregating shocks at the level of the CB unit results in more responsive wages was compelling. I did have one person mentioning that we know that rent-sharing is larger at the market level though.

Potential weaknesses of focusing on rent-sharing. Not being able to estimate the effect of the CB shock on revenue is a limitation. If the CB shock has stronger effects on average CB revenue than the firm shock has on firm revenue, then the rent-sharing coefficients—which are constructed by dividing the effect of the shock on wages to the effect of the shock on revenue—may actually be similar.

Another limitation is that I cannot reject the null that the effect of the firm and CB shock on mean wages is the same. I added this test in Table 1. I only find significant effects for the wage floor outcome.

Next steps.

- Incorporate test of equality of coefficients to paper. Discuss that rent-sharing at the CB level is a novel channel that seems important, even beyond the relative magnitude of the effects.
- I could estimate rent-sharing at the local labor market in the main paper as well (I already do in Appendix Table 6), and compare the firm and CB channel to the local labor market one.
- I can try to do a better job at estimating effects on revenue, though the key limitation here is the data.

1.2.2 Risk-sharing

I've had comments on the interpretation of the results as evidence of risk-sharing. People mentioned that it's not clear what I mean by risk-sharing in the intro. Is the risk being

shared among firms or workers? The structural model focuses on the extent of spillovers due to CB, which I interpret as risk-sharing among firms.[1]

I can also focus on risk-sharing among workers as outcome in the future. I have to be clearer on what I mean by risk-sharing in different parts of the paper.

Next steps.

- Improve writing to clarify what type of risk-sharing I'm referring to.
- Add curvature to utility function in the model to speak directly to the benefits of risk-sharing among workers in the counterfactuals.

1.3 Comments on empirical exercise

1.3.1 Interaction between shocks

More than one person mentioned that I should include an interaction term between the firm and CB shocks. The idea would be to test what happens to firms that are doing poorly when the CB unit is doing well, and vice versa.

Figure 2 shows the results of including an interaction term between the firm and CB shocks in a dynamic difference-in-differences framework, demeaning the shocks with their (unweighted) averages. Figure 3 shows the results of the same exercise but demeaning the firm shock with respect to the CB shock. In these specifications, the effects of the firm and CB shock are quite similar to the ones in the main paper. The interaction behaves differently depending on how the demeaned variables are constructed, making it unclear how the demeaning should be done. In Figure 2, the interaction appears negative for the wage outcome and behaves weirdly for the employment outcome. In Figure 3, the interaction has a precisely estimated null effect.

While this is something I could explore further, I think that the early results are not very promising. Additionally, it's not clear to me how this exercise fits into the paper.

1.3.2 Heterogeneity across local labor markets

In the paper I find that effects seem stronger for larger CB units. I got a comment that I could test how the effects of the CB shock differ across local labor markets with different levels of employer concentration. The spirit of the comment was to test whether unions can offset monopsony power in the labor market, similar to Dodini, Salvanes, and Willén (2021).

[1] The y-axis in Panel (a) of Figure 1 captures the difference in the average wage response to the shocks between a particular CB system and a counterfactual economy without CB. This is what I mean by "extent of spillovers," and indicates that risks are shared among firms because wages depend on the shocks to other firms.

1.3.3 Heterogeneity across workers

I got asked multiple times what workers benefit from the CB shock. The main split people seem interested in is between incumbents and new hires. I could easily add more results discussing how different types of workers within the firm are affected by the CB shock.

1.3.4 Outside options of workers

I was asked whether my regressions really control for the outside option of workers, pointing out that the real outside option of workers may be only firms in the same CBA (instead of the same local labor market). The first thing I can do is acknowledge this issue in the paper, which I currently do not. Second, I could add another appendix describing the patterns of worker mobility. Third, I could highlight more strongly the worker-level specification, which should partially address this concern. How important is this issue?

1.3.5 Standard errors

Should I develop a method to estimate standard errors at the country-product level? I got limited comments on this, but it's something we discussed in the past.

1.4 Comments on structural model

The main focus of the model is to study the extent of spillovers due to CB, and how this metric varies across different CB systems. I got comments to study other outcomes in the model, such as employment or efficiency. I also received comments on model estimation.

1.4.1 Employment concerns

Currently, the model produces somewhat unrealistic employment effects, which made me cautious about discussing them in the paper. As a result, all I've done is include a figure in the appendix of the paper (Appendix Figure 16) that shows a "hump-shaped" relationship between centralization and employment.

The reason for unrealistic employment effects is likely the linear specification of the production function. The main upgrade to the model will be to use a Cobb-Douglas specification for the production function, which should fix this issue.[2]

There are new issues that arise with the Cobb-Douglas specification. The first one is that, if I exclude fixed costs, profits are positive for any level of productivity, meaning that there

[2] I suspect that the linear specification also resulted in a corner solution for the wage floor in the largest CB unit (0130/75). To deal with this I kept the wage floor of this CB unit fixed across counterfactuals. Hopefully this issue will be fixed with the Cobb-Douglas specification.

is no lower productivity threshold.[3] I need to introduce fixed costs which will endogenize the measure of firms in the local labor market, and figure out how to estimate them. This will take some time.

Replicating employment effects. We discussed using the model to replicate the employment effects of the empirical exercise. This exercise may be feasible with the improved specification of the model using a Cobb-Douglas production function.

1.4.2 Efficiency concerns

Someone told me that they searched for the word "efficiency" in the pdf and were surprised to find no mentions of it in the paper. The question they had in mind is whether the presence of CB units make the allocation of labor more efficient.

It would be feasible to define an efficient allocation of labor in the model and compare different CB systems in terms of how close they are to this benchmark. Is this something that I should pursue? I could connect with research arguing that minimum wage hikes lead to a reallocation of labor towards more productive firms (Dustmann et al. 2021).

1.4.3 Estimation

I got several comments suggesting that I should target the extent of spillovers in the estimation of the model (see Table 5 in the paper). This is not possible with the current model as the data fully determines the parameters. However, once I add new parameters (curvature in utility function, curvarture in production technology) I should be able to develop an estimation routine that targets the extent of spillovers. This could more tightly link the empirical and structural parts of the paper.

1.4.4 Matching average wage data across local labor markets

While the match between the model and the data is good on average, there is significantly more variation in the data that is not captured by the model (see Figure 8 in the paper). I could introduce modifications to the model to reduce this discrepancy.

Different types of workers or occupations We discussed in the past about the possibility of including different types of workers in the model. I did not receive comments in this regard, so it's not something I would prioritize.

[3] In the current version profits turn negative for low levels of productivity, resulting in firm exit. Given a fixed local labor market size, this allowed for extensive margin adjustments as response to the wage floor.

Part-time employment There is a significant share of workers making less than the wage floor, and this share varies across local labor markets. One complication of the model would be to allow for this type of employment, though I'm hesitant to take this route as the pay-off is not clear and I did not receive comments in this regard.

1.5 Publication prospects

This year I will prioritize the JMP. I anticipate that the paper will be ready for submission by the end of the year. My first choice for submission would be Restud, the reason being that Garin and Silvério (2023) (a closely related paper) was recently published there.[4] I am not sure what editor I would get though.[5] Should I aim for another journal?

2 Other work and new ideas

2.1 From Workplace to Residence: The Spillover Effects of Minimum Wage Policies on Local Housing Markets (with Gabriele Borg and Diego Gentile Passaro)

Borg, Gentile Passaro, and Hermo (2023) point out that minimum wage (MW) policies may affect prices of goods and services, including housing rents, and that this may have implications for the distributional effects of MW policies. The paper construct a "workplace MW" measure that, for a given ZIP code, averages the statutory MW across all the ZIP codes where the residents of the ZIP code work (weighting by commuting shares). The main finding of the paper is that the workplace MW has a positive effect on housing rents. Additionally, the paper finds a negative effect of the "residence MW," and estimates an average incidence of the MW on landlords of 10 cents per dollar.

Next steps. The paper has received several rejections, the latest one from the Journal of Urban Economics. The paper could be improved by:

- A new source of data that captures rents at a granular geographical level and allows for more precise estimates.[6]

[4] Their editor was Uta Schoenberg.

[5] Manudeep Bhuller is currently an editor. Since I'll work with him next I anticipate that he cannot be my editor.

[6] It would also be useful to test whether the number of housing units available for rent respond. This is not possible with the current dataset, obtained from Zillow.

- Extending the paper to study the effects of the MW on income, employment, or other prices across space.
- A model that explicitly accounts for labor market effects and incorporates such responses in the counterfactual analysis.

One road for the paper is to submit again with minimal cosmetic changes to a new journal. If so, I could aim for a general interest journal, such as Restat, or a lower-ranked field journal, such as the Regional Science and Urban Economics. Another road is to extend the paper in one of the ways discussed above before resubmitting.

2.2 Collective Bargaining and Informality

Do more stringent labor regulations in the formal labor market lead to more informality? This project aims at studying whether increases in the wage floor in the formal labor market can lead to more informality, as firms and workers may find the updated wage floors "too high" and decide to operate informally. First, I will estimate the sensitivity of the share of informal workers to the bite of the wage floor in the formal labor market, defined as the share of workers earning close to the wage floor. Second, I will use these estimates to understand to what extent informality rates can be reduced by aligning local wage floors with the productivity of the local labor market. This project contributes to literature studying the effects of collective bargaining on labor misallocation (e.g., Boeri et al. 2021) and MW policies on informality (e.g., Parente 2023).

Motivating facts. Panel (a) of Figure 4 shows the relationship between the share of informal workers (source: survey data) and the wage floor "bite," defined as the share of full-time workers earning close to the wage floor (source: administrative data) across local labor markets in Argentina. Local labor markets are defined as interactions between province clusters and broad economic sectors. We find a strong positive correlation between the two variables. Panel (b) also finds a positive relationship between the share of part-time workers and the wage floor "bite."

Table 2 shows the results of a simple regression of the share of informal workers on the share of workers earning close to the wage floor, controlling for province and economic sector fixed-effects. We find that the positive relationship holds within economic sectors and also within provinces. However, the correlation is not statistically significant when controlling for both regional and sectoral fixed-effects.

Empirical strategy. The idea is to leverage variation in the level of wage floors across local labor markets to estimate the effect of the share of workers constrained by the wage

floor on the share of informal workers. The main challenge is that the level of the wage floor will be endogenous to the productivity of the local labor market which also affects the informality rate. To overcome this challenge I plan to use a shift-share strategy that relies on exogenous variation in the level of the wage floor induced by world import demand shocks to firms in the local labor market.

Structural analysis. The project would incorporate a structural model of local labor markets where firms decide whether to operate formally or informally given their productivity and the level of the wage floor. Then, it would try to assess how much can informality be affected by changing the level of wage floors across local labor markets. The analysis would then draw implications for the design of collective bargaining institutions.

State of the project. Data is available from my job market paper. I have already constructed the main variables but more work is needed. I have not yet estimated the effects of the wage floor on informality, but using a similar strategy as in the job market paper should be feasible. Similarly, I could adapt the JMP's structural model to this project.

2.3 Optimal-Actual Policy Gap: Evidence from Unemployment Insurance in the US (with Sara Spaziani)

Economists often focus on optimal policy design, yet implemented policies can diverge due to political and stakeholder pressures. This project examines the gap between optimal and actual policy within the context of unemployment insurance (UI) in the US. The goal of the project is to:

- Formalize the impact of stakeholder bargaining power on the optimal-actual policy gap.
- Estimate how changes in this bargaining power affect the implemented policy and how actual policies differ from optimal ones across US states.

Motivating facts. Figure 5 shows the average potential duration of UI benefits over time by the level of union presence in the state. We see that, following the 2008 financial crisis, the average potential duration of UI benefits decreased markedly in states with lower union presence but remained high in states with higher union presence. This figure suggests that labor movements can influence the implemented UI policy.

Theoretical analysis. Relying on a lobbying or a bargaining model, and a simple model on how UI affects labor markets, we will try to understand how the gap between the optimal and actual policy is affected by the bargaining power of different parties. More specifically, we hope to generalize the Baily-Chetty formula, which determines the optimal level of UI benefits, to account for the bargaining power of different groups (Chetty 2006).

Empirical analysis. We aim at documenting how the gap between the optimal and actual UI policy differs across states and what factors explain these differences. An important factor is the bargaining power of workers relative to employers. To focus on this factor, we will analyze how changes in the level of union presence in the state affect the UI policy that is implemented in the state. The main challenge is to obtain exogenous variation in the level of union presence at the state level. We are discussing options for an instrumental variable such as close union elections or past European migration to different states.

State of the project. We are exploring this project's feasibility and actively seeking feedback. Our current focus is the development of a robust empirical strategy.

2.4 Ideas related to MW policies

Minimum wage and outside options

Why do several MW studies find significant spillovers of the MW to workers earning above the MW? The idea of this project is to study the indirect effect of the MW on workers through their outside options. The first part of the project is to empirically analyze transitions workers usually make across occupations and characterize what occupations MW workers hold and what their outside options are. The second part of the project is to estimate the effects of an increase in the MW via the outside option channel on wages and employment and gauge the importance of this channel relative to the direct effect of the MW.

Minimum wage and the location of economic activity

Increasingly, MW policies in the US are set at the national level. As a result, many metropolitan areas have workers living and working under markedly different MW levels. The goal of the project is to understand how MW policies affect the location of economic activity. Are low-wage employers changing their location to areas with lower MW levels? What are the implications for the distribution of economic activity across space?

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List of Tables and Figures (in order of appearance)

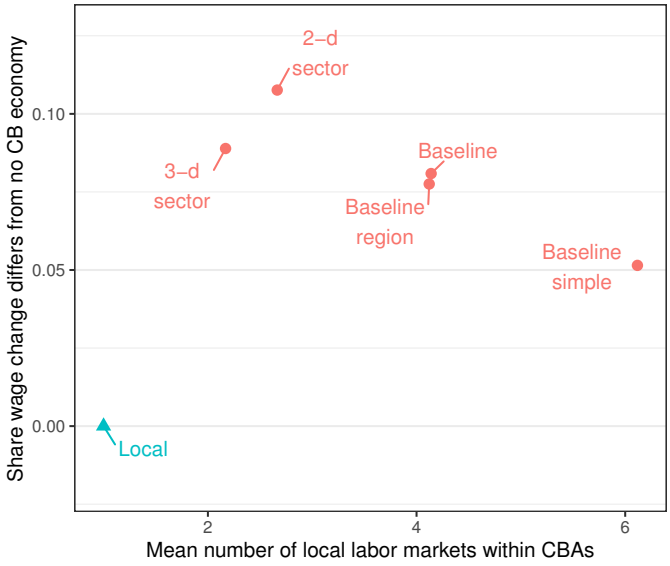
Table 1: Difference-in-differences estimates of product demand shocks on firms' labor market outcomes

	Log mean wage	Log mean wage floor	Log employment
	(1)	(2)	(3)
CB shock × Post	0.0458	0.0541	-0.0233
	(0.0202)	(0.0213)	(0.0351)
Firm shock × Post	0.0134	-0.0036	0.0297
	(0.0070)	(0.0021)	(0.0210)
p-value equality	0.1479	0.0060	0.2227
Firm FE	Y	Y	Y
Local market-year FE	Y	Y	Y
Firm controls	Y	Y	Y
Pre-period CB shock	Y	Y	Y
Num. firms	7,972	7,654	7,972
Num. fixed effects	27,976	19,860	27,976
Num. observations	85,777	50,703	85,777
Adjusted R^2	0.8480	0.9253	0.8965

Notes: Reproduced from Table 1 in Hermo (2024). The row "p-value equality" tests the null hypothesis that the coefficients on the CB and firm shocks are equal, and is not included in the original table. Standard errors are clustered at the CB unit level.

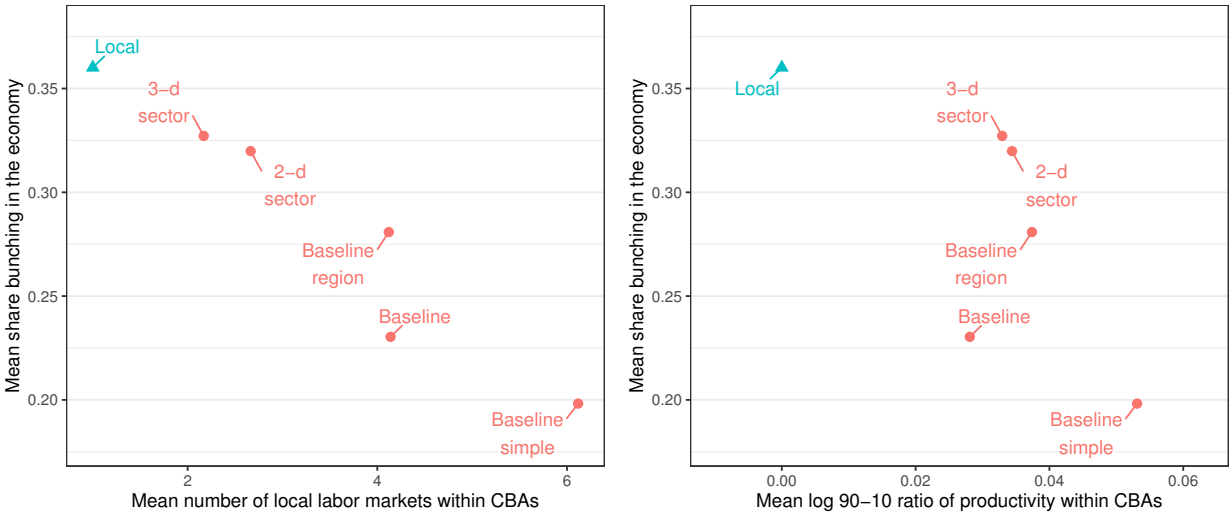
Figure 1: Centralization of bargaining and shock propagation across CB networks

(a) Centralization and shock propagation



(b) Centralization and wage floor "bite"

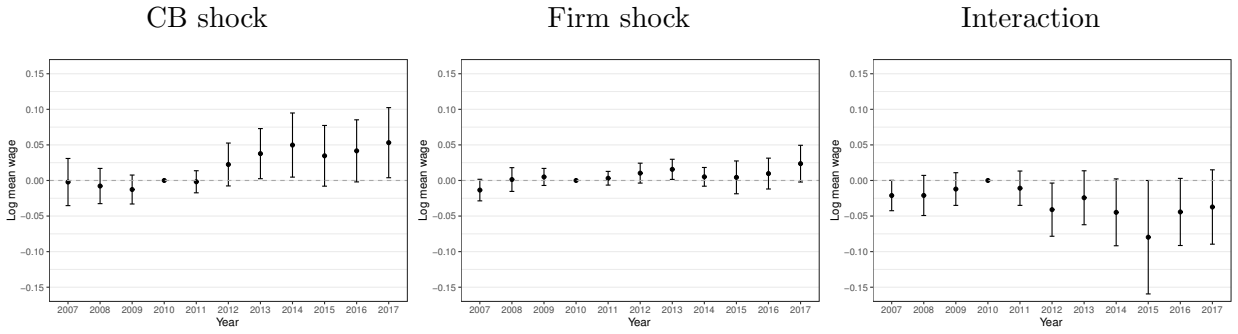
(c) Productivity dispersion and wage floor "bite"



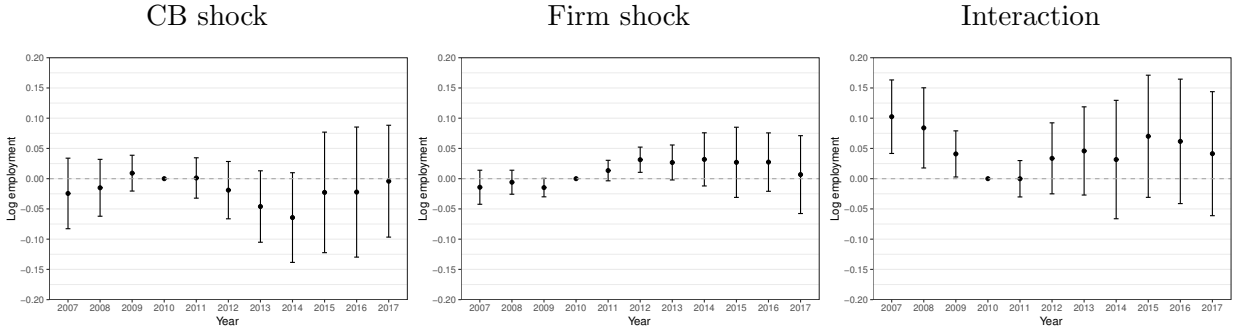
Notes: Reproduced from Figure 10 in Hermo (2024). Data are from model simulations pre- and post-export shocks under different CB networks. Panel (a) shows the degree of shock propagation against the level of bargaining centralization. Panel (b) shows the average share of firms bunching (wage floor "bite") against bargaining centralization. Panel (c) shows the average share of firms bunching against the level of productivity dispersion. The degree of shock propagation is measured as the share of local labor markets with an absolute average wage change following the shock more than 0.25% different from the counterfactual wage change in an economy without CB. This computation excludes local labor markets that correspond to the retail CBA (0130/75) at baseline and to CBAs with less than 5% of employment in exporting firms. Bargaining centralization is measured as the average number of local labor markets per CBA. The productivity dispersion is measured as the average ratio of the 90th to the 10th percentile of the productivity distribution within CBAs. The average share of firms bunching is measured as the simple mean across local labor markets.

Figure 2: Dynamic DiD including interaction among shocks, demeaned with respect to shock averages

Panel A: Log mean wage



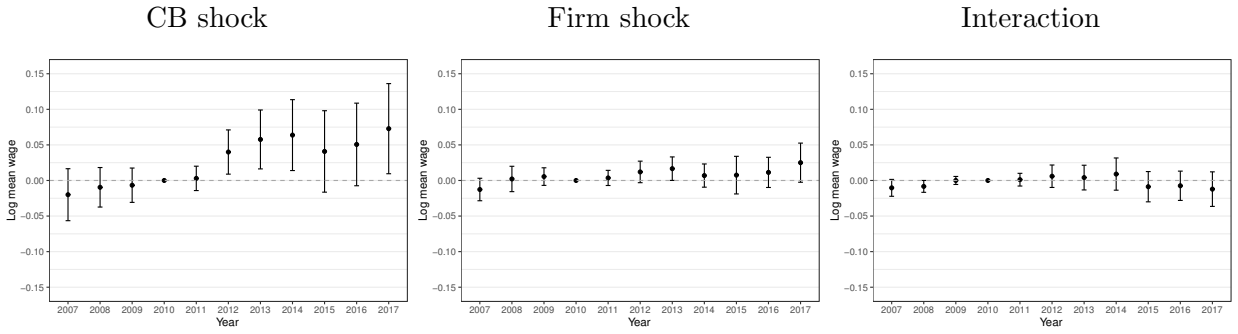
Panel B: Log employment



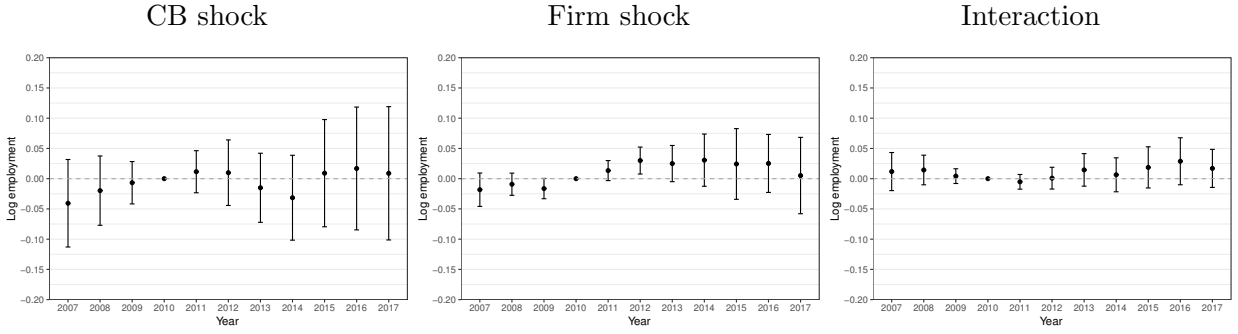
Notes: The figure shows the dynamic effects of a CB shocks, a firm shock, and their interaction, on wages and employment. Estimated regression models follow Hermo (2024). The CB shock is demeaned using the average (unweighted) CB shock. The firm shock is demeaned using the average (unweighted) firm shock. The sample includes all firms in the data. The vertical lines indicate the 95% confidence intervals.

Figure 3: Dynamic DiD including interaction among shocks, firm shock demeaned with respect to own CBA

Panel A: Log mean wage



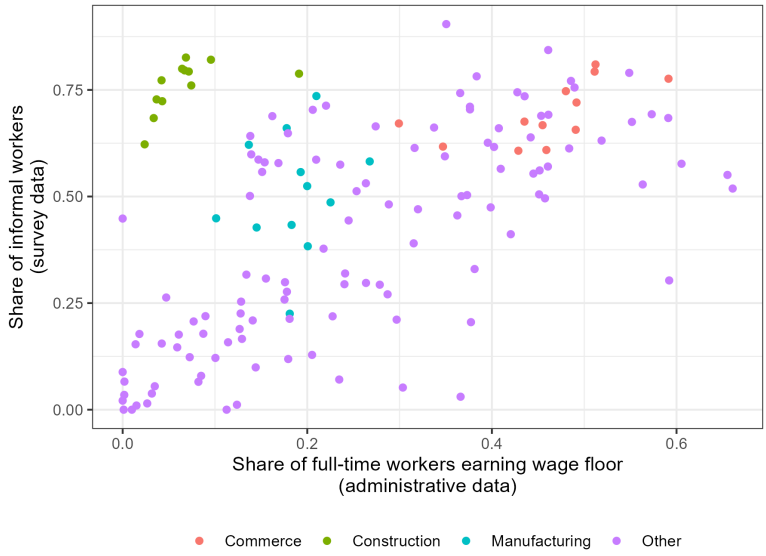
Panel B: Log employment



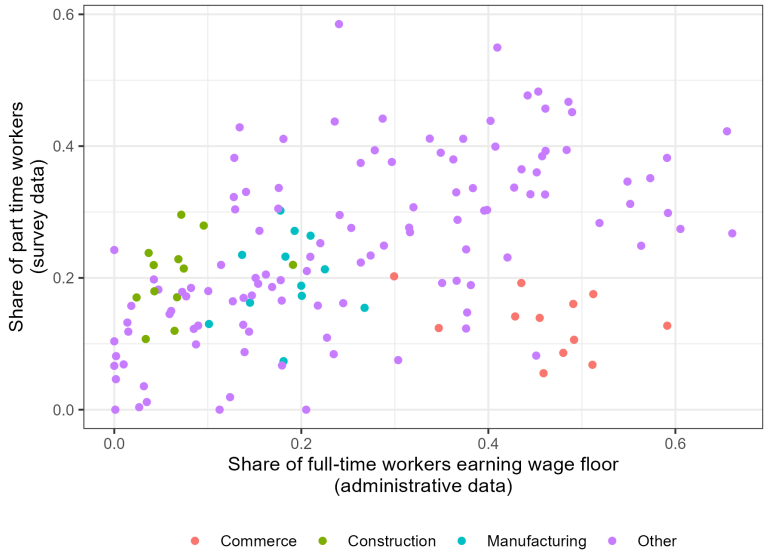
Notes: The figure shows the dynamic effects of a CB shocks, a firm shock, and their interaction, on wages and employment. Estimated regression models follow Hermo (2024). The CB shock is demeaned using the average (unweighted) CB shock. The firm shock is demeaned with respect to the CB shock, which reflects a weighted average of the firm shocks within the CBA. The sample includes all firms in the data. The vertical lines indicate the 95% confidence intervals.

Figure 4: Labor market outcomes and share of workers earning close to the wage floor across local labor markets

(a) Informality and wage floor "bite"



(b) Share of part-time workers and wage floor "bite"



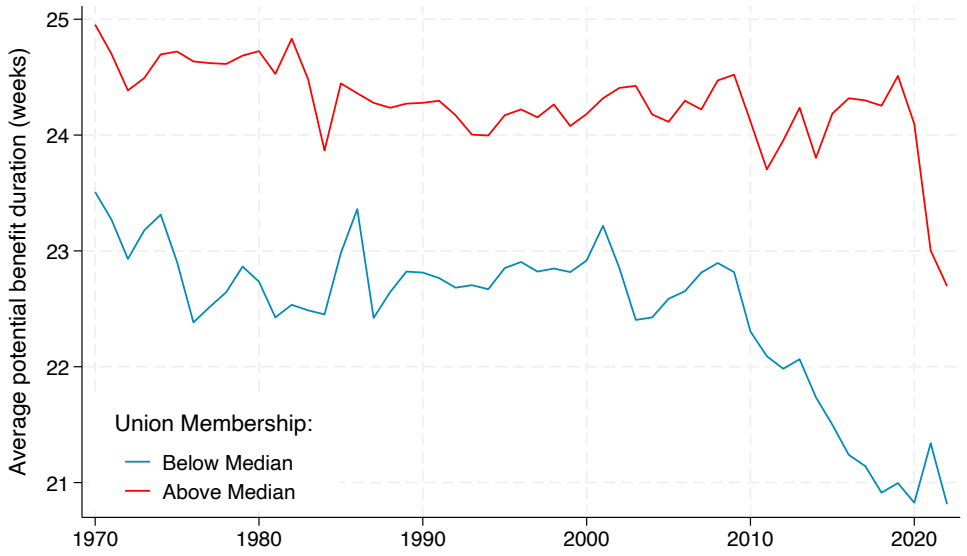
Notes: The unit of observation is a local labor market, defined as the interaction of province cluster and broad economic sector. Panel (a) shows a scatter plot of the share of informal workers against the share of full-time workers earning close to the wage floor. Panel (b) shows a scatter plot of the share of part-time workers against the share of full-time workers earning close to the wage floor. The share of informal workers is measured as the share of workers who contribute to the social security system according to the EPH household survey. The share of part-time workers is measured as the share of workers who work less than 30 hours per week according to the EPH household survey. The share of full-time workers earning close to the wage floor is measured as the share of workers earning between 0.9 and 1.15 times the wage floor according to the administrative data. This latter calculation only uses workers with a valid wage floor assigned to them.

Table 2: Informality and share of workers earning close to the wage floor across local labor markets

Dependent Variable:	Informality share			
Model:	(1)	(2)	(3)	(4)
Constant	0.2832**			
	(0.1160)			
Wage floor "bite"	0.7033**	0.6847**	0.2582***	0.0621
	(0.2663)	(0.2946)	(0.0729)	(0.0932)
Region FE		Yes		Yes
Broad economic sector FE			Yes	Yes
Observations	154	154	154	154
R^2	0.2461	0.2739	0.8798	0.9199
Within R^2		0.2290	0.0683	0.0049

Notes: The table shows the correlation between the share of informal workers and the wage floor "bite," defined as the share of full-time workers earning close to the wage floor. The unit of observation is a local labor market, defined as the interaction of province cluster and broad economic sector. Different columns vary the inclusion of fixed effects. Standard errors are clustered at the province cluster and broad sector level. Significance levels are denoted as follows: ***: 0.01, **: 0.05, *: 0.1.

Figure 5: Average duration of UI benefits over time by union presence in the state



Notes: The figure shows the average potential duration of UI benefits over time by the level of union presence in the state. The potential duration is the maximum number of weeks an unemployed worker can receive benefits.