

INTERGOVERNMENTAL FISCAL RELATIONS AND TURNOUT: EVIDENCE FROM ARGENTINE PRESIDENTIAL ELECTIONS^{*o}

*RELACIONES FISCALES INTERGUBERNAMENTALES
Y PARTICIPACIÓN ELECTORAL: EVIDENCIA DE LAS
ELECCIONES PRESIDENCIALES ARGENTINAS*

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Abstract

This paper contributes to two strands of the literature on voter engagement that have developed largely independently, with minimal overlap. On one hand, it provides new evidence to the research agenda assessing the impact of unemployment on voter participation. On the other hand, it adds to the literature that analyzes the effects of decentralization on voter turnout. The study also examines how economic conditions interact with the institutional framework that structures different levels of government to shape electoral participation in the context of Argentine fiscal federalism. District-level dynamic panel estimations of presidential elections for the period 1989–2023 reveal that unfavorable economic conditions, measured by the unemployment rate, encourage citizens to vote. Large automatic transfers, measured as percentage of total district revenues, reduce turnout. The most notable finding concerns the interaction between these variables. This interaction generates a mobilization effect in districts with lower automatic transfers, whereas it produces a withdrawal effect in districts that receive higher automatic transfers.

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Resumen

Este artículo contribuye a dos campos de literatura sobre la participación electoral que han surgido casi de forma independiente, con una superposición mínima entre ellos. Por un lado, aporta nueva evidencia a la agenda de investigación que evalúa el impacto de la tasa de desempleo en la participación electoral y, por otro, contribuye a la literatura que analiza los efectos de la descentralización en la participación electoral. Además, investiga cómo la interacción entre las condiciones económicas y el marco institucional que rige los distintos niveles de gobierno afectan a la participación electoral en el peculiar contexto del federalismo fiscal argentino. Las estimaciones de un panel dinámico que incluye 23 de los 24 distritos subnacionales y las nueve elecciones presidenciales realizadas en el periodo 1989-2023 revelan que las circunstancias económicas desfavorables, representadas por la tasa de desempleo, incentivan a los ciudadanos a participar en la votación y que las transferencias automáticas, medidas como porcentaje de los ingresos totales del distrito, disminuyen la participación. El hallazgo más relevante es que la interacción de ambas variables genera un efecto de movilización para los distritos con transferencias automáticas más bajas, mientras que induce a la abstención electoral en distritos que se benefician de transferencias automáticas más altas.

Palabras clave: desequilibrio fiscal vertical, descentralización, participación electoral, federalismo fiscal, elecciones presidenciales

Códigos JEL: D72, P16

I. INTRODUCTION

Following the influential work of Schlozman and Verba (1979), a vast empirical literature has examined the impact of economic conditions on voter participation. Evidence from single-country studies and cross-country investigations remains mixed. The mobilization effect posits that individuals facing economic hardship participate in elections more actively as a form of protest or as a way to pursue change. Numerous studies support this view, including Cebula (2008, 2017) and Burden and Wichowsky (2014).

In contrast, the so-called withdrawal effect suggests that adverse economic conditions, in particular high unemployment (Park, 2023), reduce electoral participation. Some studies also report no significant relationship between economic performance and voter turnout (Cancela & Geys, 2016).

Researchers have proposed various explanations for mobilization and withdrawal effects. These explanations include emotional responses (Aytaç et al., 2020), experiences of traumatic unemployment (Azzollini, 2021), and the classic argument that economic hardship reduces time, energy, and access to political information (Rosenstone, 1982). Most studies, however, treat these effects as independent of the institutional framework that structures relations across levels of government. Yet important contributions by Blais et al. (2011) and Michelsen et al. (2014) show that decentralization of competences leads citizens to perceive their vote as more influential, which encourages participation.

This paper examines how economic conditions interact with the institutional framework to shape electoral participation in the context of Argentine fiscal federalism. Subnational variations in turnout rates in Argentine presidential elections provides the empirical basis for the analysis.

The paper addresses three main questions. First, it examines whether economic conditions encourage or discourage electoral participation. Second, it assesses whether, and to what extent, the lack of fiscal correspondence resulting from redistribute transfers—a distinctive feature of Argentine fiscal federalism—influences turnout. The central hypothesis states that automatic redistributive transfers arising from a legal agreement between the federal government and the provinces weaken citizens' incentives to monitor government through voting. A higher share of legally guaranteed transfers increases the number of citizens who abstain from presidential elections. Third, the paper examines how the interaction between vertical fiscal imbalance and economic conditions affects turnout.

Analysis of a dynamic panel dataset covering 207 presidential elections at the subnational level from 1989 to 2023 shows that unfavorable economic conditions, measured by the unemployment rate, encourage citizens to vote. Large automatic transfers, expressed as a percentage of total district revenues, reduce turnout. The interaction between these variables constitutes the most notable finding. This interaction generates a mobilization effect in districts with lower automatic transfers and a withdrawal effect in districts that receive higher automatic transfers.

The remainder of the article is structured as follows. Section 2 provides a brief conceptual discussion that clarifies the micro foundations behind the different empirical results. Section 3 describes the Argentine fiscal and political context. Section 4 presents the data and the empirical specification. Section 5 reports the empirical results, highlights the positive relationship between the structure of Argentine fiscal federalism and turnout, and explores the mechanisms that may explain this relationship. Section 6 concludes.

II. RELATED STUDIES AND THEORY

The persistent decline in turnout rates worldwide over the last three decades, even in countries with compulsory voting, has generated substantial research aimed at identifying factors behind this phenomenon, which affects the quality of democracies (Solijonov, 2016). Empirical studies have successfully pinpointed institutional, sociological, political, and economic determinants of voter participation.

Investigations based on cross-country datasets show that institutional factors—such as mandatory voting, Sunday voting, extended polling hours, prepaid postage, run-off elections—play a prominent role (Gaebler et al., 2020; Michelsen et al., 2014). By contrast, country-specific analyses emphasize sociological characteristics, such as gender, age, and education; political factors, such as concurrent or disputed elections; and economic variables, such as unemployment and GDP per capita. Institutional factors lose relevance when a single country with uniform national rules is under consideration.

The literature on the effect of economic conditions on voter turnout remains largely empirical. Since the pivotal contribution of Schlozman and Verba (1979), researchers have identified two opposing mechanisms—withdrawal and mobilization—that operate through the interaction between individual experiences and macroeconomic conditions. Empirical evidence supports both mechanisms in different contexts.

Withdrawal theory states that economic hardship, such as unemployment or recessions, reduces political engagement because it limits resources, increases psychological stress, and weakens social integration. Rosenstone (1982), in a seminal study of U.S. national elections, shows that individuals experiencing unemployment or income loss are less likely to vote because they lack the time, energy, and psychological resources required for political participation. Economic hardship can also foster political alienation, as citizens may perceive voting as ineffective.

Azzollini (2021), using micro-level unemployment data from the European Social Survey for the period 2008–2016, associates withdrawal effects with past unemployment experiences that generate a “scar effect.” Job loss disrupts social ties and reduces political interest, which lowers electoral participation. Park (2023), instead, attributes the withdrawal effect to voters’ dissatisfaction when they compare their nation’s poor economic performance with that of more successful economies.

Marto and Nallar (2018), to the best of my knowledge, provide the only evidence for Argentina. They analyze gubernatorial elections from 1987 to 2007 and find that unemployment reduces voter turnout, which supports the withdrawal hypothesis. This result is notable given the prevalence of vote-buying practices aimed at vulnerable groups in some provinces, which could increase turnout (Brusco et al., 2004; Meloni, 2008).

Substantial evidence also shows that economic dissatisfaction can increase participation by raising political engagement. Burden and Wichowsky (2014), using U.S. county-level data, observe that higher unemployment boosts voter turnout. They argue that adverse economic conditions disrupt daily life and motivate citizens to express concerns through voting. Similarly, Kern et al. (2015) show that sudden economic shocks, such as rising unemployment during the 2008–2010 European crisis, trigger grievance-based mobilization and increase short-term political participation.

Incantalupo (2015) explains the apparent contrast between withdrawal effects in individual-level studies and mobilization effects in aggregate analyses. The author distinguishes between personal economic hardship and macro-level unemployment and emphasizes the role of contextual interpretation. Unemployment affects turnout differently depending on whether individuals perceive hardship as isolated or widespread. In low-unemployment contexts, job loss appears as a personal failure and reduces participation. In high-unemployment contexts, it appears as a systemic issue and encourages participation.

Other factors that increase turnout include social pressure, social norms, and reputational concerns. Gerber et al. (2017) document these mechanisms in a large-scale field experiment involving 1.96 million registered voters across 17 U.S. states during the 2014 election.

Most studies, however, do not examine the role of the institutional rules governing relations between central and subnational governments. The literature generally assumes that these effects are independent of the degree of decentralization.

II.1. Decentralization and turnout

Almost concurrently with the literature on economic conditions and voter turnout, research on decentralization has examined additional determinants of voter participation. Using cross-national data on national and subnational elections in OECD and European countries, and complemented by case studies of Canada and Spain, Blais et al. (2011) were among the first to frame the effects of decentralization in terms of mobilization and withdrawal. They show higher turnout in subnational elections and lower turnout in national elections.

Subsequent studies have expanded this line of inquiry. Meguid (2007), analyzing regional elections in Western Europe, finds that political decentralization increases voter engagement by making elections more meaningful and salient. These effects depend on institutional design and citizen perceptions. Similarly, Michelsen et al. (2014) demonstrate that the degree of centralization in public goods provision shapes voter turnout in German municipal elections. Their theoretical and empirical results indicate that decentralization increases participation by strengthening the perceived relevance of voting, whereas centralization reduces turnout by weakening the link between elections and policy outcomes.

Henderson and McEwen (2015) reach similar conclusions in their analysis of decentralization reforms implemented between 1990 and 2009 in Western and Southern Europe. Their study covers Spain's autonomous communities, Italy's regional councils, Belgium's federalization, and the devolution of powers to subnational institutions in the United Kingdom, including Scotland, Wales, Northern Ireland, and, to a lesser extent, London and English regions.

Overall, these studies indicate a positive relationship between decentralization and voter turnout. The central argument states that decentralization brings government closer to citizens. As a result, participation in subnational elections

increases when decentralization is stronger. This finding supports the rational-choice view that the relative stakes of elections influence the decision to vote.

However, recent contributions challenge the view that decentralization automatically boosts participation. Barras (2024), in a study of reforms in Ukraine, shows that the effects of decentralization depend on context. Mobilization arises only when citizens perceive local governments as empowered and legitimate. When institutions appear weak or corrupt, turnout gains via decentralization do not materialize.

Kim (2025) provides cross-national empirical evidence that higher fiscal independence at the local level increases voter turnout in local elections. By contrast, decentralization without fiscal autonomy reduces participation. Kim distinguishes between administrative decentralization, defined as the transfer of responsibilities, and fiscal decentralization, defined as control over revenues and expenditures. Voter turnout increases when local governments have their own revenue sources, such as taxation powers and spending autonomy. When local governments depend on central transfers, turnout declines because citizens perceive local elections as less consequential. Under these conditions, national elections retain or even enhance their salience, as accountability concentrates at the central level.

Summarizing, existing studies on economic conditions and voter turnout do not examine the role of institutional rules governing relations between central and subnational governments. Likewise, studies on decentralization do not analyze how economic conditions interact with different degrees of decentralization to shape voter participation. This paper addresses this gap.

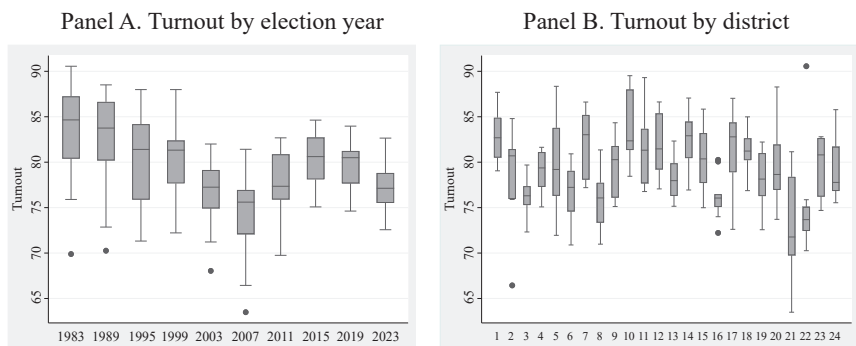
III. VOTER PARTICIPATION AND FISCAL ORGANIZATION IN AN EMERGING DEMOCRACY

Argentina is a federal republic composed of 23 provinces and one autonomous city, the national capital, Buenos Aires. The Constitution of 1853 established a democratic, federal, and republican system of government. Although Argentina has held regular elections for the president and provincial governors since 1862, the first presidential election with a secret ballot took place in 1916.

During the twentieth century, military regimes interrupted the constitutional order on six occasions, with democratic rule restored after each interruption. The last military regime ended in 1983, after seven years of cruel dictatorship.

After an initial surge in participation following the restoration of democracy, voter turnout declined over time, from 85.6% in 1983 to 76.9% in 2023. Turnout also varies substantially across the 24 districts, as shown in Figure 1. The lowest turnout occurred in the province of Santiago del Estero in 2007, at 63.5%, while the highest reached 88.5% in Tierra del Fuego in 1983¹.

Figure 1. Turnout in presidential elections, 1983-2023 (%)



Source: Own calculations based on *Dirección Nacional Electoral*.

Note: Panel B. 1. Buenos Aires, 2. Catamarca, 3. Chaco, 4. Chubut, 5. Córdoba, 6. Corrientes, 7. Entre Ríos, 8. Formosa, 9. Jujuy, 10. La Pampa, 11. La Rioja, 12. Mendoza, 13. Misiones, 14. Neuquén, 15. Río Negro, 16. Salta, 17. San Juan, 18. San Luis, 19. Santa Cruz, 20. Santa Fe, 21. Santiago del Estero, 22. Tierra del Fuego, 23. Tucumán, 24. CABA.

III.1. How fiscal federalism rules affect turnout

The taxation system in Argentina involves complex issues regarding both revenue collection and distribution. Provinces obtain revenue from three main sources: own tax collection, automatic transfers from the Federal Tax-Sharing Agreement (FTSA), and discretionary transfers from the federal government.

The FTSA was originally designed to address the challenges associated with the concurrent exercise of taxing powers, given that both the national and provincial governments could levy taxes on consumption. In exchange for refraining from imposing internal taxes within their jurisdictions and relinquishing their constitu-

¹ Table 1A in the Appendix displays descriptive statistics by district.

tional authority to levy direct taxes, such as income taxes, the provinces receive a share of national tax revenues².

The allocation of tax revenues follows a complex structure. The federal government collects taxes that form a common pool of resources, which is then distributed in two stages: first, between the federal government and the provinces; and second, among provinces according to fixed percentages established in the FTSA.

The distribution across provinces follows strongly redistributive criteria, which generate several adverse effects (Saiegh & Tommasi, 1999; Meloni, 2022)³. The FTSA compensates provinces with lower revenue capacity and lower levels of social and human development, as well as those facing regional inequalities and structural needs.

A key feature of Argentine federalism is the contrast between the high degree of centralization in tax collection, whereby a large share of revenues falls under the jurisdiction of the federal government, and the substantial decentralization of expenditures. On average, provinces finance only 35% of their expenditures with own-source revenues, although they remain responsible for key public functions such as education, health, justice, security, and sanitation.

The remaining 65% of provincial expenditures is financed through the FTSA and discretionary transfers, which the federal government allocates through political negotiations with each province. The FTSA accounts for 62% of the provincial resources, while non-automatic transfers represent 7% (Meloni, 2016). This structure creates a vertical fiscal imbalance in all provinces, although it is less pronounced in more developed jurisdictions. Own-source revenues represent only a fraction of total available resources, which gives rise to the fiscal correspondence problem.

Table 1 presents two alternative measures of vertical fiscal imbalance (VFI). The first is a broad measure defined as the share of total transfers (automatic and discretionary), plus royalties, in total revenues. The second is a narrower measure, more appropriate for this paper, defined as the share of automatic transfers in total district revenues.

² There are also taxes collected by the central government that are not shared with subnational jurisdictions. Approximately 57% of the common pool is distributed among the provinces according to the rules of the agreement. The remaining 43%, together with revenues not included in the Federal Tax-Sharing Agreement, such as import and export duties, constitutes the National Budget approved by the National Congress. Thus, a large share of revenue is not included in the National Budget but is automatically transferred to the provinces.

³ Porto (2003) provided a detailed analysis of the evolution of the system.

The province of La Rioja represents a paradigmatic case of VFI. On average, it collected only 9.9% of its total resources locally during the period 1989-2023 and received almost 63% from automatic transfers. La Rioja is not an isolated case: in 13 of the 24 jurisdictions, automatic transfers account for more than 60% of total resources. Automatic transfers exceed 67% of total resources in 8 districts and 50% in 17 districts.

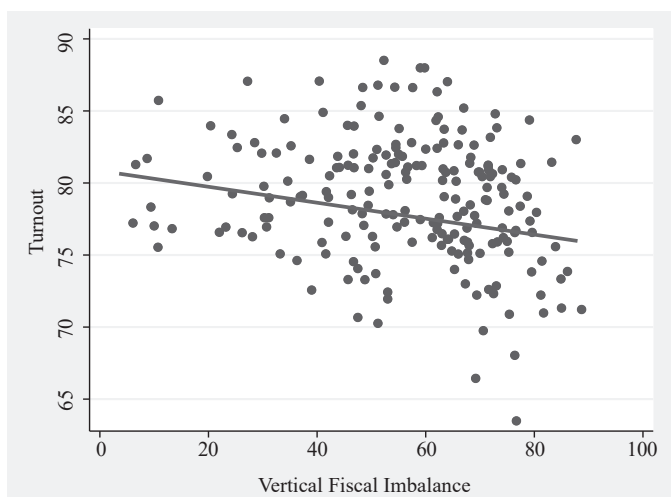
Table 1. Measures of vertical fiscal imbalance, average 1989-2023

District	Automatic transfers (% of total resources)	Total transfers (% of total resources)
Formosa	78.5	88.8
Santiago del Estero	77.6	87.3
Catamarca	76.6	84.7
Corrientes	74.4	81.8
Chaco	71.6	82.2
San Juan	71.3	79.8
San Luis	69.9	76.6
Jujuy	68.3	84.8
Salta	66.4	77.4
Tucumán	66.2	73.8
La Rioja	62.8	90.1
Misiones	62.5	74.7
Entre Ríos	60.5	69.0
Río Negro	57.2	72.8
La Pampa	53.5	64.3
Santa Fe	53.0	58.9
Córdoba	50.3	56.3
Mendoza	46.8	61.1
Tierra del Fuego	45.8	66.9
Chubut	40.3	71.2
Buenos Aires	37.9	44.8
Santa Cruz	37.0	71.7
Neuquén	26.1	64.6
City of Buenos Aires	10.7	13.2

Source: Own elaboration based on data from the *Dirección Nacional de Asuntos Provinciales*.

As noted by Saiegh et al. (2001) and Spiller and Tommasi (2007), persistent VFIs create a disconnection between public spending and tax collection within each jurisdiction, which alters the incentives faced by both politicians and citizens. The lack of fiscal correspondence weakens citizens' incentives to monitor politicians, at both the local and national levels, through voting. Moreover, since redistributive transfers are automatic, revenues are guaranteed⁴.

Figure 2. Vertical fiscal imbalance and voter turnout in subnational districts, 1989-2023



Source: Own calculations based on data from Dirección Nacional Electoral and Dirección Nacional de Asuntos Provinciales.

Note: Turnout and VFI are expressed as percentages. VFI is computed as the average automatic transfers received by district s in the presidential period t as percentage of total district revenues.

⁴ As provinces rely on resources that are not directly collected, the fiscal behavior of local authorities changes considerably, leading to higher public expenditure and provincial debt, along with a relative decline in local tax revenue. Governors derive political benefits from this spending while bearing only a small share of the political costs linked to taxation (Jones et al., 2012; Meloni, 2016). Including discretionary transfers and oil and gas royalties alongside automatic transfers exacerbates VFI and introduces procyclicality into fiscal variables (Meloni, 2018).

Consequently, higher VFI, defined as the share of automatic transfers in total resources, should be associated with lower turnout rates. At the margin, the main mechanism for holding politicians accountable—the vote—loses relevance in relation to the cost of voting. This prediction relies on three assumptions. First, politicians cannot modify the automatic transfer formula (the FTSA) in the short term, as any change requires congressional approval. Second, provincial residents understand the transfer formula. Third, citizens evaluate presidential stakes partly on the basis of fiscal outcomes.

This argument builds on rational choice models, particularly Downs (1957) and Riker and Ordeshook (1968). The expected net benefits of voting decline because incentives to incur the costs of voting—direct costs, opportunity costs, and institutional barriers—are weaker when revenues are guaranteed.

Figure 2 illustrates that the correlation between turnout rates and VFI across subnational units in presidential elections over the period 1989-2023 is negative, as hypothesized.

From a different perspective, the mismatch between decentralized expenditures and centralized revenues should shape voter incentives: voters monitor local authorities with respect to expenditures and national authorities with respect to revenues. However, if transfers to provinces depend on fixed coefficients rather than on politicians' actions, the effectiveness of voting as a mechanism for monitoring politicians diminishes.

IV. DATA, METHODOLOGY, AND EMPIRICAL SPECIFICATION

To examine the relationship between voter participation and the system of automatic redistributive transfers governing fiscal relations between the federal government and Argentine subnational districts, I estimate a general model specified in equation (1). The model includes variables proposed by different theories of voter participation.

The dependent variable, *Turnout*, is defined as the total number of ballots cast as a percentage of the total number of registered voters in district i at election t . Since voting is compulsory in Argentina, all citizens aged 18 and over are included in the official electoral roll⁵. *Turnout* comprises all votes cast for political parties or coalitions, as well as null and blank votes.

⁵ Since 2012, citizens aged 16 and 17 have been permitted to vote; however, voting remains non-compulsory until age 18.

$$\text{TURNOUT}_{it} = \alpha_0 + \alpha_1 \text{TURNOUT}_{it-1} + \alpha_2 X_{it} + \alpha_3 Y_{it} + \alpha_4 Z_{it} \varepsilon_{it} \quad (1)$$

IV.1. Key explanatory variable

The key explanatory variable is denoted as VFI, defined as the share of total automatic transfers in total revenues received by district s during presidential period t . VFI excludes discretionary transfers from the federal government to subnational jurisdictions, as well as oil and gas royalties.

These automatic transfers arise from an agreement between the federal government and subnational jurisdictions—the Federal Tax-Sharing Agreement—which reallocates federally collected taxes across jurisdictions according to pre-determined percentages. Therefore, transfers included in VFI do not depend on intergovernmental political negotiations.

As discussed in Section III, I hypothesize that, at the margin, the lack of fiscal correspondence weakens citizens' incentives to use voting as a mechanism to monitor politicians, thereby reducing electoral participation.

IV.2. Control variables

Vector X comprises four political variables:

(i) *Margin*, defined as the percentage difference between the two parties receiving the highest vote shares. More competitive elections are expected to increase voter turnout. Close races raise the perceived stakes, strengthen voter engagement, and prompt campaigns to mobilize voters more intensively. When the expected margin of victory is narrow, voters are more likely to perceive their vote as pivotal. Campaign expenditures, candidate effort, and the influence of local party organizations further contribute to voter mobilization. In contrast, in non-competitive elections, voters tend to perceive lower stakes, which reduces their incentive to participate.

(ii) *Reelection* (dummy variable equal to 1 if the presidential election coincides with a gubernatorial election in which the incumbent governor seeks reelection, and 0 otherwise). Evidence suggests that concurrent elections improve turnout by reducing voting costs and increasing campaign outreach, as documented for Japan (Fukumoto & Horiuchi, 2016), Germany (Garmann, 2016), and Italy (Bracco &

Revelli, 2018). When the incumbent governor runs for reelection in concurrent elections, voter participation is expected to increase further.

(iii) *Intervention* (dummy variable equal to 1 if the federal government appoints an interventor in district s during presidential period t , and 0 otherwise). I hypothesize that episodes of federal intervention, or the appointment of local authorities by the President prior to elections, reduce voter turnout. Interruptions of the democratic process are usually associated with political instability and institutional disruption, which can weaken citizens' incentives to participate in elections.

During the period under study, the provinces of Corrientes and Santiago del Estero experienced two federal interventions each, while Catamarca and Tucumán experienced one. Additionally, the President appointed executive authorities in Tierra del Fuego until 1991 and in the City of Buenos Aires until 1996, as the former lacked provincial status and was classified as a national territory, and the latter had not been granted autonomy.

(iv) *Alternation* (dummy variable equal to 1 if the political party that won the previous presidential election in district s loses in the current election, and 0 otherwise). This variable captures political competition and potential voter disengagement in districts dominated by a single party. Persistent dominance by one party can weaken voter incentives by reducing perceived electoral competitiveness and fostering political alienation. Therefore, lower voter participation is expected in such contexts.

Vector Y includes two economic control variables: *GDP* and *Unemployment*. GDP is defined as real *GDP per capita* in district s in year $t-1$ (the year prior to the presidential election), expressed in millions of 2004 pesos. Unemployment is defined as the average unemployment rate in jurisdiction s in year $t-1$, expressed as a percentage.

For both variables, theory identifies two opposing mechanisms: mobilization and withdrawal. The mobilization effect refers to the tendency of citizens to vote more when they face adverse economic conditions (Schlozman & Verba, 1979). In this context, voting serves as a form of protest against the incumbent government. By contrast, the withdrawal effect suggests that individuals are less likely to vote under unfavorable economic conditions. Adverse experiences, such as long-term unemployment, reduce participation by weakening motivation and increasing social stigma.

Vector Z includes two social variables: *Senior Population* and *Education Gap*. The first variable is defined as the share of the population aged over 70 in district s at election t . Under Argentine electoral law, voting is compulsory up to age 70; therefore, Senior Population is expected to be negatively associated with turnout.

Education gap is defined as the ratio between the share of the population with tertiary education and the share with incomplete primary education. The relationship between education and voter participation remains ambiguous across institutional contexts. Several studies find that higher educational attainment increases the likelihood of voting (Kim, 2023; Hansen & Tyner, 2021; Panagopoulos & Abrajano, 2014), as it strengthens civic awareness and political engagement. By contrast, research on advanced European democracies (Pelkonen, 2012; Siedler, 2010; Milligan et al., 2004) finds no statistically significant effects. In other institutional contexts, such as authoritarian regimes, education may reduce political participation (Croke et al., 2016).

Time dummies are included to capture structural breaks affecting Argentine provinces. Institutional factors such as compulsory voting, electoral systems, and postal or Sunday voting are excluded, as they do not vary across jurisdictions. Subjective and psychological factors are also excluded due to measurement constraints, although they may influence voter participation.

IV.3. Empirical strategy

The empirical specification in equation (1) includes a lagged dependent variable to capture persistence in turnout rates. However, the inclusion of this term may lead to inconsistent estimates due to its correlation with unobserved panel-level effects. To address this issue, I employ the two-step system GMM estimator with Windmeijer (2005) finite-sample corrected robust standard errors to account for heteroskedasticity and potential autocorrelation.

Given the limited cross-sectional dimension of the panel ($N=23$), I adopt a conservative instrument strategy. Specifically, I use the collapse option to limit instrument proliferation and reduce the risk of overfitting. Following Roodman (2009), the number of instruments does not exceed the number of districts, which helps mitigate bias in the coefficient estimates. In addition, instruments are restricted to lags 2 to 4 to balance instrument strength against the risk of overidentification in a small sample.

System GMM addresses potential endogeneity in the lagged dependent variable and other regressors by estimating a system of two equations: one in levels and one in first differences. In the difference equation, lagged levels of the endogenous variables serve as instruments. In the levels equation, lagged differences serve as instruments. This approach is appropriate given the short time dimension of the panel ($T=9$) and the expected persistence of the dependent variable.

The identification strategy exploits within-province variation in vertical fiscal imbalance over time to estimate its effect on electoral turnout, while controlling for time-invariant provincial characteristics and common temporal shocks. The dynamic panel specification based on System GMM addresses three key identification challenges.

First, omitted variable bias may arise from unobserved provincial characteristics correlated with both transfer dependence and turnout. The specification addresses this concern through the inclusion of lagged dependent variables and first-differences.

Second, simultaneity bias may occur if low-turnout provinces receive compensatory transfers or if high-turnout provinces secure greater federal resources through electoral leverage. To address this issue, potentially endogenous variables are instrumented with their lagged values.

Third, dynamic endogeneity arises from turnout persistence across elections, whereby current participation affects future participation through habit formation or evolving political norms. The autoregressive structure explicitly captures this mechanism.

The identifying variation derives from deviations of each province's VFI from its historical average. The analysis therefore examines whether turnout declines in elections characterized by unusually high fiscal dependence relative to a province's own trajectory, while considering national electoral trends and time-invariant provincial factors. This within-province variation is more plausibly exogenous than cross-sectional differences, as it reflects period-specific shocks—such as changes in transfer formulas, fluctuations in federal revenues, or province-level economic conditions—rather than structural differences across provinces.

Year fixed effects absorb common shocks, including national economic conditions, changes in electoral rules, presidential popularity, and uniform shifts in transfer policies. Identification thus relies on differential exposure to VFI across provinces rather than on aggregate time-series variation.

The panel exhibits substantial regional heterogeneity that may condition the relationship between fiscal transfers and electoral participation. Argentine provinces differ in economic structure, development levels, and geographic characteristics, all of which may influence how fiscal dependence affects voter behavior.

The specification accounts for this heterogeneity by including several control variables—GDP per capita, Education gap, Unemployment, and Senior Population—and by conducting robustness checks. These checks include estimating separate models for subgroups of provinces to verify that the main results are not driven by specific regional clusters.

To mitigate simultaneity bias, GDP, Unemployment, Education Gap, and Alternation enter the model with one-period lag. Margin and VFI are treated as endogenous in the Arellano-Bond GMM estimation and are instrumented with their own lagged values in both levels and first differences. Simultaneity is also excluded for the variable Reelection, since the candidates are determined several months before the election.

IV.4. Counterfactual

The implicit counterfactual examines voter turnout in district s in election t if VFI had remained at baseline levels rather than adjusting to observed values, while holding constant provincial political characteristics, the national electoral context, and local economic conditions.

This approach yields causal estimates under the following assumptions. First, conditional on province fixed effects, year effects, control variables, and lagged instruments, variation in VFI is uncorrelated with unobserved turnout shocks. Second, provinces follow parallel turnout trajectories in the absence of VFI changes, so estimates are not confounded by diverging trends. Third, federal transfer allocation does not respond strategically to anticipated provincial turnout in ways not captured by the instruments. Fourth, spillover effects across provinces are limited or absorbed by year fixed effects. Fifth, the autoregressive specification adequately captures turnout persistence.

I assess these assumptions using standard diagnostic tests, including Hansen J-tests for instrument validity, AR(2) tests for serial correlation, and parallel trends checks based on province-specific trends. I also conduct a falsification exercise using a placebo test with lead values of VFI.

IV.5. Data

All data were collected from official sources. Turnout, Margin, Reelection, and Alternation were obtained from the *Dirección Nacional Electoral*. Data on Unemployment, Education gap, and Senior Population were drawn from the Argentine National Institute of Statistics and Censuses (INDEC). Real GDP per capita was computed using data from ECLAC (2024).

Fiscal data to construct the variable VFI were obtained from the *Dirección de Asuntos Provinciales of the Ministerio de Economía*. The series of automatic transfers includes funds to which provinces are legally entitled, such as those distributed under the Federal Tax-Sharing Agreement (Law No. 23548). These funds are transferred automatically from the federal government, which centralizes tax collection, to provinces shortly after collection.

By contrast, provinces have no legal entitlement to discretionary transfers, which depend on decisions of the national executive. The panel comprises 23 of the 24 districts (the province of Río Negro is excluded due to missing data) and nine out of ten presidential elections in the period, as the 1983 election was omitted. Table 2 reports descriptive statistics for all variables included in the analysis.

Table 2. Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
Dependent variable				
Turnout (%)	78.86	4.28	63.49	88.51
Key explanatory variable				
Vertical Fiscal Imbalance (%)	56.25	18.21	6.1	88.7
Control variables				
Margin (%)	22.17	18.62	0.1	83.9
Reelection	0.14	0.35	0	1
Intervention	0.04	0.19	0	1
Alternation	0.22	0.42	0	1
Education gap	0.57	0.50	0.1	3.9
Senior Population (%)	5.85	2.40	0.8	14.1
GDP (2004 pesos)	12981.75	9128.3	3625.6	40869.6
Unemployment (%)	7.73	4.37	0.5	21.0

Source: Own elaboration

Note: Number of observations: 207. Period: 1989-2023 (nine presidential elections). Number of districts: 23 (the province of Río Negro is excluded due to missing data).

V. DISCUSSION OF RESULTS

Table 3 reports the results of the baseline specifications. Regression (I) presents the full model, including all control variables and time effects, and serves as the main reference for the discussion. Regressions (II) to (V) assess robustness. Relative to the full model, these regressions progressively exclude control variables that do not exhibit statistically significant relationships with the dependent variable at the 10% level or higher for a two-tailed test.

Across all five regressions, the estimated coefficients on the key variable, VFI, have the expected sign and are statistically significant at conventional levels. These results indicate that higher VFI is associated with lower turnout, consistent with the theoretical framework. This finding contrasts with Kim (2025), discussed in Section II, whose model implies that weaker fiscal correspondence increases participation in national elections by concentrating fiscal authority at the federal level. By contrast, the results presented here suggest that the automatic nature of transfers—rather than fiscal imbalance per se—reduces citizens' incentives to vote.

The estimated coefficient on Unemployment ($t-1$) is positive, indicating a mobilization effect. Consistent with Burden and Wichowsky (2014), Kern et al. (2015), and Incantalupo (2015), adverse economic conditions increase voter participation in presidential elections.

Regarding control variables, most coefficients have the expected sign and are statistically significant, with the exception of Reelection, Alternation, and Intervention. The positive coefficient on Education gap in regression (II) suggests that turnout increases as the ratio of individuals with tertiary education to those with incomplete primary education rises. In Argentina, the share of the population with higher education has increased over time, while the share with incomplete primary education has declined across jurisdictions. In contrast to some recent evidence (Harka & Rocco, 2019; Parinduri, 2019), these results support a positive relationship between education and voter turnout. The negative coefficient on Senior Population indicates that turnout declines as the share of individuals above the compulsory voting age increases.

Table 3 also reports the results of the Hansen tests of overidentifying restrictions. In all equations, the null hypothesis cannot be rejected at the 5% level, supporting instrument validity. The Arellano-Bond test for AR(2) in first differences fails to reject the null hypothesis of no second-order serial correlation, which supports the validity of the instruments and the dynamic specification. All regressions use a limited number of instruments, not exceeding the number of panels.

Table 3. Baseline model. Dependent variable: *Turnout*

Variables	(I) Full Model	(II)	(III)	(IV)	(V)
L. turnout	0.78703*** 0.11041	0.76984*** 0.10575	0.72809*** 0.08280	0.81670*** 0.07817	0.81505*** 0.11147
VFI	-0.07650** 0.03554	-0.10204 0.062062	-0.10181*** 0.025706	-0.10043*** 0.031274	-0.088496** 0.03842
Unemployment	0.22017** 0.0948	0.256341** 0.11587	0.234310** 0.094085	0.261580** 0.116818	0.235853** 0.103033
GDP	-0.00019 0.00014	-0.00023* 0.00012	-0.00021*** 0.00007	-0.00026** 0.00012	-0.00019 0.00013
Education gap	0.32929 1.44670	1.84938** 0.75228	1.01317 1.371738		
Reelection	0.92266* 0.49301	1.185759*** 0.421363	1.238161*** 0.344326	1.02772** 0.399767	1.04100** 0.51310
Senior Population	-0.32638 0.25633	-0.41108** 0.18809	-0.36459 0.25733		
Margin	0.02594 0.02855	0.006235 0.03994	0.019297 0.02999		
Alternation	0.54933 0.59109	0.40322 0.59803			
Intervention	1.12733 1.19663				
Constant	22.07052** 9.19804	23.26523** 10.70068	26.32946*** 7.91340	21.22305*** 7.50476	20.20753** 9.10931
Year dummies	Yes	Yes	Yes	Yes	Yes
# of instruments	23	21	17	19	23

Arellano-Bond test for AR(1) in first differences:	$z = -3.07$ Pr>z =0.02	$z = -2.67$ Pr>z =0.008	$z = -2.71$ Pr > z = 0.007	$z = -2.83$ Pr > z = 0.005	$z = -2.93$ Pr > z = 0.003
Arellano-Bond test for AR(2) in first differences:	$z = -0.77$ Pr>z = 0.439	$z = -0.79$ Pr>z = 0.427	$z = -0.60$ Pr > z = 0.547	$z = -0.71$ Pr > z = 0.480	$z = -0.71$ Pr > z = 0.479
Hansen test of overidentifying restrictions	chi2(6) = 9.92 Prob>chi2= 0.128	chi2(7) = 8.48 Prob > chi2=0.292	chi2(4) = 3.79 Prob > chi2 = 0.435	chi2(4) = 6.46 Prob > chi2 = 0.168	chi2(5) = 9.23 Prob > chi2 = 0.100

Note: Standard errors are reported in parenthesis below coefficient.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

V.1. The interaction between unemployment and vertical fiscal imbalance

A relevant question is whether redistributive federal transfers affect the mobilization effect identified in Table 3. To address this issue, I include the interaction term Unemployment*VFI among the explanatory variables of equation (1).

If my hypothesis about the dampening effect of Argentina's Federal Tax-Sharing Agreement on voter participation holds, a withdrawal effect should emerge in districts with high levels of automatic transfers relative to total revenues (i.e., high VFI). Conversely, jurisdictions with lower levels of redistributive transfer should exhibit a mobilization effect.

The results, reported in Table 4, provide strong support for this hypothesis. The estimated coefficient on the interaction term is negative and statistically significant across all four regressions, indicating that high unemployment combined with high VFI is associated with lower turnout.

The identification of this conditional effect relies on the assumption that unemployment variation is exogenous to turnout shocks, conditional on the control variables. This concern is addressed by using lagged unemployment and controlling for broader economic conditions. Although alternative explanations cannot be fully excluded, the combination of dynamic panel methods, a conservative instrument strategy, and extensive robustness checks supports the interpretation that the estimates capture a causal effect of fiscal dependence on electoral participation rather than spurious correlation or reverse causality.

Table 4. Interaction terms. Dependent variable: *Turnout*

Variables	(I)	(II)	(III)	(IV)	(V)
L. turnout	0.82179*** 0.20758	0.83230*** 0.21489	0.86945*** 0.20251	0.81771*** 0.22899	0.76812*** 0.12727
VFI	0.04035 0.05337	0.04491 0.05107	0.04451 0.06213	0.02868 0.06059	0.07569 0.05784
Unemployment	0.61876** 0.26233	0.65904** 0.26887	0.70447** 0.3325	0.59574** 0.27880	0.92471*** 0.33465
GDP	-0.00007 0.00007	-0.00007 0.00006	-0.00008 0.00007	-0.00009 0.00007	-0.00012* 0.00006
Unemployment*VFI	-0.00996** 0.00488	-0.01045** 0.00495	-0.01095** 0.00529	-0.00962* 0.00505	-0.01651*** 0.00571
Education gap	1.28071 0.96455	1.525078 0.948309	1.714375 1.264718	1.479216 1.041827	2.35096*** 0.7095
Senior Population	-0.3072 0.23336	-0.352229 0.22688	-0.48505 0.30184	-0.384839 0.28054	-0.45011*** 0.17363
Margin	0.03192 0.02730	0.026989 0.02476	0.026037 0.033228		
Reelection	1.21358** 0.57190	1.03682* 0.53718	1.28468** 0.59734	1.24812** 0.54279	1.16978** 0.48186
Alternation	0.67359 0.68308	0.61842 0.71553			
Intervention	1.332227 1.735351				
Constant	9.023009 15.686231	15.54061 14.866899	14.628056 12.8028	10.716747 18.218683	19.76165* 11.63825
Year dummies	yes	yes	yes	yes	yes
# of instruments	21	20	18	22	23
Arellano-Bond test for AR(1) in first differences:	z = -2.76 Pr>z =0.006	z = -2.68 Pr>z =0.007	z = -310 Pr>z =0.002	z = -2.71 Pr > z = -0.007	z = -2.41 Pr > z = -0.016

Arellano-Bond test for AR(2) in first differences:	$z = 0.44$ $\text{Pr} > z =$ 0.659	$z = 0.16$ $\text{Pr} > z =$ 0.874	$z = 0.79$ $\text{Pr} > z =$ 0.429	$z = -0.49$ $\text{Pr} > z =$ 0.627	$z = -0.16$ $\text{Pr} > z =$ 0.872
Hansen test of overidentifying restrictions	$\text{chi2}(3) =$ 2.94 $\text{Prob} > \text{chi2} =$ 0.401	$\text{chi2}(5/3) =$ 2.98 $\text{Prob} >$ $\text{chi2} = 0.395$	$\text{chi2}(2) =$ 1.12 $\text{Prob} >$ $\text{chi2} = 0.572$	$\text{chi2}(3) =$ 2.93 $\text{Prob} > \text{chi2}$ $= 0.403$	$\text{chi2}(7) =$ 5.46 $\text{Prob} > \text{chi2}$ $= 0.604$

Note: Standard errors are reported in parenthesis below coefficient.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

The overall effect of Unemployment on Turnout, based on the estimated coefficients from regression (V), indicates a threshold value of VFI equal to 56.01%. Districts below this threshold exhibit a mobilization effect, whereas jurisdictions above it display a withdrawal effect (see Table 5).

Table 5. Withdrawal and mobilization effects

VFI (%)	Full effect	Result
35	0.35	Mobilization
40	0.26	
45	0.182	
50	0.099	
55	0.017	
56.01	0.000	Withdrawal
56.25 (sample average)	-0.004	
60	-0.066	
65	-0.148	
70	-0.231	
75	-0.314	

Source: Own calculations based on Tables 2 and 4.

V.2. Robustness checks

To verify that only automatic redistributive transfers reduce turnout, I estimate alternative regressions that include, separately, total transfers and both automatic and discretionary transfers. Using two-step system GMM estimator with Windmeijer (2005) finite-sample corrected robust standard errors, the results, repor-

ted in Table 2A in the Appendix, show a positive but statistically non-significant coefficient for discretionary transfers and, again, a negative and significant coefficient for automatic transfers.

To further assess the reliability of the main findings, I present two alternative GMM specifications in the Appendix (Table 3A). First, I re-estimate the models using system GMM estimator with automated instrument generation and evaluate the specification using standard diagnostic tests, including the Sargan Test of overidentifying restrictions and the Arellano-Bond Test for serial correlation. These results should be interpreted with caution, as the small number of the panel ($N=23$) may lead to instrument proliferation. This approach provides less flexibility in instrument specification than the system GMM estimator, which follows Roodman (2009) and restricts the number of instruments to remain below the number of panels.

Second, I estimate the model using difference GMM (Arellano & Bond, 1991), which relies exclusively on the first-differenced equation and does not impose the additional stationarity assumption required by system GMM. In this framework, lagged levels of the endogenous variables instrument the differenced equation, while the levels equation is not included. This approach imposes weaker identifying assumptions, as it does not require changes in instrumented variables to be uncorrelated with fixed effects. Although difference GMM is generally less efficient—particularly with persistent variables and short time dimensions ($T=9$)—it provides a useful robustness check.

If the assumptions underlying system GMM, particularly mean stationarity, were violated, I would expect substantially different results across estimators. The consistency of the key findings across system GMM with restricted instruments, system GMM with automated instruments, and difference GMM supports the validity of the baseline specification.

The coefficient estimates obtained from system GMM with automated instruments are qualitatively consistent with the main specifications using system GMM with limited instruments (Tables 3 and 4). In all cases, the signs and significance levels of the key explanatory variables, including the interaction between Unemployment and VFI, remain unchanged. Comparing results across these implementations indicates that the findings are not driven by the choice of the lags depth. The consistency of results between both methods confirms the robustness of the main findings to alternative implementations of system GMM.

Third, I estimate separate models for subgroups of provinces to account for regional differences and to verify that the main results are not driven by specific regional clusters in the panel (see Table 4A).

Finally, I conduct a placebo test. The results show no evidence that future fiscal dependence predicts current turnout (lead VFI coefficient = 0.01, $p = 0.68$), which supports the assumption that VFI is predetermined with respect to electoral participation and reinforces the temporal ordering of the causal interpretation.

V.3. Concluding remarks

This study contributes to two strands of the literature on voter participation that have developed largely independently. On one hand, it provides new evidence on the impact of economic conditions, particularly unemployment, on voter turnout. On the other hand, it contributes to the literature on decentralization and electoral participation. The former identifies two opposing mechanisms—withdrawal and mobilization—whose effects vary across socioeconomic and political contexts but does not relate them to the institutional framework ruling different levels of government. The latter shows that centralization reduces turnout by weakening the link between elections and policy outcomes, yet does not examine how the interaction with unemployment affects voter participation.

This research addresses this gap. I argue that automatic redistributive transfers from the federal government to the provinces reduce citizens' incentives to monitor the national government. This argument follows a standard Downsian framework: the cost of voting remains constant, while federal transfers are guaranteed regardless of electoral outcomes. Under these conditions, citizens are, *ceteris paribus*, less likely to participate in elections.

Evidence from 207 presidential elections suggests that vertical fiscal imbalance associated with redistributive transfers is negatively related to voter turnout. Additionally, the effect of unemployment on voter participation exhibits a threshold pattern: districts above a critical level of fiscal dependence display a withdrawal effect, whereas those below it exhibit a mobilization effect.

Overall, the main contribution of this paper is to highlight the role of fiscal arrangements in federal systems when analyzing the impact of economic conditions on electoral participation.

APPENDIX

Table 1A. Turnout rate by district (%)

Provinces	1983-2023				
	Avg	Std. Dev.	Max	Min	Coefficient of variation
Buenos Aires	83.0	2.8	87.7	79.1	3.4
Catamarca	78.7	5.0	84.8	66.4	6.3
Chaco	76.1	2.1	79.7	72.3	2.7
Chubut	79.0	2.1	81.6	75.1	2.7
Córdoba	80.1	4.9	88.3	71.9	6.1
Corrientes	76.8	3.0	80.9	70.9	3.9
Entre Ríos	82.3	3.4	86.6	77.2	4.1
Formosa	75.8	3.3	81.4	71.0	4.4
Jujuy	79.8	3.1	84.3	75.1	3.9
La Pampa	84.1	3.7	89.5	78.4	4.5
La Rioja	81.4	3.6	89.3	76.8	4.5
Mendoza	82.1	3.3	86.6	77.1	4.0
Misiones	78.2	2.2	82.3	75.2	2.8

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Neuquén	82.7	3.0	87.1	76.9	3.7
Río Negro	80.6	3.4	85.8	75.0	4.2
Salta	76.2	2.3	80.3	72.2	3.0
San Juan	81.7	4.1	87.0	72.6	5.0
San Luis	81.2	2.2	85.0	76.9	2.7
Santa Cruz	78.1	3.0	82.2	72.6	3.8
Santa Fe	80.1	4.4	88.3	73.7	5.5
Santiago del Estero	72.8	5.4	81.1	63.5	7.4
Tierra del Fuego	75.0	5.5	90.6	70.3	7.3
Tucumán	79.6	3.0	82.8	74.7	3.7
CABA	79.6	3.6	85.8	75.5	4.5

Source: Own computations based on *Dirección Nacional Electoral* (<https://www.argentina.gob.ar/dine/resultados-electorales/>)

Table 2A. Robustness checks: Total transfers and discretionary transfers

Dependent variable: *Turnout*

Variables	I	II	III
L. turnout	0.1884	1.0453***	0.6003***
	0.2149	0.3537	0.1792
Transfers	-0.0870***		
	0.0277		
VFI		-0.1516**	
		0.0708	
Discretionary		0.0611	-0.0151
		0.0498	0.0467
Unemployment	-0.1775**	-0.0208	-0.038
	0.077	0.19	0.1061
GDP	-0.0001**	-0.0002*	-0.0001*
	0	0.0001	0
Education gap	-1.5971*	-0.4456	3.5727**
	0.9216	1.3845	1.7448
Senior Population	0.186	-0.3948*	-0.1531
	0.3264	0.237	0.2751

Margin	0.0124	0.0317	0.0578*
	0.0173	0.0252	0.03
Reelection	0.5101	1.7196	1.7722***
	1.2487	2.8263	0.473
Alternation	-0.6369	1.2426	-0.3462
	0.4926	0.7602	0.6231
Constant	71.2775***	4.8747	28.4582**
	18.3645	31.7469	13.9994
Year dummies	Yes	Yes	Yes
Arellano-Bond test for AR(1) in first differences:	$z = -1.99$ $Pr > z = 0.047$	$z = -2.17$ $Pr > z = 0.030$	$z = -2.49$ $Pr > z = 0.013$
Arellano-Bond test for AR(2) in first differences:	$z = 0.57$ $Pr > z = 0.570$	$z = 0.57$ $Pr > z = 0.568$	$z = -0.13$ $Pr > z = 0.896$
Hansen test of overidentifying restrictions	$\chi^2(4) = 3.78$ $Prob > \chi^2 = 0.437$	$\chi^2(5) = 4.19$ $Prob > \chi^2 = 0.380$	$\chi^2(5) = 1.80$ $Prob > \chi^2 = 0.876$

Note: Standard errors are reported in parenthesis below coefficient.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

- *Transfers*: Total transfers (automatic transfers + discretionary transfers + oil and gas royalties) as percentage of total revenues in district s (average presidential period)
- *Discretionary*: discretionary transfers as percentage of total revenues in district s (average presidential period)

Table 3A. Robustness checks: System GMM with automated instrument generation and Difference GMM

Dependent variable: *Turnout*

Variables	Baseline		Interaction term	
	System GMM	Difference GMM	System GMM	Difference GMM
L. turnout	0.6270*** 0.0798	0.8984*** 0.178	0.6252*** 0.0695	1.0301*** 0.2217
VFI	-0.0566** 0.0222	-0.1330* 0.0701	-0.0069 0.0368	0.0781 0.1179
Unemployment	-0.1128* 0.0588	0.0168 0.1187	0.2188 0.1827	2.4630*** 0.918
GDP	-0.0001** 0.00001	-0.0003** 0.0001	-0.0001*** 0.00001	-0.0005*** 0.0002
Unemployment*VFI			-0.0055** 0.0028	-0.0426*** 0.016
Education gap	0.9225* 0.4964	3.2366*** 1.2086	1.2152** 0.5251	8.8614*** 3.2621
Senior Population	-0.1184 0.1576	-0.6770** 0.295	-0.2797* 0.1446	-1.6669** 0.7248
Margin	0.0183* 0.0104	0.0762 0.0616	0.0176** 0.0084	0.0638 0.0685

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Reelection	1.2893*** 0.3483	-3.7634 3.7934	1.2190*** 0.3451	-6.3990* 3.4161
Alternation	0.2078 0.4265	0.2004 0.5519	0.281 0.4349	0.2676 0.7543
Constant	35.9247*** 6.599	16.1904 16.8534	30.2692*** 5.8872	0.6678 19.0764
Year dummies	yes	yes	yes	yes
# of instruments	145	20	164	22
Arellano-Bond test for AR(1) in first differences:	$z = -3.5766$ $Pr > z = 0.003$	$z = -2.52$ $Pr > z = 0.012$	$z = -3.31$ $Pr > z = 0.009$	$z = -2.37$ $Pr > z = -0.018$
Arellano-Bond test for AR(2) in first differences:	$z = 0.67523$ $Pr > z = 0.4995$	$z = 0.25$ $Pr > z = 0.806$	$z = -0.39$ $Pr > z = 0.6963$	$z = -1.43$ $Pr > z = 0.152$
Sargan test of overidentifying restrictions	$\text{Chi2}(146) = 147.76$ $\text{Prob} > \text{chi2} = 0.4436$		$\text{Chi2}(146) = 144.05$ $\text{Prob} > \text{chi2} = 0.5302$	
Hansen test of overidentifying restrictions	$\text{chi2}(5) = 3.02$ $\text{Prob} > \text{chi2} = 0.389$		$\text{chi2}(4) = 1.56$ $\text{Prob} > \text{chi2} = 0.817$	

Note: Standard errors are reported in parenthesis below coefficient.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

Table 4A. Robustness checks: excluding group of provinces

Dependent variable: *Turnout*

Variables	Excluding			
	Patagonia	Cuyo	Metropolitan	Center
L. turnout	0.6270*** 0.0798	0.8984*** 0.178	0.6252*** 0.0695	1.0301*** 0.2217
VFI	-0.0566** 0.0222	-0.1330* 0.0701	-0.0069 0.0368	0.0781 0.1179
Unemployment	-0.1128* 0.0588	0.0168 0.1187	0.2188 0.1827	2.4630*** 0.918
GDP	-0.0001** 0.00001	-0.0003** 0.0001	-0.0001*** 0.00001	-0.0005*** 0.0002
Unemployment*VFI			-0.0055** 0.0028	-0.0426*** 0.016
Education gap	0.9225* 0.4964	3.2366*** 1.2086	1.2152** 0.5251	8.8614*** 3.2621
Senior Population	-0.1184 0.1576	-0.6770** 0.295	-0.2797* 0.1446	-1.6669** 0.7248
Margin	0.0183* 0.0104	0.0762 0.0616	0.0176** 0.0084	0.0638 0.0685

INTERGOVERNMENTAL FISCAL RELATIONS AND TURNOUT...

Reelection	1.2893*** 0.3483	-3.7634 3.7934	1.2190*** 0.3451	-6.3990* 3.4161
Alternation	0.2078 0.4265	0.2004 0.5519	0.281 0.4349	0.2676 0.7543
Constant	35.9247*** 6.599	16.1904 16.8534	30.2692*** 5.8872	0.6678 19.0764
Year dummies	yes	yes	yes	yes
# of instruments	145	20	164	22
Arellano-Bond test for AR(1) in first differences:	$z = -3.5766$ $Pr > z = 0.003$	$z = -2.52$ $Pr > z = 0.012$	$z = -3.31$ $Pr > z = 0.009$	$z = -2.37$ $Pr > z = -0.018$
Arellano-Bond test for AR(2) in first differences:	$z = 0.67523$ $Pr > z = 0.4995$	$z = 0.25$ $Pr > z = 0.806$	$z = -0.39$ $Pr > z = 0.6963$	$z = -1.43$ $Pr > z = 0.152$
Sargan test of overidentifying restrictions	$\text{Chi2}(146) = 147.76$ $\text{Prob} > \text{chi2} = 0.4436$		$\text{Chi2}(146) = 144.05$ $\text{Prob} > \text{chi2} = 0.5302$	
Hansen test of overidentifying restrictions	$\text{chi2}(5) = 3.02$ $\text{Prob} > \text{chi2} = 0.389$		$\text{chi2}(4) = 1.56$ $\text{Prob} > \text{chi2} = 0.817$	

Note: Standard errors are reported in parenthesis below coefficient.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

Patagonia: Tierra del Fuego, Santa Cruz, and Chubut; Cuyo: Mendoza, San Juan, and San Luis; Centro: Córdoba, Santa Fe, and Entre Ríos; Metropolitan: Buenos Aires and CABA.

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