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REPRESENTATION AND REGIONAL REDISTRIBUTION IN FEDERATIONS

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Fiscal Federalism

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ABSTRACT: This paper examines the role of institutions of territorial representation in shaping long-term patterns of inter-regional redistribution within federations. A simple legislative bargaining model with endogenous taxation suggests that over-represented states should be favored in the distribution of inter-governmental grants regardless of their income level. We demonstrate that a striking relationship between legislative representation and grants holds up in a diverse group of federations from around the world. The relationship appears not to be an artifact of economic development, population size, population density, or the historical conditions under which the federal bargain was struck. Furthermore, we suggest that the attractiveness of poor states as coalition partners implies that intergovernmental transfer systems will often tend toward progressivity under equal apportionment, but the systematic over-representation of wealthy (or poor) states can undermine (or bolster) this logic.

JEL Codes: D72, D78, H77

Keywords: Redistribution, federalism, intergovernmental transfers, malapportionment.

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1 Introduction

One of the defining features of federalism is that national policy changes require some form of bargaining among representatives of states or provinces. In fact, the basic structure of many federations can be traced to a bargain, or a set of bargains, between previously autonomous entities. These entities are often quite asymmetric in size and income, and the original federal bargain often endowed some units with much greater legislative representation than others, generally in an upper chamber based on territorial rather than population-based representation.

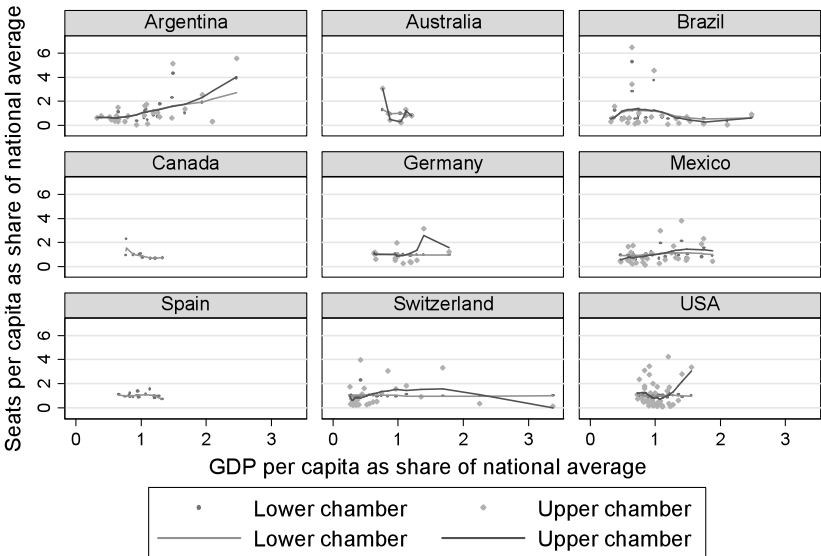
Decades or even hundreds of years later, these highly asymmetric representation structures survive in federations. A relatively large empirical literature asks a rather natural question: Do these institutions matter? In particular, do over-represented regions receive larger per-capita shares of central government expenditures?

Single-country studies, mostly focusing on the United States, have uncovered a positive correlation between representation and expenditures, but there are good reasons to be concerned about the causal mechanism since within any country, given the nature of the initial constitutional bargain, legislative representation is likely correlated with some other factors— for example a small and sparse population and an agricultural economy— that affect central government expenditures through mechanisms having nothing to do with representation. More recently, a handful of case studies have employed stronger identification strategies and found evidence in favor of an exogenous impact of representation on budgetary outcomes, but given their narrow scope and focus on individual countries, it is difficult to draw general conclusions from these studies about the importance of representation.

Moreover, while it seems intuitive that regions with more votes might walk away from the legislature with more money, the theoretical motivation for existing empirical studies is surprisingly weak. Most studies cite the seminal contribution of Baron and Ferejohn (1989), although this model is ambiguous about the impact of representation on budgetary outcomes.

This paper makes two primary contributions. First, it presents a simple legislative bargaining model in which representatives of regions must form winning legislative coalitions in order to enact redistributive tax-transfer schemes. In this model, provinces proposing changes from the status quo must offer both a uniform national tax rate on income and an inter-regional distribution of lump-sum grants. The analysis shows that an increase in representation for a region leads to a higher payoff regardless of whether it is rich or poor. An increase in representation has two effects: it increases a region's proposal power, and it makes a region a more attractive coalitional partner for other proposers. Both of these effects work unambiguously in the same direction.

Figure 2: Income and Legislative Representation



Graphs by country

Table 3: Multilevel Estimation for Intrastate Legislative Bargaining

Dependent Variable: Grants Share/Capita				
	(1)	(2)	(3)	(4)
Seat Share/Capita	0.78 (0.03)	0.74 (0.04)	0.33 (0.02)	0.35 (0.02)
Lag Grants Share/Capita	- -	- -	0.53 (0.01)	0.54 (0.01)
Population Share	- -	-0.06 (0.03)	-0.005 (0.01)	-0.002 (0.03)
Income Share	- -	0.09 (0.03)	-0.001 (0.02)	0.001 (0.02)
Log(Relative State Size)	- -	0.1 (0.03)	0.04 (0.01)	0.06 (0.03)
Capital State	- -	0.63 (0.21)	0.31 (0.10)	0.35 (0.14)
+ country fixed effects				
+ years fixed effects				
Constant	0.23 (0.12)	0.55 (0.16)	0.25 (0.20)	-0.03 (0.30)
Log-likelihood	-227	-100	394	-950
N	3667	3465	3264	3264

Table 4: Multilevel Estimation for Intrastate Legislative Bargaining

Dependent Variable: Grants Share/Capita					
	(1)	(2)	(3)	(4)	(5)
Seat Share/Capita	0.33 (0.02)	0.74 (0.04)	0.33 (0.02)	0.35 (0.02)	0.29 (0.08)
Lag Grants Share/Capita	0.53 (0.01)	- -	0.54 (0.01)	0.55 (0.01)	0.54 (0.01)
Population Share	-0.005 (0.01)	-0.06 (0.03)	-0.005 (0.01)	-0.001 (0.02)	-0.005 (0.01)
Income Share	-0.001 (0.03)	0.09 (0.03)	-0.0004 (0.02)	0.001 (0.02)	-0.001 (0.02)
Log(Relative State Size)	0.04 (0.01)	0.10 (0.03)	0.04 (0.01)	0.05 (0.027)	0.04 (0.01)
Capital State	0.31 (0.10)	0.61 (0.21)	0.30 (0.10)	0.33 (0.14)	0.30 (0.10)
Presidential System	- -	-0.01 (0.12)	-0.01 (0.05)	-0.004 (0.09)	-0.05 (0.10)
Number of States	- -	0.003 (0.005)	0.001 (0.002)	0.02 (0.05)	0.001 (0.002)
Log(Democracy Age)	- -	-0.06 (1.12)	-0.02 (0.51)	0.005 (0.03)	-0.01 (0.5)
Presidential System*Seat Share/Capita	- -	- -	- -	- -	0.05 (0.08)
+ years fixed effects					
Constant	0.25 (0.12)	0.97 (8.51)	0.37 (3.88)	-0.01 (0.30)	0.39 (3.90)
Log-likelihood	394	-96	402	-945	401
N	3264	3264	3264	3264	3264

Table 5: Estimation for Cross-Sectional Intrastate Legislative Bargaining

Dependent Variable: Grants Share/Capita			
	(1)	(2)	(3)
Seat Share/Capita	0.60 (0.05)	0.60 (0.05)	0.61 (0.05)
Population Share	0.02 (0.03)	0.03 (0.03)	0.03 (0.03)
Income Share	-0.004 (0.05)	-0.003 (0.05)	-0.009 (0.05)
Log(Relative State Size)	0.05 (0.02)	0.04 (0.02)	0.04 (0.02)
Capital State	0.35 (0.20)	0.33 (0.19)	0.34 (0.19)
Presidential System	- -	-0.11 (0.18)	-0.58 (0.22)
Number of States	- -	- -	0.02 (0.01)
Log(Democracy Age)	- -	0.77 (2.40)	4.02 (2.08)
Constant	0.25 (0.14)	-5.40 (18.16)	-30.22 (15.78)
N	209	209	209

Figure 3: Legislative Representation and Grants, 1990s

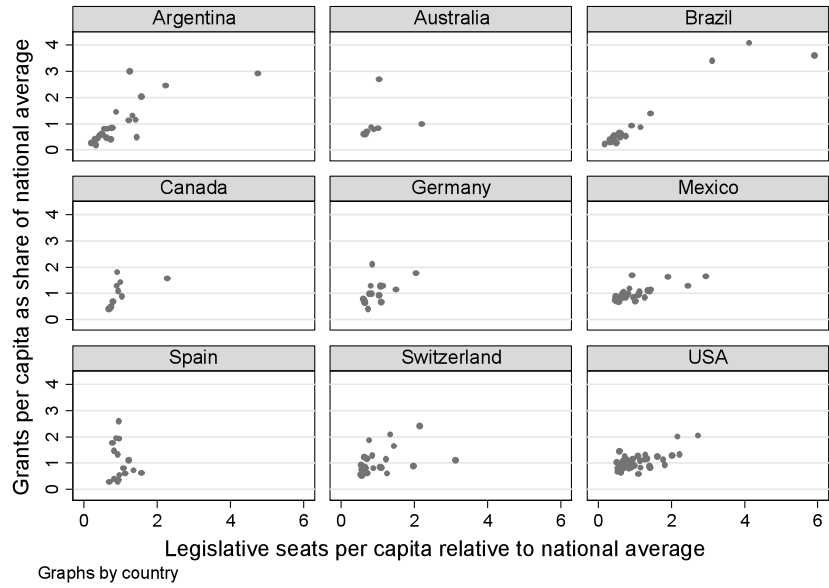


Figure 4: Income and Grants, 1990s

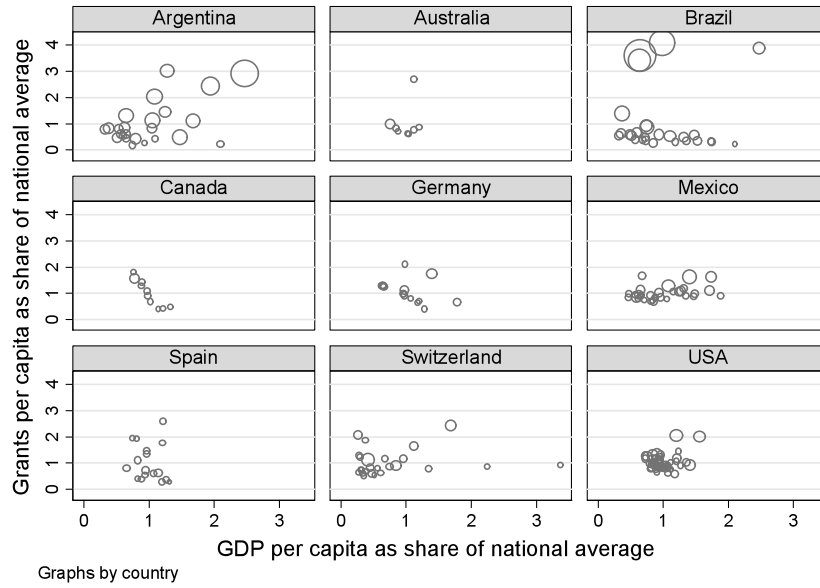


Figure 5: Income and Average Payoffs in 3 Simple Examples

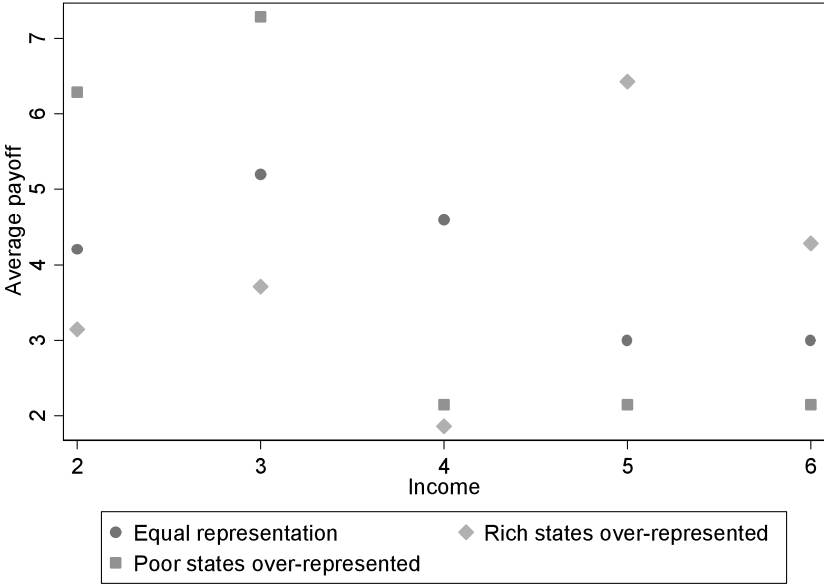
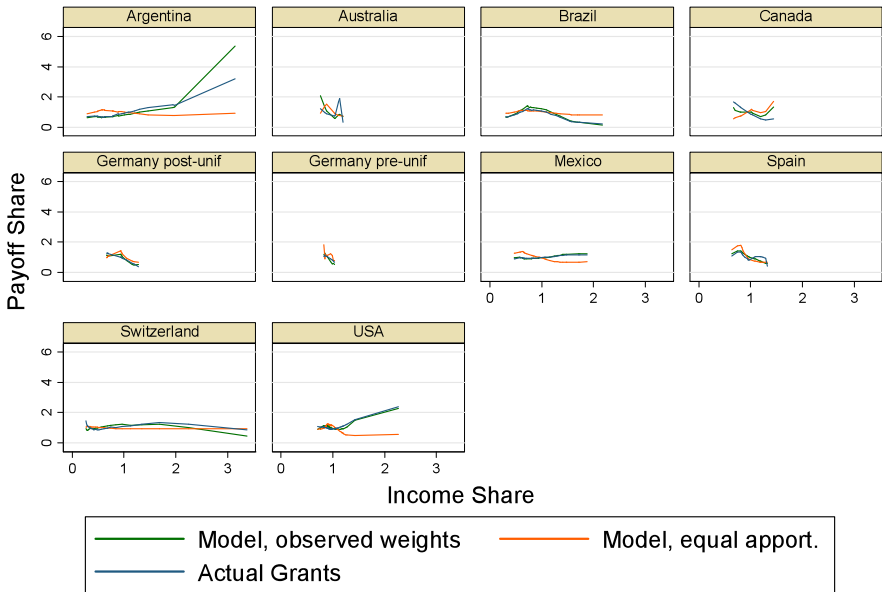


Figure 6: Income, Expected Payoffs, and Observed Grants



Graphs by country

2007

- 2007/1. Durán Cabré, J.M^a.; Esteller Moré, A.**: "An empirical analysis of wealth taxation: Equity vs. tax compliance"
- 2007/2. Jofre-Monseny, J.; Solé-Ollé, A.**: "Tax differentials and agglomeration economies in intraregional firm location"
- 2007/3. Duch, N.; Montolio, D.; Mediavilla, M.**: "Evaluating the impact of public subsidies on a firm's performance: A quasi experimental approach"
- 2007/4. Sánchez Hugalde, A.**: "Influencia de la inmigración en la elección escolar"
- 2007/5. Solé-Ollé, A.; Viladecans-Marsal, E.**: "Economic and political determinants of urban expansion: Exploring the local connection"
- 2007/6. Segarra-Blasco, A.; García-Quevedo, J.; Teruel-Carrizosa, M.**: "Barriers to innovation and public policy in Catalonia"
- 2007/7. Calero, J.; Escardíbul, J.O.**: "Evaluación de servicios educativos: El rendimiento en los centros públicos y privados medido en PISA-2003"
- 2007/8. Argilés, J.M.; Duch Brown, N.**: "A comparison of the economic and environmental performances of conventional and organic farming: Evidence from financial statement"

2008

- 2008/1. Castells, P.; Trillas, F.**: "Political parties and the economy: Macro convergence, micro partisanship?"
- 2008/2. Solé-Ollé, A.; Sorribas-Navarro, P.**: "Does partisan alignment affect the electoral reward of intergovernmental transfers?"
- 2008/3. Schelker, M.; Eichenberger, R.**: "Rethinking public auditing institutions: Empirical evidence from Swiss municipalities"
- 2008/4. Jofre-Monseny, J.; Solé-Ollé, A.**: "Which communities should be afraid of mobility? The effects of agglomeration economies on the sensitivity of firm location to local taxes"
- 2008/5. Duch-Brown, N.; García-Quevedo, J.; Montolio, D.**: "Assessing the assignation of public subsidies: do the experts choose the most efficient R&D projects?"
- 2008/6. Solé-Ollé, A.; Hortas Rico, M.**: "Does urban sprawl increase the costs of providing local public services? Evidence from Spanish municipalities"
- 2008/7. Sanromà, E.; Ramos, R.; Simón, H.**: "Portabilidad del capital humano y asimilación de los inmigrantes. Evidencia para España"
- 2008/8. Trillas, F.**: "Regulatory federalism in network industries"

2009

- 2009/1. Rork, J.C.; Wagner, G.A.**: "Reciprocity and competition: is there a connection?"
- 2009/2. Mork, E.; Sjögren, A.; Svaleryd, H.**: "Cheaper child care, more children"
- 2009/3. Rodden, J.**: "Federalism and inter-regional redistribution"
- 2009/4. Ruggeri, G.C.**: "Regional fiscal flows: measurement tools"
- 2009/5. Wrede, M.**: "Agglomeration, tax competition, and fiscal equalization"
- 2009/6. Jametti, M.; von Ungern-Sternberg, T.**: "Risk selection in natural disaster insurance"
- 2009/7. Solé-Ollé, A.; Sorribas-Navarro, P.**: "The dynamic adjustment of local government budgets: does Spain behave differently?"
- 2009/8. Sanromà, E.; Ramos, R.; Simón, H.**: "Immigration wages in the Spanish Labour Market: Does the origin of human capital matter?"
- 2009/9. Mohnen, P.; Lokshin, B.**: "What does it take for and R&D incentive policy to be effective?"
- 2009/10. Solé-Ollé, A.; Salinas, P.**: "Evaluating the effects of decentralization on educational outcomes in Spain?"
- 2009/11. Libman, A.; Feld, L.P.**: "Strategic Tax Collection and Fiscal Decentralization: The case of Russia"
- 2009/12. Falck, O.; Fritsch, M.; Heblich, S.**: "Bohemians, human capital, and regional economic growth"
- 2009/13. Barrio-Castro, T.; García-Quevedo, J.**: "The determinants of university patenting: do incentives matter?"
- 2009/14. Schmidheiny, K.; Brülhart, M.**: "On the equivalence of location choice models: conditional logit, nested logit and poisson"
- 2009/15. Itaya, J., Okamura, M., Yamaguchi, C.**: "Partial tax coordination in a repeated game setting"
- 2009/16. Ens, P.**: "Tax competition and equalization: the impact of voluntary cooperation on the efficiency goal"
- 2009/17. Geys, B.; Revelli, F.**: "Decentralization, competition and the local tax mix: evidence from Flanders"
- 2009/18. Konrad, K.; Kovenock, D.**: "Competition for fdi with vintage investment and agglomeration advantages"
- 2009/19. Loretz, S., Moorey, P.**: "Corporate tax competition between firms"

- 2009/20. Akai, N., Sato, M.: "Soft budgets and local borrowing regulation in a dynamic decentralized leadership model with saving and free mobility"
- 2009/21. Buzzacchi, L., Turati, G.: "Collective risks in local administrations: can a private insurer be better than a public mutual fund?"
- 2009/22. Jarkko, H.: "Voluntary pension savings: the effects of the finnish tax reform on savers' behaviour"
- 2009/23. Fehr, H.; Kindermann, F.: "Pension funding and individual accounts in economies with life-cyclers and myopes"
- 2009/24. Esteller-Moré, A.; Rizzo, L.: "(Uncontrolled) Aggregate shocks or vertical tax interdependence? Evidence from gasoline and cigarettes"
- 2009/25. Goodspeed, T.; Haughwout, A.: "On the optimal design of disaster insurance in a federation"
- 2009/26. Porto, E.; Revelli, F.: "Central command, local hazard and the race to the top"
- 2009/27. Piolatto, A.: "Plurality versus proportional electoral rule: study of voters' representativeness"
- 2009/28. Roeder, K.: "Optimal taxes and pensions in a society with myopic agents"
- 2009/29. Porcelli, F.: "Effects of fiscal decentralisation and electoral accountability on government efficiency evidence from the Italian health care sector"
- 2009/30. Troumpounis, O.: "Suggesting an alternative electoral proportional system. Blank votes count"
- 2009/31. Mejer, M., Pottelsberghe de la Potterie, B.: "Economic incongruities in the European patent system"
- 2009/32. Solé-Ollé, A.: "Inter-regional redistribution through infrastructure investment: tactical or programmatic?"
- 2009/33. Joanis, M.: "Sharing the blame? Local electoral accountability and centralized school finance in California"
- 2009/34. Parcerro, O.J.: "Optimal country's policy towards multinationals when local regions can choose between firm-specific and non-firm-specific policies"
- 2009/35. Cordero, J.M.; Pedraja, F.; Salinas, J.: "Efficiency measurement in the Spanish cadastral units through DEA"
- 2009/36. Fiva, J.; Natvik, G.J.: "Do re-election probabilities influence public investment?"
- 2009/37. Haupt, A.; Krieger, T.: "The role of mobility in tax and subsidy competition"

2010

- 2010/1. De Borger, B., Pauwels, W.: "A Nash bargaining solution to models of tax and investment competition: tolls and investment in serial transport corridors"
- 2010/2. Chirinko, R.; Wilson, D.: "Can Lower Tax Rates Be Bought? Business Rent-Seeking And Tax Competition Among U.S. States"
- 2010/3. Esteller-Moré, A.; Rizzo, L.: "Politics or mobility? Evidence from us excise taxation"
- 2010/4. Roehrs, S.; Stadelmann, D.: "Mobility and local income redistribution"
- 2010/5. Fernández Llera, R.; García Valiñas, M.A.: "Efficiency and elusion: both sides of public enterprises in Spain"
- 2010/6. González Alegre, J.: "Fiscal decentralization and intergovernmental grants: the European regional policy and Spanish autonomous regions"
- 2010/7. Jametti, M.; Joanis, M.: "Determinants of fiscal decentralization: political economy aspects"
- 2010/8. Esteller-Moré, A.; Galmarini, U.; Rizzo, L.: "Should tax bases overlap in a federation with lobbying?"
- 2010/9. Cubel, M.: "Fiscal equalization and political conflict"
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- 2010/14. Calabrese, S.; Epple, D.: "On the political economy of tax limits"
- 2010/15. Jofre-Monseny, J.: "Is agglomeration taxable?"



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