Political Science Research and Methods (2026), 1–19
doi:10.1017/psrm.2026.10124

ORIGINAL ARTICLE

Trade liberalization and the welfare state: how subnational geographies shape compensation

Alice Xu

School of Social Policy and Practice and Department of Political Science, University of Pennsylvania, Philadelphia, Pennsylvania, USA
Email: alicezxu@upenn.edu

(Received 9 October 2024 UTC; revised 1 July 2025 UTC; accepted 15 August 2025 UTC)

Abstract

How globalization reshapes the welfare state in developing democracies remains contested, and evidence on whether trade liberalization expands or contracts social spending is mixed. Using a quasi-natural experiment in Brazil, I first find support for the "compensation hypothesis:" trade integration generates welfare compensation. I then argue that trade's differential impact across *subnational* regions helps explain the mixed evidence. Subnational political and economic geographies mediate trade's effect on social policy. In particular, I argue that the geographic concentration of political identities facilitates collective action. I find that geographically concentrated constituencies exhibit higher voter turnout and more participatory councils advocating for labor rights and welfare. Trade's positive welfare effect is magnified where political or economic identities are geographically concentrated. The findings spotlight how subnational geography shapes globalization's redistributive consequences.

Keywords: comparative politics; developing countries; social policy

Does trade integration with global markets affect social spending? This long-standing question has produced a number of theories that connect the domestic political economy to an increasingly interlinked global market. On the one hand, Garrett's (1998) "efficiency hypothesis" claims that increasing exposure to international competition comes at the expense of domestic social expenditure. His work highlights the inherent trade-off between the efficiency gains from trade liberalization and the loss in equity in the distribution of domestic wealth. On the other hand, Cameron's (1978) and Katzenstein's (1985) "compensation hypothesis" illustrates how, instead of curbing the effects of international market fluctuations with protectionist policies, small European states, such as Austria, Belgium, Denmark, Sweden, and Norway, compensate the "losers" of trade.

The empirical literature exploring this question has provided contradictory result. A number of studies find evidence that trade openness is correlated with some form of state intervention or compensation even in developing countries (see Rodrik, 1998; Adserá and Carles, 2002; Baker, 2003, 2005; Brooks, 2008; Kurtz and Brooks, 2008; Nooruddin and Rudra, 2014). However, the majority of empirical studies for the developing world finds support for an "efficiency hypothesis," instead: state-provided social spending remained unaffected or even contracted in response to liberalization (Garrett, 2001; Kaufman and Segura-ubiergo, 2001; Rudra, 2002; Wibbels and Arce, 2003;

© The Author(s), 2026. Published by Cambridge University Press on behalf of EPS Academic Ltd. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (http://creativecommons.org/licenses/by/4.0), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

https://doi.org/10.1017/psrm.2026.10124

Wibbels, 2006; Segura-ubiergo, 2007; Brooks, 2008; Cao, 2009; Nooruddin and Simmons, 2009; Huber and Stephens, 2012).[1]

Why has the evidence on trade liberalization and the welfare state been so mixed? The empirical literature reports contradictory findings in part because it is constrained by methodological challenges. The proxies for trade openness used in the literature do not sufficiently capture the differential changes across industries and regions as a result of integration with global markets (Avelino *et al.*, 2005). The extant literature also has yet to address the endogeneity of such measures of trade openness.[2] Since periods of trade liberalization also coincide with a series of other political and economic shifts (e.g., financial liberalization, decentralization) in developing democracies, the estimated correlations are likely driven by confounding.[3]

In this paper, I explore the effect of trade liberalization by first addressing the methodological and measurement difficulties described in the literature. In particular, leveraging a quasi-natural experiment in Brazil, I draw on Kovak's (2013) method of using weighted average changes in trade policy (i.e., tariff changes) with weights assigned to the industrial distribution of labor within each microregion (see also Autor *et al.*, 2013; Dix-Carneiro, 2014) to causally estimate the effects of trade integration.[4] This study, therefore, advances the literature by addressing the endogeneity of trade integration.

In addition, I argue that the differential impact of trade across *subnational regions* explains the contradictory effects. By focusing on the effects of trade at the country-level, much of the existing political economy work on trade and social policy does not precisely capture differences across subnational jurisdictions.[5] Although existing work in economics recognizes that labor market exposure to trade shocks varies geographically with the concentration of trade-exposed industries (e.g., Autor *et al.*, 2013; Kovak, 2013), I highlight the overlooked role of subnational politicians in creating regional welfare states in response to trade. To examine variation in political response subnationally, I explore patterns in the geographic distribution of constituencies across territories. I argue the spatial proximity of like-minded voters from the same constituency in concentrated enclaves improves their capacity for making collective demands in the event of an economic shock. In contrast, dispersed constituencies face great difficulty in overcoming the collective action problem behind demanding "compensation." I examine, as a point of comparison, the geographic concentration of economic identities—in particular, trade-affected industries. I expect that, reflective of labor market risk in response to trade openness (Autor *et al.*, 2013; Menendez, 2016), the concentration of voters sharing this economic identity, likewise, increases "compensation."

This expectation is consistent with the literature in political science showing that geographically concentrated economic interests mobilize more effectively for protection and targeted transfers (Busch and Reinhardt, 2000; McGillivray, 2004; Rickard, 2012, 2018). However, where this work treats concentration as a supply-side condition—"losers" cluster within districts, so electoral rules reward targeting them (Menendez, 2016; Rickard, 2018)—I treat it as a demand-side capacity for collective action, and I separate the concentration of trade-exposed industries from that of the political constituency itself. Holding electoral institutions fixed within one country, I show the latter does independent work: a dispersed political constituency limits compensation even where trade-exposed industries are concentrated.

[1] I use the terms trade integration, liberalization, and openness interchangeably.

[2] Rettl (2025) provides an exception.

[3] Relatedly, Iversen and Cusack (2000) and Iversen (2001) identify deindustrialization, rather than trade openness, as a major driver of welfare-state expansion in advanced industrial democracies.

[4] Trade liberalization in Brazil presents a rare opportunity to advance the empirical literature. Brazil's experience with trade liberalization was a once-and-for-all event: tariff reductions during the first half of the 1990s were unprecedented and have remained relatively constant, providing a quasi-natural experiment for estimating the effects of trade integration (Dix-Carneiro *et al.*, 2018).

[5] An important exception is Menendez (2016), who models geographic concentration cross-nationally.

https://doi.org/10.1017/psrm.2026.10124

The results first show that trade integration, overall, had a positive causal effect on social expenditure when the endogeneity of liberalization is accounted for. To test the theory of political concentration, I calculate the Herfindahl–Hirschmann Index (HHI) to measure the concentration of political constituencies supporting each governor. This measure captures the degree to which a governor's electoral support is geographically concentrated within a small number of municipalities, as opposed to being dispersed evenly across the entire microregional economy. Again, as a point of comparison, I also examine the concentration of trade-affected industries, coded using Brazilian census data that indicates the spatial location of households and their choice of labor in 1991 before liberalization. The findings show that the positive effect of trade shocks on welfare compensation is magnified in subnational jurisdictions with such geographical concentration of economic (i.e., risky trade-affected industries) or political (i.e., voter support for the governor) identities. In contrast, combined geographic dispersion of both dimensions almost completely negates this welfare compensation effect. Last, the results confirm that controlling for population size, subnational jurisdictions with a concentration of political identities have higher rates of voter turnout at the polls and more local participatory councils advocating for labor rights and social welfare.

This paper builds on the growing literature on the subnational determinants of social policy (see Abers, 2000; Baiocchi, 2005; Goldfrank, 2007; Wampler, 2010; Rodden and Wibbels, 2010; Goldfrank, 2015; Beramendi, 2012; Moncada, 2016; Holland, 2017; Bueno, 2018; Niedzwiecki, 2018; and Section A7 in Appendix) as well as that on the political geography of representation (see Ebeid and Rodden, 2006; Rodden, 2010; Wibbels, 2005; Beramendi, 2007; Cao, 2009, 2012; Calvo and Rodden, 2015; Díaz-Cayeros, 2016; Díaz-cayeros *et al.*, 2016; Beramendi *et al.*, 2017). There is a general consensus that developing democracies did not experience the welfare compensation described in the literature on "embedded liberalism" for advanced industrialized nations. This paper foregrounds the rol of subnational politicians in providing localized welfare compensation in response to economic dislocation, finding strong evidence for the "compensation hypothesis" even in a developing context. It demonstrates subnational economic and political geographies constrain compensation in response to openness to trade. Beyond country-level dynamics, the industrial structure of microregional economies within countries (i.e., differential local impact of trade) and patterns in the subnational distribution of voters hel explain the contradictory empirics for how trade liberalization shapes the development of the welfare state.

1. Theoretical and empirical context

At the end of World War II, advanced economies in Western Europe re-embedded market forces into the domestic social and institutional order to achieve an "embedded liberalism," a compromise between embracing free trade and pursuing interventionist welfare policies domestically (Ruggie, 1982). A related literature illustrates how globalization and structural economic changes correspond to higher levels of welfare compensation in OECD countries (Cameron, 1978; Katzenstein, 1985; Garrett, 1998; Rodrik, 1998; Iversen and Cusack 2000; Iversen 2001). In contrast, developing economies liberalized much later during the 1980s and 1990s, and the effects of liberalization have been more mixed. Some studies do find a positive correlation between trade openness and compensation (Rodrik, 1998; Adserá and Carles, 2002; Baker, 2003, 2005; Brooks, 2008; Nooruddin and Rudra, 2014). However, the majority of studies conclude that liberalization failed to expand or even contracted the welfare state in the developing world (Rudra, 2002; Wibbels and Arce, 2003; Nooruddin and Simmons, 2009; Wibbels and Ahlquist, 2011).

What helps to situate this debate is an understanding of the identities of the "losers" of trade. In Latin America's "truncated" welfare states, the dualism of the labor market segments the population into formal and informal workers. The trade-affected constituencies were members of the working and middle class engaged in largely formal sector labor in manufacturing and agriculture. Social security benefits, therefore, represent a natural form of compensation for this group, while broader social

https://doi.org/10.1017/psrm.2026.10124

assistance also comprises noncontributory benefits for informal workers (Rudra, 2002; Huber and Stephens, 2012). However, recent research shows even formal workers, especially those with lower skills or less job mobility, may increasingly view social assistance programs as relevant to their economic security (Menéndez, 2021). Anticipating difficulty with remaining in the formal labor market, trade-affected workers may also turn to demands for broader social assistance.[6]

I assume individual voters form preferences based on material interests (Scheve and Slaughter, 2001). Such demands may be particularly strong among workers with industry-specific skills, for whom displacement entails substantial losses of income and human capital (2001)(2005). Facing heightened risks of wage declines or job loss, trade-exposed workers demand welfare compensation to hedge against these sources of uncertainty. Developing countries were also especially sensitive to the effects of trade, because this neoliberal era coincided with the earlier years after the democratic transitions of "the third wave." Failure to respond to demands for compensation could have irrevocable consequences on social stability for newly elected democratic governments (Avelino *et al.*, 2005; Dean, 2022). Because trade-affected groups were large and economically vulnerable, and liberalization coincided with the first decade of democracy, I expect governments even in developing regions to have expanded welfare programs alongside liberalization.

Hypothesis 1. *The "compensation hypothesis:" Increased trade integration generates more social welfare expenditure.*

Given these contextual factors, it is, at face value, puzzling that much of the extant literature finds limited evidence for the "embedded liberalism" or "compensation" thesis in developing nations. At the same time, an important macro-level constraint, however, qualifies this. Many developing countries pursued trade liberalization under the auspices of International Monetary Fund Structural Adjustment Programs, which simultaneously mandated fiscal austerity and public spending cuts (Nooruddin and Simmons, 2006). Several studies note this constraint and provide other explanations for why evidence of "compensation" is limited in developing contexts (see Rodrik, 1997; Baker, 2003, 2005; Wibbels, 2006; Baker, 2009; Richardson, 2009; Hart, 2010; Campello, 2013, 2015 for theories for the Latin American region and Appendix A7 for theories for the South Asia region). Building on this literature, this paper first makes an empirical advancement that could partly explain the contradictory findings: addressing the endogeneity of existing measures of trade openness. Measures commonly used in the literature not only imprecisely capture trade integration (Avelino *et al.*, 2005) but also fail to account for the endogenous nature of trade policy. Thus, different measures of trade openness used produce considerably different results (Avelino *et al.*, 2005). For example, findings based on exchange rate conversions switch signs when purchasing power parities trade measures are used instead (Avelino *et al.*, 2005). In addition, measures used in the literature also tend to conflate trade openness with financial market liberalization. Since trade liberalization in the developing world coincided with other major political and economic transitions, it is difficult to precisely isolate its effects.

Trade *protection* is also theorized to be endogenous. Endogenous tariff theory posits that tariff levels are shaped by domestic political bargaining, with more influential or organized industries securing greater trade protection through lobbying (Grossman and Helpman, 1994). By the same logic, the extent of trade liberalization may, therefore, also be politically determined, not by exogenous policy shocks. This creates an identification problem: tariff changes may be driven by the same political conditions that influence social spending outcomes. Yet, studies in the vast literature estimate correlational relationships without addressing these concerns.

In this paper, I first address these measurement and methodological challenges by leveraging an important exception to endogenous tariff dynamics: Brazil's experience with trade liberalization in

[6]Thus, I use an outcome measure that captures both expenditure on social security and that on social assistance.

https://doi.org/10.1017/psrm.2026.10124

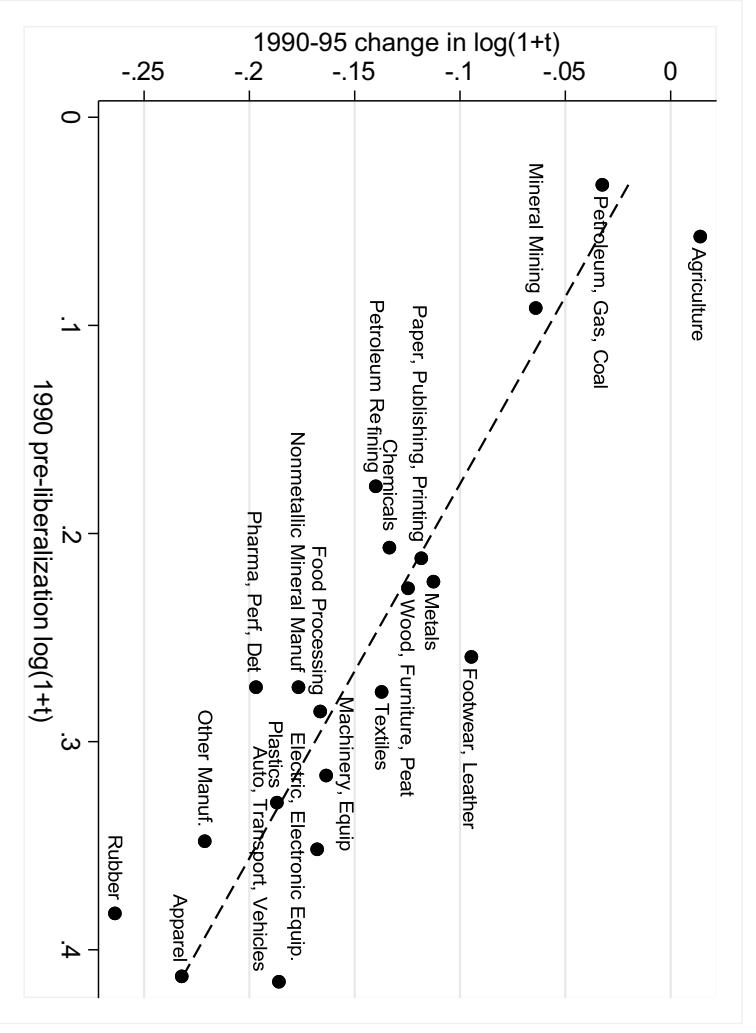


Figure 1. The industries most protected under pre-liberalization tariffs in 1990 became the ones that were most exposed to post-liberalization trade shocks (i.e., correlation of −0.899).

the early 1990s. Liberalization in Brazil was part of a sweeping, unilateral reform package implemented by technocratic policymakers, largely bypassing domestic interest group negotiations (Kume *et al.*, 2003; Kingstone, 2010) (see Figure 1 for empirical evidence). By March of 1990, Brazil had eliminated most nontariff barriers, making tariffs the primary instrument of trade policy (Kume *et al.*, 2003). The subsequent reductions in tariffs during the first half of the 1990s were both unprecedented and sustained (Dix-Carneiro *et al.*, 2018), providing a quasi-natural experiment for identify trade-induced microregional economic shocks (Dix-Carneiro *et al.*, 2018).

The structure of pre-liberalization protection in Latin America more broadly also supports this identification strategy. Under the prior model of import substitution industrialization (ISI), high tariffs coupled with overvalued exchange rates disproportionately benefited certain industries. With the onset of liberalization, the most protected industries under ISI faced the steepest tariff cuts and, thus, the largest exposure to international trade. In Brazil, tariff policy changes were almost entirely determined by the pre-liberalization tariff levels under ISI (see Figure 1) (Kume *et al.*, 2003; Kovak,

https://doi.org/10.1017/psrm.2026.10124

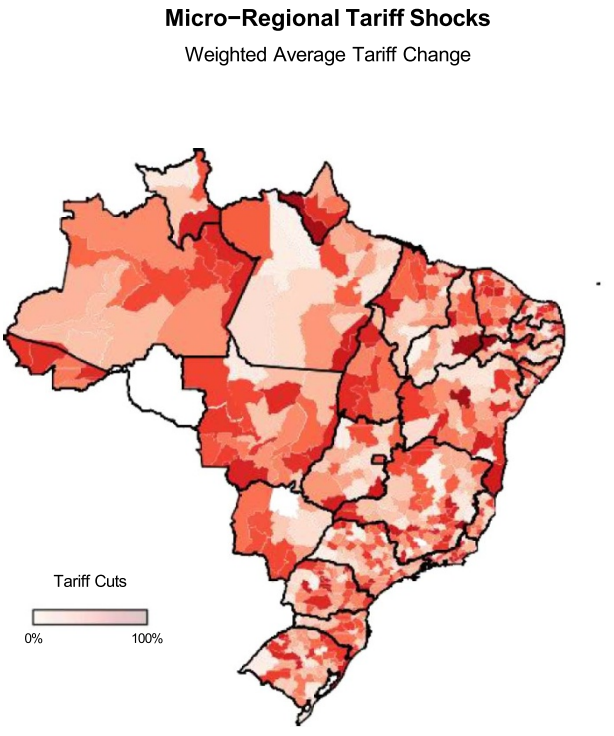


Figure 2. Incidence of microregional tariff shocks in Brazil during the 1990–1995 period of trade integration.
Note: Mapped using R and calculated using data and methodology from Kovak (2013) and data from Kume *et al.* (2003).

2013). In making clear that this relationship is almost a one-to-one correlation, Figure 1 provides direct support for the identification assumption of the exogeneity of the size and distribution of tariff cuts across sectors (and geographies) (Kovak, 2013). Benefiting from decades of trade protection, the "trade losers" were politically powerful constituencies. Yet, the decision to liberalize was orthogonal to their political leverage, but rather reflected structural economic pressures (Stallings, 1992; Kingstone, 2010). As a result, tariff reductions can be treated as exogenous to counterfactual industry performance and manipulation by political influence (Kovak, 2013).

Existing theories in the literature assume that a country uniformly embraces "compensation" over "efficiency" or vice versa. However, the economic effects of integration with international markets are not uniform, but rather exhibit considerable variation across subnational regions. Figure 2 provides evidence for this variation across microregional economies within Brazil. In addition, Figure 3 illustrates that geographic distribution of economically vulnerable trade-affected industries, likewise, exhibits considerable subnational variation. I argue that this subnational heterogeneity in voter exposure to trade integration is an overlooked dimension that explains the contradictory findings in the literature.

In addition, *political* response to these differentiated effects across each subnational jurisdiction is, likewise, not uniform. This raises an important question: how and to what extent do subnational politicians in Brazil influence social spending? Although redistribution is often characterized as a federal responsibility, a growing body of literature documents how Brazilian states exercise substantial discretion in directing social spending (Arretche, 1999; Niedzwiecki, 2016; Rogers, 2021; Dunn, 2022). Using their own coded measure of subnational authority developed for countries across the world, Hooghe *et al.* (2016) classify Brazil as a highly decentralized federation in terms of both fiscal and administrative autonomy. State governments in Brazil finance their own revenue streams,

https://doi.org/10.1017/psrm.2026.10124

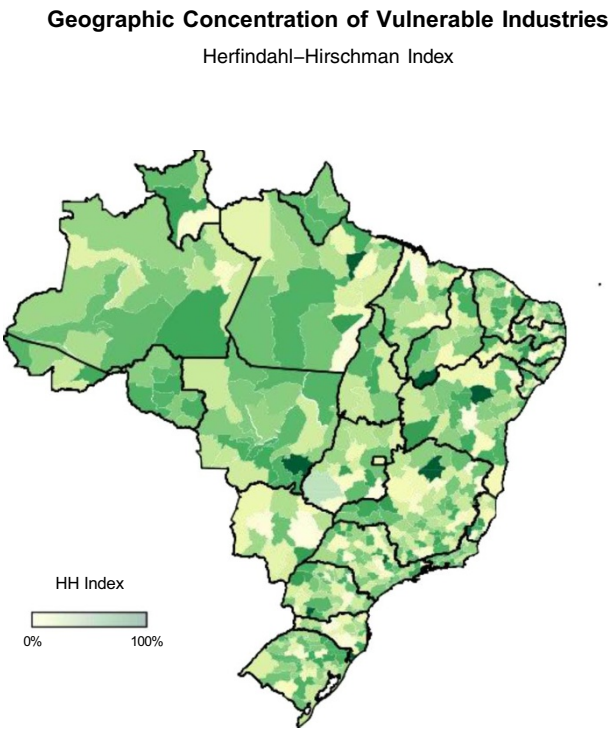


Figure 3. Geographic concentration of "trade-affected" populations.

most notably using the ICMS (i.e., a value-added sales tax), which accounts for well over half of their income (Ter-Minassian, 2012). When considered in combination with other sources of state-generated revenue (e.g., the motor vehicle tax), over 70 percent of state government revenue comes from their own sources, not from federal transfers (Ter-Minassian, 2012).[7]

Importantly, these own-source revenues give state governments leverage in initiating or expanding social programs beyond federally mandated transfers. Although certain earmarks constrain expenditures, state governments can and do implement their own social assistance programs (Niedzwiecki, 2018; Dunn, 2022). Existing work by Rogers (2021) demonstrates that Brazilian state governments exhibit considerably different redistributive social policies across stat. For instance, while the state of Maranhão reduced market inequality by nearly 22 percent, Goiás achieves only a 12 percent reduction (Rogers, 2021). These differences underscore subnational agency.

But what does subnational agency look like in practice? First, governors coordinate with federal ministries to shape how intergovernmental transfers are deployed.[8] In states with weaker capacity or limited fiscal effort, such as Pará or Alagoas, decentralized implementation results in less robust coverage and administrative quality, even for nationally funded programs (Niedzwiecki, 2018). Thus, even when programs are federally funded, their reach and efficacy depend on local administrative capacity and political will (Arretche and Rodden, 2004; Gibson *et al.*, 2004). A second form of subnational agency operates through political veto power. Federalism introduces subnational political veto points (Beramendi, 2012), allowing governors, in particular, to veto or repurpose federal

[7] States do face certain restrictions on how they spend these funds. Nonetheless, they can and often do deviate from these set constraints.

[8] Author interview with José Fogaça, former State Deputy of Rio Grande do Sul (1979–1982), Federal Deputy (1983–1986), Senator of Rio Grande do Sul (1987–2003), and Mayor of the city of Porto Alegre, Brazil (2005–2009).

https://doi.org/10.1017/psrm.2026.10124

discretionary transfers. Finally, subnational agency also takes the form of policy supplementation. Governors frequently supplement federal initiatives with matching funds, such as supplementary income supports, public job training schemes, and emergency aid programs (Arretche, 1999; Dunn, 2022). The legal authority for states to design and implement their own social policies is clarified in Brazil's 1993 LOAS Law No. 8742 and 12435.[9]

To give an example, the state of São Paulo operates its own targeted social assistance program, *Renda Cidadã*, designed to supplement federal transfers by providing monthly cash transfers to low-income families not fully covered by Bolsa Família.[10] Introduced in 2001 by the former governor of São Paulo, Geraldo Alckmin (PSDB) and targeted using state-specific criteria, the program illustrates how governors can expand redistributive coverage to politically and economically strategic populations.[11] Similarly, the state of Pernambuco develops and sustains social protection programs, such as Chapéeu de Palha, which provides income support and vocational training for rural workers during the sugarcane off-season (Bezerra, 2014). Introduced in the 1980s under former Governor Miguel Arrães and later once again under Governor Eduardo Campos in 2007, this state-level initiative addresses seasonal unemployment and complements federal transfers (Bezerra, 2014). Thus, especially during times of economic dislocation from shifts in local labor conditions, I expect governors to have considerable agency in offering welfare "compensation."

This paper recognizes the autonomy of subnational governments, particularly in federal systems, as an overlooked dimension in the trade and compensation debate. It responds to calls for advancing the literature by analyzing the "relationship between [subnational] *geographical* socioeconomic and political trends and their expression in … the behavior of individuals" (Frieden, 2022). Voters' demand for compensation is not purely instrumental. Rather, their material interests are also shaped by their local environments (Schaffer and Spilker, 2019; Frieden, 2022). Even if they are not personally affected, voters embedded in regional contexts of economic decline—e.g., rising unemployment, business closures—can still develop support for compensation policies through sociotropic (i.e., community-level) concerns (Schaffer and Spilker, 2019). These sociotropic perceptions often substitute for incomplete information about personal impacts, a dynamic Schaffer and Spilker's (2019) term "obfuscated egocentric preferences." Thus, the individual voter calculus includes both personal risk and communal vulnerability, and perceptions of the latter also inform the former.

To specify the argument more precisely, I argue that variation in the subnational distribution of political and economic identities are key contextual dimensions that mediate the welfare compensation effect. First, when geographically concentrated groups are united under one *economic* identity (e.g., "trade-affected"), the location of these concentrated industries also reflects increased labor market risk. Especially in regions with a concentration of specialized sectoral composition, a trade shock affecting one industry may also affect the local economy of the entire region (Menendez, 2016; Iversen, 2005). For instance, with the experience of European cases with trade integration, (Menendez, 2016) argues that the concentration of the manufacturing industry makes these trade-affected industries more susceptible to unemployment risk. In contrast, in regions with diversified (dispersed) composition, the multiplicity of industrial sectors offsets the effects of a shock to any one of them (Longui *et al.*, 2005). Thus, I expect that geographically concentrated economic interests (e.g., "trade losers") receive more compensation.

Hypothesis 2. *Subnational regions with the geographic concentration of economically affected (i.e., trade-affected) industries have a larger trade "compensation effect."*

[9]Brasil. Congreso Nacional. Lei 8742 and 12435, Lei Orgaˆnia da Assistˆencia Social (LOAS). 1993, 2011. Retrieved from http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2011/Lei/L12435.htm.

[10]Author interview with Luiz Fernando Francisquini, Coordenador de Gestão de Benefícios, Secretaria Municipal de Assistˆencia e Desenvolvimento Social in São Paulo on July 4th, 2016.

[11]Ibid, Author interview. See also Bichir (2010).

https://doi.org/10.1017/psrm.2026.10124

While economic geography marks territories of high risk and, thus, demand for compensation, political geography reflects the capacity to make demands heard. I expect political concentration to play an even more critical role than economic concentration in predicting compensation for several reasons. First, the geographic concentration of like-minded political interests enables the communication and coordination of shared political preferences. The proximity of like-minded voters in regionally concentrated homogenous enclaves enables them to form stronger vested interests groups and to more easily engage in political mobilization. Community-level decline or prosperity colors individual perceptions of risk. For example, two individuals with similar job profiles may respond differently to trade if one resides in a region experiencing concentrated plant closures and the other in a diversified labor market. In addition, the concentration of political identities provides the networks to collectively mobilize and articulate cohesive demands in response to these risks. Morever, concentrated constituencies can more easily use retrospective voting to send a clearer signal of their preferences to politicians (Stokes, 2016).

Similarly, the literature on social policy in Latin America provides accounts of how the density of like-minded voters in local contexts enables the adoption of local participatory institutions. For instance, Wampler (2010) and Goldfrank (2015) demonstrate that in Brazil, municipalities that have a greater density of civil society organizations (CSOs) were more likely to implement participatory budgeting. Patterns of adoption of participatory governance, in turn, correspond to higher levels of local public and social expenditure (Abers, 2000; Baiocchi, 2005; Goldfrank, 2007, 2015; Wampler, 2010; Touchton *et al.*, 2017). This literature observes that, overall, *collective* mobilization increased social policy expansion in the region (Zarate Tenorio, 2014; Nooruddin and Simmons, 2015; Garay, 2016; Cini *et al.*, 2021). Although not directly theorized, such forms of *agglomerated* "bottom-up" grassroots mobilization are only feasible because of the proximity and geographic concentration of voter bases.

In Brazil, labor unions, such as the Central Única dos Trabalhadores and Força Sindical, are an example of CSOs in the 1990s that facilitated collective demand-making for unemployment benefits and early retirement schemes (Keck and Smith, 1992). Importantly, union membership and activity exhibited geographic variation (Keck and Smith, 1992). I argue that where there is a concentration of politically aligned voters, the robustness of these organizations in concentrated enclaves, in turn, amplifies collective action by lowering the costs of coordination and demand-making with local politicians. Where political constituencies are geographically fragmented, union infrastructure is likely to be absent and collective action for welfare compensation is harder to sustain. More broadly, I expect that geographically homogeneous political blocs boost higher levels of voter turnout among this constituency compared to among a group of equal size that is geographically dispersed. In contrast, geographically dispersed constituencies face greater difficulty with overcoming the collective action problem when making demands for compensation.

Hypothesis 3. *Subnational regions with the geographic concentration of political constituencies have a larger trade "compensation effect."*

2. Data and methodology

2.1. Measuring political concentration

To construct a measure of the geographic distribution of political constituencies, I use data from Brazil's *Tribunal Superior Eleitoral* to calculate the HHI of the geographic concentration of political constituencies supporting each governor elected during the 1994 gubernatorial elections, which occurred in the middle of the decade of neoliberal reforms. The microregion is also chosen as the unit of aggregation, because each microregion defines a local labor market, the unit at which the differential impact of economic shocks is observed. Calculation of concentration indices at the level of

https://doi.org/10.1017/psrm.2026.10124

the microregion observes the extent to which political support is concentrated within a few municipalities within each microregion. A higher HHI indicates that the winning governor's votes are concentrated in just a few municipalities, suggesting a geographically concentrated (clustered) political constituency. Conversely, a lower HHI implies a more dispersed voter base. The index is calculated by taking the sum of the squares of municipal-level vote shares of the winning governor, summed over the winning governor's vote share within the whole microregion (see Appendix A5 for more).

2.2. HHI concentration of trade-affected industries

Similarly, I use household-level data from the 1991 Brazilian census available from *Instituto Brasileiro de Geografia e Estatística* (IBGE) to calculate the HHI of geographic concentration of households employed in sectors vulnerable to trade shocks at the start of the liberalization process in 1991.[12] The 1991 Brazilian census provides information on the sector of employment of the heads of households according to a detailed classification of 20 sectors. I calculate the index for the manufacturing, mining, and agriculture industries.

2.3. Dependent variable: measuring welfare compensation

The extant literature uses measures of social security expenditure and general social assistance programs to directly capture compensation for those affected by trade integration. I follow the literature by measuring welfare compensation as a combination of social security and unemployment expenditure. Specifically, I use a rare dataset from the Instituto de Pesquisa Econômica Aplicada's (IPEA) public finances database on expenditure on social security, unemployment, and on social assistance spending for 1990 and 2000, available at the municipal level for the period of study in Brazil. Improvements in social security programs were a form of compensation for job loss among especially middle-aged and near-retirement workers in trade-affected industries. The outcome measure used not only matches conventional measures of compensation in the trade and welfare literature, but also is one of the only available datasets for exploring *subnational* patterns in compensation in the developing world.

2.4. Measuring localized trade liberalization shocks

As discussed, Brazil's experience with trade liberalization was a once-and-for-all event in that tariff reductions during the early 1990s were unprecedented and have remained relatively constant since liberalization (Dix-Carneiro *et al.*, 2018). I borrow from the empirical literature focused on estimating the subnational labor market effects of increased foreign competition (see Kovak, 2013; Autor *et al.*, 2013; Dix-Carneiro, 2014). Because there is usually subnational variation in patterns of specialization in production, trade shocks, in turn, have heterogeneous effects across industries and regions. This literature uses the interaction between sectoral composition at the regional level and sector-specific trade shocks to estimate trade-induced shocks to local labor demand (Dix-Carneiro *et al.*, 2018).

In particular, I follow Kovak's (2013) methodology of estimating the local shock of liberalization as the weighted average microregional-level tariff change in microregion r. This regional-level tariff change (RTC_r) reflects the average tariff change faced by microregion r during the 1990–1995 period, weighted by the industrial allocation of labor specific to each microregion:

$$RTC_r = \sum_{i \in T} \gamma_{ri} \Delta ln\,(1 + \tau_i) \tag{1}$$

[12]These sectors are largely in the formal economy. Discussion and analysis of the informal economy is outside the scope of this paper and is also infeasible to measure, given data limitations.

https://doi.org/10.1017/psrm.2026.10124

where

$$\gamma_{ri} = \frac{\frac{\lambda ri}{\theta_i}}{\sum_{j \in T} \frac{\lambda rj}{\theta_j}} \tag{2}$$

where τ_i is the tariff on industry *i*, λ_{ri} is the share of microregion *r*'s workforce employed in industry *i*, θ_i equals 1 minus the wage share of industry *i*, and T denotes the set of all industries affected by trade. Using data from the 1991 census provided by the IBGE, the method calculates the importance of each sector for the regional employment of each microregion. These weights by microregion and industry are denoted as γ_{ri} above. To be clear, the measure captures a reduction in microregional tariffs. Hence, estimated coefficients that are negative indicate tariff cuts have a *positive* effect on the outcome variable. Again, Figure 2 maps the microregional tariff shocks to localized economies across Brazil during the 1990–1995 period.

The outcome measure is calculated as the change in the level of microregional social expenditure between 1990 and 2000. I then estimate the effects of localized trade shocks on compensation as follows (Kovak, 2013):

$$log\left(SS_{r,t}\right) - log\left(SS_{r,_{1990}}\right) = \xi_t + \varphi_t RTC_r + \varepsilon_{r,t} \tag{3}$$

where $SS_{r,t}$ denotes social assistance and social security expenditure in microregion *r* at time $t > 1990$, RTC_r is the microregional tariff change in microregion *r*, and φ_t captures the estimated causal effect of trade shocks on welfare compensation. All standard errors are clustered at the state level, and each specification is reported both with and without state fixed effects. This approach is essentially a reduced-form analysis in which microregional tariff changes serve as an exogenous instrument for the price changes faced by local producers (Kovak, 2013).

To consistently estimate φ_t, the identification assumption is that the error term, $\varepsilon_{r,t}$, must be uncorrelated with tariff changes, RTC_r (see Appendix A6 for discussion). This identification assumption is violated if there is an omitted variable that (1) induces social expenditure, (2) is also correlated with RTC_r, and (3) is not captured by pre-liberalization outcome trends. To demonstrate the validity of the identification assumption, I run a series of estimations to confirm that the results are robust to a variety of potential confounders and alternative specifications. First, I show that the results are robust to the inclusion of pre-liberalization social expenditure trends. Second, I follow Kovak (2013) by confirming that the results are robust even when using a series of alternative RTC_r measures: (1) RTC_r omitting the labor share adjustment (i.e., assuming labor demand elasticities are identical across industries), and (2) RTC_r including a zero price change for the non-tradable sector.

Next, I modify Kovak's (2013) estimation strategy with an interaction to observe how the effects of trade integration on welfare compensation are mediated by geography:

$$log\left(SS_{r,t}\right) - log\left(SS_{r,_{1990}}\right) = \xi_t + \varphi_t RTC_r + \gamma_t hhi + \phi_t RTC_r \cdot hhi + \varepsilon_{r,t} \tag{4}$$

where *hhi* is the HHI for either the geographic concentration of the governors' constituency or of the trade-affected sectors. Last, I code four indicator variables that capture whether each index is high or low (e.g., high political concentration–high sectoral concentration, high political–low sectoral, low political–high sectoral, etc.). I replace the *hhi* in the interaction estimation above with the indicator variables, running the estimation for each indicator. To be clear, unlike in Equation 3, the interactions of the endogenous geographic concentration measures with RTC_r do not have a causal interpretation. Yet, it still sheds light on how geography mediates the association between trade liberalization and compensation.

https://doi.org/10.1017/psrm.2026.10124

Table 1. Effects of trade liberalization on social assistance and social security expenditure

	Dependent variable: Welfare Compensation (R$ 1 mil)		
Model	(1)	(2)	(3)
Regional tariff change	−611.363***	−690.765***	−932.446**
	(205.159)	(226.305)	(431.910)
Constant	−13.944	−11.734	−0.046
	(9.466)	(8.517)	(6.628)
State fixed-effects	✓	✓	✓
Observations	456	456	456
R-squared	0.107	0.121	0.064

Notes: Robust standard errors in parentheses, clustered at the state-level. Fixed effects included at the state-level.
*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

3. Empirical results

3.1. Main results

I first consider the results disregarding the role of geography to discern whether trade integration has a causal effect on social welfare expenditure (Hypothesis 1). I then move on to examine the extent to which the effects of local trade shocks are mediated by the geographic distribution of political and economic identities (Hypotheses 2 and 3). Table 1 presents the estimates for the effects of microregional tariff shocks on expenditure on social security and social assistance (in million Brazilian reals) measured as absolute spending, not in per capita terms. Standard errors are clustered at the level of the state, and Models (4)–(6) also includes state fixed-effects. Model 1 shows the results for the main specification (Equation 3), Model 2 omits the labor share adjustment, and Model 3 includes the non-trade-affected sectors (e.g., services) in the calculation of regional tariff change (RTC), with non-trade sector price change set to zero.[13]

Robust across all models, the results indicate that the effect of RTCs on social expenditure is negative. As discussed, because the independent variable is coded as a reduction in microregional tariffs, this implies that Brazilian microregions facing the largest reductions in tariffs experienced *more* welfare compensation (i.e., negative coefficients indicate a positive effect). The provide direct evidence for the "compensation hypothesis": localized trade liberalization shocks have a large positive effect on welfare compensation. Microregional economies that experienced more exposure to competition with global markets, in turn, experienced an increase in welfare compensation. The "compensation effect" is large as welfare expenditure is in units of million Brazilian reals. In Appendix A3, I test the robustness of this observed "compensation effect" using an alternative measure of subnational social spending.

In addition, I argue that geographically concentrated political identities have greater capacity for collective mobilization. When like-minded political interests are geographically clustered, it facilitates their communication and coordination. Spatial proximity allows voters within these politically homogeneous enclaves to organize and demand "compensation" more effectively. Existing work demonstrates that collective mobilization is, in turn, linked with social policy expansion in the Latin American region (Zarate Tenorio, 2014; Garay, 2016; Cini *et al.*, 2021). To test this claim, I estimate Equation 4 to examine the mediation effects of the HHI measuring the concentration of political identities. If there is no subnational variation in political response to trade, then the index would not have a mediation effect on the results. Table 2 presents the results that evaluate the mediation effect of this dimension in comparison to that of the spatial concentration of industries affected by

[13]As discussed, these alternative specifications demonstrate the validity of the identification assumption.

https://doi.org/10.1017/psrm.2026.10124

Table 2. The role of spatial concentration

	Dependent variable: Welfare Compensation (R$ 1 mil)			
Model	(1)	(2)	(3)	(4)
Regional tariff change (RTC)	−389.513***	−436.423***	−322.767**	−397.921**
	(113.059)	(137.481)	(135.763)	(189.076)
HHI (political concentration)	−141.763*		−176.237*	
	(72.401)		(95.822)	
RTC × HHI (political)	−3259.586**		−3575.492**	
	(1461.848)		(1710.438)	
HHI (industry concentration)		−104.949*		−131.799*
		(58.898)		(76.653)
RTC × HHI (industry)		−2712.880*		−2841.097
		(1458.318)		(1859.444)
Constant	−12.020*	−9.832*	50.932	45.679
	(6.030)	(5.129)	(27.826)	(26.573)
State fixed-effects	No	No	✓	✓
Observations	456	456	456	456
R-squared	0.165	0.130	0.185	0.145

Notes: Robust standard errors in parentheses, clustered at the state-level. Results shown with and without state-level fixed effects.
*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$.

trade. Consistent with the argument that political mobilization is critical for translating risk into policy response, I expect that political concentration exerts a stronger influence on compensation than economic concentration.

The results show that the concentration of trade-affected industries increases the magnitude of the positive effect of trade openness on compensation. This could be observed by taking the sum of the coefficients of *RTC* and of the interaction term, *RTC* × *HHI* (*Industry*), in Model 2. Again, because the independent variable reflects a reduction in tariffs, negative coefficients indicate a positive effect on compensation. As discussed, the coefficients estimated here do not have a causal interpretation, given the inclusion of the interaction terms. The results show how political and economic geography mediates the relationship between trade and welfare compensation. The latter marks pockets of labor market risk, while the former reflects capacity for making collective demands for compensation.

As Model 1 shows, the concentration of political identities also augments the positive association of trade openness with social spending, providing evidence for the theory that such concentration reflects the capacity for demand-making. More importantly, Model 2 provides a useful grade by which to evaluate the effects of political geography in Model 1. Comparing Model 1 with Model 2, it is clear that the mediation effect of increasing political concentration is of comparable magnitude to that of the concentration of labor market risk. The results also hold in Models 3 and 4 with the inclusion of state fixed-effects.

To examine this further, I code four indicator variables that capture the overlay of the geographic concentration or dispersion of political identities with that of industries affected by trade, and I estimate Equation (5). The indicator denotes whether each microregional economy has high or low concentration of political support and of trade-relevant industries, resulting in four classifications: (1) high HHI for political concentration, high HHI for industry concentration; (2) high political HHI, low industry HHI; (3) low political HHI, high industry HHI; and (4) low political HHI, low industry HHI. Instead of using the full range of each index, I dichotomize concentration to more clearly observe the cross-cutting and overlapping effects of the two dimensions. Figure 4 presents the results.

When high levels of political concentration overlay high industry concentration, the positive association of localized trade shocks and compensation is of the greatest magnitude. Alternatively, when

https://doi.org/10.1017/psrm.2026.10124

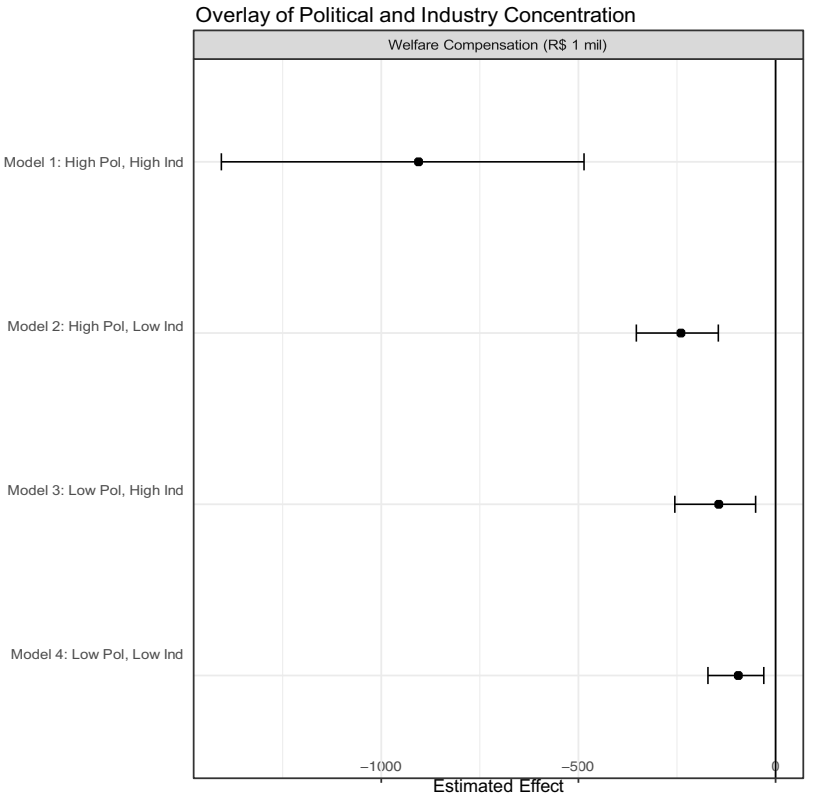


Figure 4. The effect of trade liberalization on compensation is mediated by the overlay of political and economic geographies.
Note: Model 1 plots the sum of the coefficients of trade liberalization, *RTC*, and of the interaction term, *RTC* × *High Pol, High Ind*. See also Table A1 in the Appendix.

political concentration is high while industry concentration is low, the positive association of trade and welfare is reduced by around 75 percent. In Model 3, when instead political concentration is low and industry concentration is high, the positive association is reduced even more than it is in Model 2. More specifically, the sum of the coefficient of *RTC* and of *RTC* × *Low, High*,—144.081, constitutes a 84 percent reduction—in comparison to Model 1—in the association of trade and welfare state expansion. This result lends direct evidence in support of the hypothesis that the geographic concentration of like-minded voters mediates welfare compensation. Even where the concentration of trade-relevant industries is high, the dispersion of the political constituency substantially undercuts the compensation effect.

Last, Model 4 presents the results for when both the geographic concentration of political identities and of trade-affected industries is low. As Model 4 shows, the geographic dispersion of both dimensions almost completely negates the positive impact of trade shocks on local welfare states. It is clear from the results that the state's response to integration with global markets is largely contingent on geography. Although Brazil's experience with trade liberalization, overall, supports the compensation hypothesis, the experience of subnational political economies within the country varies extensively depending on the geographic dispersion or concentration of political identities and of labor market risk.

https://doi.org/10.1017/psrm.2026.10124

Table 3. Political concentration and voter turnout

	Dependent variable: Voter turnout (thousand votes)			
Model	(1)	(2)	(3)	(4)
HHI (political concentration)	204.395**	140.486**	194.429**	212.079**
	(89.765)	(66.182)	(83.508)	(102.129)
Population density (log)		106.266***	111.478***	117.890***
		(28.341)	(28.665)	(35.615)
Mean income			−0.000	−0.000
			(0.000)	(0.000)
Percentage urban				−71.266
				(88.453)
Constant	−112.183**	−1218.504***	−801.400***	−907.884***
	(53.688)	(332.229)	(181.597)	(244.765)
State fixed-effects	✓	✓	✓	✓
Observations	456	456	456	456
R-squared	0.070	0.346	0.375	0.377

Note: Standard errors in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

3.2. Do concentrated constituencies have greater capacity for collective action?

I now explore more direct evidence of the extent to which the political concentration of voters enhances their capacity for collective action in regard to turning out at the polls. The geographic proximity of members from the same constituency facilitates their mobilization and political engagement. In contrast, the dispersion of a group renders it more difficult for them to coordinate their political demands. The observable implication is that geographically concentrated constituencies have a higher rate of turnout at the polls than does a dispersed constituency that is of equal group size.[14] All else equal (i.e., controlling for population size, etc.), it is the concentration of a group that drives more of their members to the polls on election day. The results, estimated with standard errors clustered at the state level, are presented in Table 3.

The table presents results from the analysis estimating the association between political concentration and voter turnout. The results show that among constituencies of equal size, geographically concentrated constituencies have a higher rate of turnout at the polls for gubernatorial elections than does the dispersed one.

As the results show, the concentration of political support for the governor corresponds to a much higher level of voter turnout for this candidate. The dependent variable, voter turnout, is in units of thousand votes; hence, the effect of concentration is quite large. Geographically concentrated enclaves of political support could also reflect a higher density of voters, for example, in metropolitan areas. Additionally, income or educational background could shape voter preferences for living closer together in large numbers or for political engagement. To rule out these alternative effects that could confound the results, I control for these demographic attributes at the microregional level in Models 2–4. The results remain robust across the models. In Appendix A4, I present additional results that show the concentration of political support predicts a higher incidence of local participatory councils, as an alternative measure of collective action.

In a country where voting is compulsory, there is concern that measures of turnout are high. However, while compulsory voting likely boosts turnout for the country overall compared to a country without such a rule, it applies uniformly across all subnational jurisdictions. The analysis pursued in Table 3 examines, instead, *subnational* variation in voter turnout. Given there is no variation in the

[14]Existing studies in political behavior often use voter turnout as a proxy for collective action. See Appendix A8 for a discussion of this literature.

https://doi.org/10.1017/psrm.2026.10124

compulsory voting rule subnationally, compulsory voting does not confound the analysis; it cannot explain the subnational variation observed.

4. Conclusion

Much of the empirical literature on trade openness and welfare compensation draws on cross-country estimations of the association between country-level trade exposure and federal social expenditure. This literature also has yet to reach a consensus about whether such increased exposure to international competition drives the expansion or contraction of the welfare state. To address the measurement difficulties in the existing literature, this paper follows Kovak (2013) and adopts a factors-specific model of microregional economies within a country, leveraging weighted average tariffs to causally estimate the effects of trade integration. In doing so, it first illustrates that when a country embraces exposure to international markets, the extent of trade integration is not uniform, but rather has differential impacts across industries and subnational regions within the country. When these differential effects, along with the endogeneity of trade integration, are accounted for, I find that localized trade shocks causally induced social expenditure in Brazil, providing support for the "compensation hypothesis."

The analysis also shows that the political response to the effects of trade exposure is, likewise, not uniform within a country, but rather is contingent on subnational patterns in economic and political geography. First, consistent with existing theory, I find that the geographic concentration of economic identities (i.e., trade-affected industries) magnifies the positive effect of trade on compensation across microregional economies in Brazil. In addition, I show that the geographic concentration of voters from the same political constituency has a comparable "compensation effect," whereas the combined dispersion of both economic and political identities almost completely nullifies any compensatory effects of trade. Subnational concentration of trade-relevant industries reflects the distribution of labor market risk across space within the country (Menendez, 2016). Moreover, the focus on political geography captures the capacity for collective mobilization. I argue that geographically concentrated constituencies are better positioned to form strong vested interest groups and mobilize more effectively. The findings support this argument, showing that, even when controlling for group size, subnational jurisdictions with more geographically concentrated like-minded voters experience higher voter turnout and increased welfare "compensation" in response to trade integration.

The results bring to the fore the role of subnational dynamics for understanding policy response to economic "shocks" that are previously explored only at the country-level. Although welfare compensation is often perceived to be a type of centralized fiscal policy for mitigating the effects of fluctuations in real wages and in unemployment, this paper demonstrates that there is extensive subnational variation in both the effects of the "shock" and in such compensation policies. Beyond country-level dynamics, microregional industrial structures and the geographic distribution of voters across space help explain why trade liberalization has contradictory effects on welfare.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/psrm.2026.10124. To obtain replication material for this article, https://url.uk.m.mimecastprotect.com/s/I5XRCL866TPo1GZWTBfDWhy2VIL?domain=doi.org.

Declaration of interests. The author declares none. The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Lemann Foundation, the Foundations of Human Behavior Initiative, the Brazil Cities Initiative, the David Rockefeller Center for Latin American Studies, the Weatherhead Center for International Affairs, and the Institute for Quantitative Social Science (IQSS).

References

Abers R (2000) *Inventing Local Democracy: Grassroots Politics in Brazil*. Boulder, CO: Lynne Rienner Publishers.

https://doi.org/10.1017/psrm.2026.10124

Adserá A and Carles B (2002) Trade, democracy, and the size of the public sector: The political underpinnings of openess. *International Organization* **56**(2), 229–262.
Arretche M (1999) Políticas sociais no Brasil: Descentraliza¸cão em um estado federativo. *Revista Brasileira de Ci^encias Sociais* **14**(40), 111–141.
Arretche M and Rodden J (2004) Política distributiva na federac¸ão: Estratégias eleitorais, barganhas legislativas e coalizões de governo. *Dados* **47**(3), 549–576.
Autor DH, Dorn D and Hanson GH (2013) The China syndrome: Local labor market effects of import competition in the United States. *American Economic Journal* **103**(6), 2121–2168.
Avelino G, Brown DS and Hunter W (2005) The effects of capital mobility, trade openopen, and democracy on social spending in Latin America in 1980-1999. *American Journal of Political Science* **49**(3), 625–641.
Baiocchi G (2005) *Militants and Citizens: The Politics of Participatory Democracy in Porto Alegre*. Stanford, CA: Stanford University Press.
Baker A (2003) Why is trade reform so popular in Latin America? A consumption-based theory of trade policy preferences. *World Politics* **55**(3), 423–455.
Baker A (2005) Who wants to globalize? Consumer tastes and labor markets in a theory of trade policy beliefs. *American Journal of Political Science* **49**(4), 924–938.
Baker A (2009) *The Market and the Masses in Latin America*. New York, NY: Cambridge University Press.
Beramendi P (2007) Inequality and the territorial fragmentation of solidarity. *International Organization* **61**(4), 783–820.
Beramendi P (2012) *The Political Geography of Inequality: Regions and Redistribution*. New York, NY: Cambridge University Press.
Beramendi P, Melissa R and Díaz-Cayeros A (2017) Barriers to egalitarianism: Distributive tensions in Latin American Federations. *Latin American Research Review* **52**(4), 529–551.
Bezerra JE (2014) Mercado de Trabalho e Políticas Públicas em Petrolina (PE): Uma Análise do Programa Chapéeu de Palha. *Revista da Casa da Geografia de Sobral* **16**(2), 3.
Bichir R (2010) Analisando a porta de entrada aos programas de transferência de renda: São Paulo e Salvador. *Bahia, Análise & Dados* **19**, 993–1008.
Brooks S (2008) *Social Protection and the Market in Latin America: The Transformation of Social Security Institutions*. New York, NY: Cambridge University Press.
Bueno N (2018) Bypassing the enemy: Distributive politics, credit claiming, and nonstate organizations in Brazil. *Comparative Political Studies* **51**(3), 304–340.
Busch M and Reinhardt E (2000) Bargaining in the shadow of the law: Early settlement in GATT/WTO disputes. *American Journal of Political Science* **44**(4), 703.
Calvo E and Rodden J (2015) The Achilles heel of plurality systems: Geography and representation in multiparty democracies. *American Journal of Political Science* **59**(4), 789–805.
Cameron DR (1978) The expansion of the public economy: A comparative analysis. *American Political Science Review* **72**(4), 1243–1261.
Campello D (2013) The politics of financial booms and crisis: Evidence from Latin America. *Comparative Political Studies* **47**(2), 260–286.
Campello D (2015) *The Politics of Market Discipline in Latin America*. New York, NY: Cambridge University Press.
Cao X (2009) Networks of intergovernmental organizations and convergence in domestic economic policies. *International Studies Quarterly* **53**(4), 1095–1130.
Cao X (2012) Global networks and domestic policy convergence: A network explanation of policy changes. *World Politics* **64**(3), 375–425.
Cini L, Della Porta D and Guzmán-concha C (2021) *Student Movements in Late Neoliberalism*. Cham, Switzerland: Springer.
Díaz-cayeros A (2016) *Federalism, Fiscal Authority, and Centralization in Latin America*. New York, NY: Cambridge University Press.
Díaz-cayeros A, Estévez F and Magaloni B (2016) *The Political Logic of Poverty Relief: Electoral Strategies and Social Policy in Mexico*. New York, NY: Cambridge University Press.
Dean A (2022) *Opening up by Cracking Down: Labor Repression and Trade Liberalization in Democratic Developing Countries*. New York, NY: Cambridge University Press.
Dix-Carneiro R (2014) Trade liberalization and labor market dynamics. *Econometrica* **82**(3), 825–885.
Dix-Carneiro R, Soares RR and Ulyssea G (2018) Economic shocks and crime: Evidence from the Brazilian trade liberalization. *American Economic Journal: Applied Eco-nomics* **10**(4), 158–195.
Dunn C (2022) Subnational politics and redistribution in a federal system: Determinants of progressive social spending in Brazilian states. *Publius: The Journal of Federalism* **52**(2), 283–309.
Ebeid M and Rodden J (2006) Economic geography and economic voting: Evidence from the US states. *British Journal of Political Science* **36**(3), 527–547.
Frieden J (2022) Attitudes, interests, and the politics of trade: A review article. *Political Science Quarterly* **137**(3), 569–588.
Garay C (2016) *Social Policy Expansion in Latin America*. New York, NY: Cambridge University Press.

https://doi.org/10.1017/psrm.2026.10124

Garrett G (1998) Global market and nation politics: Collision course or virtuous circle? *International Organization* **52**(4), 787–824.
Garrett G (2001) Globalization and government spending around the world. *Studies in Comparative International Development* **35**(1), 3–29.
Gibson E, Calvo E and Falleti T (2004) *Federalism and Democracy in Latin America*. Baltimore, MD: JHU Press chapter Reallocative Federalism: Legislative Overrepresentation and Public Spending in the Western Hemisphere.
Goldfrank B (2007) The politics of deepening local democracy: decentralization, party institutionalization, and participation. *Comparative Politics* **39**(2), 147–168.
Goldfrank B (2015) *Deepening Local Democracy in Latin America: Participation, Decen-tralization, and the Left*. University Park, PA: Penn State Press.
Grossman GM and Helpman E (1994) Protection for sale. *American Economic Review* **84**(4), 833–850.
Hart A (2010) Death of the Partisan? Globalization and taxation in South America, 1990-2006. *Comparative Political Studies* **43**(3), 304–328.
Holland AC (2017) *Forbearance as Redistribution: The Politics of Informal Welfare in Latin America*. New York, NY: Cambridge University Press.
Hooghe L, Marks G, Schakel A, Osterkatz SC, Niedzwiecki S and Shair-rosenfield S (2016) *Measuring Regional Authority: A Postfunctionalist Theory of Governance*. Oxford, UK: Oxford University Press.
Huber E and Stephens J (2012) *Democracy and the Left: Social Policy and Inequality in Latin America*. Chicago, IL: University of Chicago Press.
Iversen T (2005) *Capitalism, democracy, and welfare*. New York, NY: Cambridge University Press.
Iversen T and Cusack T R (2000) The Causes of Welfare State Expansion: Deindustrialization or Globalization?. *World Pol.*, **52**(3), 313–349. 10.1017/S0043887100016567
Iversen T and Soskice D (2001) An Asset Theory of Social Policy Preferences. *Am Polit Sci Rev* **95**(4), 875–893. 10.1017/S0003055400400079
Katzenstein P (1985) *Small States in World Market: Industrial Policy in Europe* Ithaca, NY: Cornell University Press. Chapter 1 (p. 17-38), Chapter 5 (p. 191-211).
Kaufman RR and Segura-ubiergo A (2001) Globalization, domestic politics, and social spending in Latin America: A time-series cross-section analysis, 1973-1997. *World Politics* **53**(4), 553–587.
Keck M and Smith R (1992) *The Workers' Party and Democratization in Brazil*. New Haven, CT: Yale University Press.
Kingstone P (2010) *The Political Economy of Latin America: Reflections on Neoliberalism and Development*. New York, NY: Routledge.
Kovak B (2013) Regional effects of trade reform: What is the correct measure of liberalization. *American Economic Review* **103**(5), 1960–1976.
Kume H, Piani G and Bráz de Souza CF (2003) *A Política Brasileira de Importa¸cão No Período 1987-1998: Descri¸cão E Avalia¸cão*. [Vol. za Rio de Janeiro, Brazil: IPEA. In Abertura Comercial Brasileira de Nos Anos 1990: Impacto Sobre Emprego e Salário].
Kurtz M and Brooks S (2008) Embedding neoliberal reform in Latin America. *World Politics* **60**(2), 231–280.
Longui S, Nijkamp P and Traistaru I (2005) Is sectoral diversification a solution to unemployment? Evidence from EU regions. *Kyklos* **58**(4), 591–610.
McGillivray F (2004) *Privileging Industry: The Comparative Politics of Trade and Industrial Policy*. Princeton, NJ: Princeton University Press.
Menéndez I (2021) Insiders, outsiders, skills, and preferences for social protection: Evidence from a survey experiment in Argentina. *Comparative Political Studies* **54**(14), 2581–2610.
Menendez I (2016) Globalization and welfare spending: How geography and electoral institutions condition compensation. *International Studies Quarterly* **60**(4), 665–676.
Moncada E (2016) *Cities, Business, and the Politics of Urban Violence in Latin America*. Stanford, CA: Stanford University Press.
Niedzwiecki S (2016) Social policies, attribution of responsibility, and political alignments: A subnational analysis of Argentina and Brazil. *Comparative Political Studies* **49**(4), 457–498.
Niedzwiecki S (2018) *Uneven Social Policies: The Politics of Subnational Variation in Latin America*. New York, NY: Cambridge University Press.
Nooruddin I and Rudra N (2014) Are developing countries really defying the embedded liberalism compact? *World Politics* **66**(4), 603–640.
Nooruddin I and Simmons J (2006) The politics of hard choices: IMF programs and government spending. *International Organization* **60**(4), 1001–1033.
Nooruddin I and Simmons J (2009) Open, uncertainty, and social spending: Implications for the globalization-welfare state debate. *International Studies Quarterly* **53**(3), 841–866.
Nooruddin I and Simmons J (2015) Do voters count? Institutions, voter turnout, and public goods provision in India. *Electoral Studies* **37**, 1–14.

https://doi.org/10.1017/psrm.2026.10124

Rettl P. 2025. "Turning away from the State: Trade shocks and informal insurance in Brazil." Harvard Business School BGIE Unit Working Paper.
Richardson N (2009) Export-oriented populism: commodities and coalitions in Argentina. *Studies in Comparative International Development* **44**(3), 228–255.
Rickard S (2012) Electoral systems, voters' interest and geographic dispersion. *British Journal of Political Science* **42**(4), 855–877.
Rickard S (2018) *Spending to Win: Political Institutions, Economic Geography, and Government Subsidies*. New York, NY: Cambridge University Press.
Rodden J (2010) The geographic distribution of political preferences. *Annual Review of Political Science* **13**(1), 321–340.
Rodden J and Wibbels E (2010) Fiscal decentralization and the business cycle: An empirical study of seven federations. *Economics and Politics* **22**(1), 37–67.
Rodrik D (1997) *Has Globalization Gone Too Far?* Washington, D.C: Institute for International Economics.
Rodrik D (1998) Why do open economies have bigger governments? *Journal of Political Economy* **106**(5), 997–1032.
Rogers M (2021) Federalism and the welfare state in Latin America. *Regional and Federal Studies* **31**(1), 163–184.
Rudra N (2002) Globalization and the decline of the welfare state in less developed countries. *International Organization* **56**(2), 411–445.
Ruggie J (1982) International regimes, transactions, and change: Embedded liberalism in the postwar economic order. *International Organization* **36**(2), 379–415.
Schaffer L and Spilker G (2019) Self-interest versus sociotropic considerations: An information-based perspective to understanding individuals' trade preferences. *Review of International Political Economy* **26**(6), 1266–1292.
Scheve KF and Slaughter MJ (2001) What determines individual trade-policy preferences? *Journal of International Economics* **54**(2), 267–292.
Segura-ubiergo A (2007) *The Political Economy of the Welfare State in Latin America*. New York, NY: Cam-bridge University Press.
Stallings B (1992) International influence on economic policy: Debt, stabilization, and structural reform. In Haggard S and Kaufman R (eds), *The Politics of Economic Adjustment: International Constraints, Distributive Politics, and the State*. Princeton, NJ: Princeton University Press.
Stokes LC (2016) Electoral backlash against climate policy: A natural experiment on retrospective voting and local resistance to public policy. *American Journal of Political Science* **60**(4), 958–974.
Ter-Minassian Teresa (2012) *Reform Priorities for Sub-national Revenues in Brazil*. Washington, DC: Inter-American Development Bank. Policy Brief No. IDB-PB-157.
Touchton M, Sugiyama NB and Wampler B (2017) Democracy at work: Moving beyond elections to improve well-being. *American Political Science Review* **111**(1), 68–82.
Wampler B (2010) *Participatory Budgeting in Brazil: Contestation, Cooperation, and Accountability*. University Park, PA: Penn State University Press.
Wibbels E (2006) Dependency revisited: International market, business cycles, and social spending in the developing world. *International Organization* **60**(2), 433–468.
Wibbels E and Ahlquist J (2011) Development, trade, and social insurance. *International Studies Quarterly* **55**(1), 125–149.
Wibbels E and Arce M (2003) Globalization, taxation, and burden shifting in Latin America. *International Organization* **57**(1), 111–136.
Wibbels E (2005) Decentralized governance, constitution formation, and redistribution. *Constitutional Political Economy* **16**(2), 161–188.
Zarate Tenorio B (2014) Social spending responses to organized labor and mass Protests in Latin America, 1970-2007. *Comparative Political Studies* **47**(14), 1945–1972.

Cite this article: Xu A (2026) Trade liberalization and the welfare state: how subnational geographies shape compensation. *Political Science Research and Methods*, 1–19. https://doi.org/10.1017/psrm.2026.10124

https://doi.org/10.1017/psrm.2026.10124