Over indebted Subnational Mexico: Does political polarization affect debt policy decisions?

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Polarization

- When does polarization promote overspending and increase local deficits (Alesina and Tabellini 1990) and when does it not matter if there are overt political opposition?
- Differences in political institutions can contribute to explain the variance in the debt policies pursued by different countries.
- According to the results in their model, the equilibrium level of public debt tends to increase when there is a higher degree of polarization between alternating governments. This is because the larger the ideological differences, the higher the loss of not being reelected, thus, the incumbent will have higher incentives to spend in order to meet future campaign promises.

economic and political consequences

- Analyzing the effects of polarization:

1. The role of the government whose task is the provision of a public good and two groups that, while agreeing on the size of the government, might disagree on the composition of the public expenditure (Azzimonti 2011)
2. Easterly and Levine (1997), empirically find a relationship between ethnic fragmentation, caused by polarization, in Africa affect economic growth and the implementation of public policies.
3. Roubini and Sachs (1989) use a cross national OECD data analysis to find that high-level of political conflict results in surging fiscal deficits.
4. Alt and Lassen (2006) evaluate OECD countries find low transparency and more polarized countries have higher expenditures in electoral cycles .

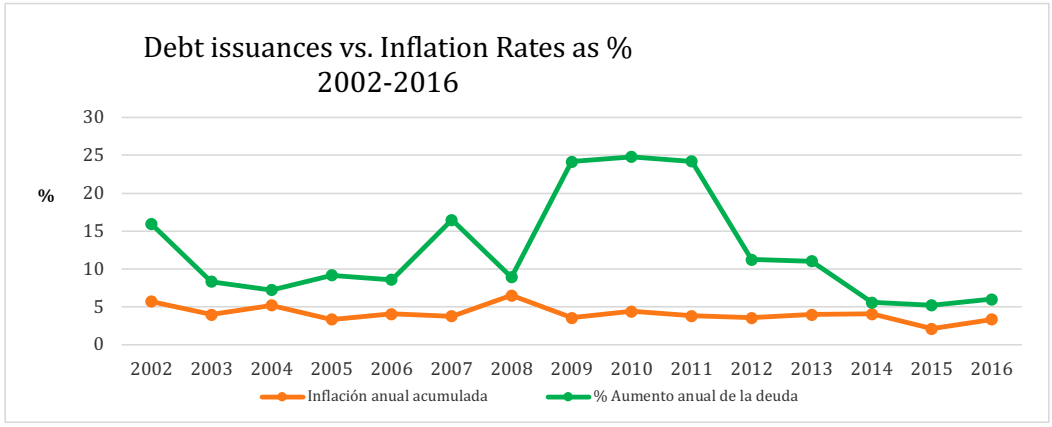
No research on sub-sovereign debt issuance

- The closest research examines the presence of opportunistic budget.

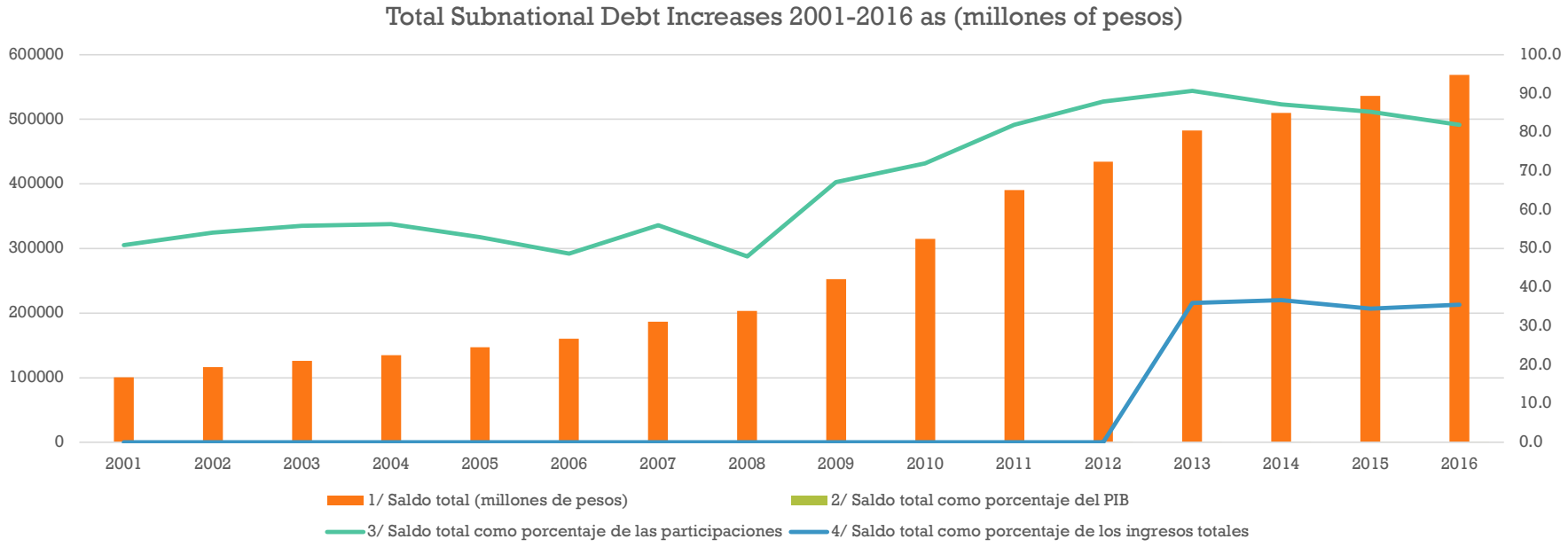
1. Specifically, Drazen and Eslava (2010) study budget cycles using data on Colombian municipalities. They find that the composition of spending is manipulated prior to a local election to make it attractive to voters.

3. Gonzalez (2002) finds evidence on opportunistic manipulation of public spending in Mexico between 1957 and 1997.

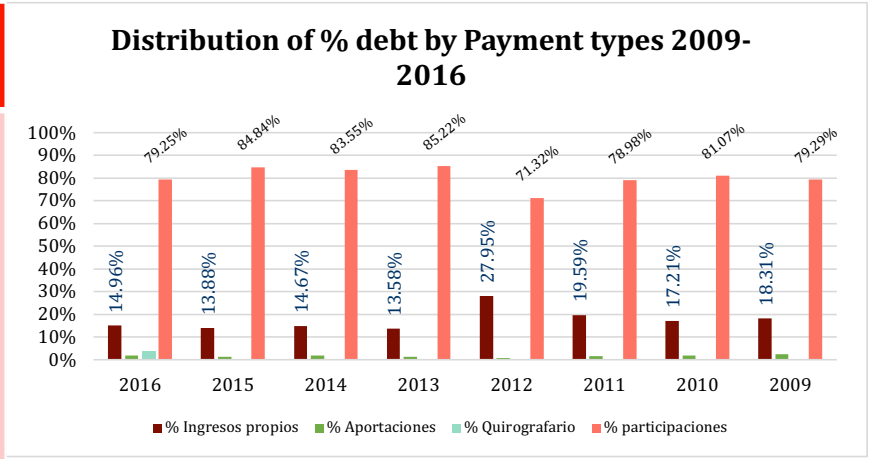
4. Schneider (2010) examine budget cycles and the strategies for incumbents to being reelected in West German states.



Debt issuances in Mexico grew dramatically from 2001 when local laws were modified to create a national bond market, but the most used debt issuances are SPV's based on future transfers



Development Bank Debt	Bonds on the Mexican Stock Market
Oldest form of credit (1933) Largest form ($10 billion in 2010) Banobras Federal Reserves guarantee state financing Own criteria for determining loans *Least cost efficient debt due to administrative costs*	Created in 1997 (reforms to CETES, creation of CONSAR, CNBV and CNSF in 2000) Structural considerations encourage use (credit ratings, structured finance, afores) *Most cost efficient form of debt*
Trust Fund Debt	**Commercial Bank Debt**
Payments managed through separate "trust" accounts (*participaciones* / own-source revenues) Since 2000, subnational governments make own *fideicomiso* arrangements with creditors for debt collateralization, states assume any legal risks Legal "Trusts" reduce risk of manipulation *More cost efficient than dev. and com. bank loans*	Short term loans (>180 days) Used to cover fiscal shortfalls (operating expenses) Bank capitalization requirements (two credit ratings) have made these loans more competitive But, interests still fairly high *Less cost efficient than trusts or bonds, but probably more cost efficient than development bank debt*



The BIG problem:

Market mechanisms isn't working

Rating Agencies aren't reliable

"Illogical" party preferences for debt issuance (Benton & Smith 2017; forthcoming)

SO: Fiscal Rules along Federal Entities don't work (Velázquez 2008; Hernandez 2018 & Smith 2016)

Polarization vs. City Size

Hypothesis 1: The higher the amount of polarization will increase debt spending, and for small cities and towns this overspending will increase but the larger cities this will not be factor. Furthermore, political budget cycles with higher polarization will also increase the amounts debt spending, in both large and small cities.

Administrative Capacity

Hypothesis 2: The higher the amount of own-source revenue and fiscal autonomy from the center (federal government) the more likely to be influenced by political competition and therefore increase the amount of debt policy (creating a higher need for debt policies).

Market Approaches

Hypothesis 3: The amount of debt services and the gross domestic product positively affect the use efficient debt issuance, which means less development bank and commercial debt loans and more trust fund loans, which are more cost-efficient type loans.

Data and Methodology

To examine the impact of polarization on Mexican debt policy, panel dataset of Mexico's 2,440 municipalities across nearly 25 years (1990-2014), but effective 15 years of analysis.

1) Dependent variable: subnational capital market include public sector development bank loans, commercial bank loans, bond emissions, and "trusts."
2) IV's

Polarization
Margin of Victory/ Budget cycle
Public Finance indicators
GDP/Debt

Variable	Measurement
Polarization	Polarization
Financial Autonomy	Autonomía Financiera (AU) = (Ingresos Propios/Gasto Total) * 100
Federal transfers Dependency (Block Grants)	Dependencia de participaciones federales (DPF) = (Participaciones / Ingresos Totales) * 100
Federal Transfer Dependency (Categorical Grants)	Dependencia de aportaciones federales (DAF) = (Aportaciones / Ingresos Totales) * 100
Investment Capacity	Capacidad de inversión (CDI) = (Gasto de inversión / Gasto total) * 100
Social Investment	Capacidad de inversión social (CIS)= (Gasto en obra pública y acciones sociales / Gasto total) * 100
Debt Services	Peso del servicio de la deuda (PSD)= (Deuda / Gasto total) * 100
Bureaucratic Costs	Costo burocrático (BC) = (Gasto en servicios personales / Gasto total) * 100
GDP per capita	PIB per cápita = (PIB / Población) (pesos corrientes)

Polarization

Dalton (2008), who provides a measurement of party system polarization based on voter perceptions of party positions in the Comparative Study of Electoral Systems (CSES). Others papers also following that approach are Curini and Hini (2012) and Lupu (2015). The author develops an index to measure the distribution of parties along the left-right scale. Specifically, the polarization index for country j (at time t), henceforth, P_j, is:

$$P_j = (\sum_i V_i * (S_i - S_{av})/5)^2)$$

This index also delivers no correlation between the number of parties and polarization, which is consistent with the findings by Gross and Sigelman (1984).

Where V_i is party i vote share, S_i is party i score on the left-right scale and S_{av} is the average score on the the left-right scale of the party system of country j. The index takes value 0 when all parties occupy the same position on the left-right scale and 10 when all the parties are divided between the two extremes of the scale

Municipalities' size/ Urbanization.

Mexico's National Urban System (in Spanish, Sistema Urbano Nacional, or SUN) includes 384 urban areas with a population exceeding 15,000 inhabitants, while smaller localities are considered rural (SEDESOL, CONAPO & INEGI, 2012).

i) between 15,000 and 49,999 (Type1),

ii) between 50,000 and 249,999 (Type2),

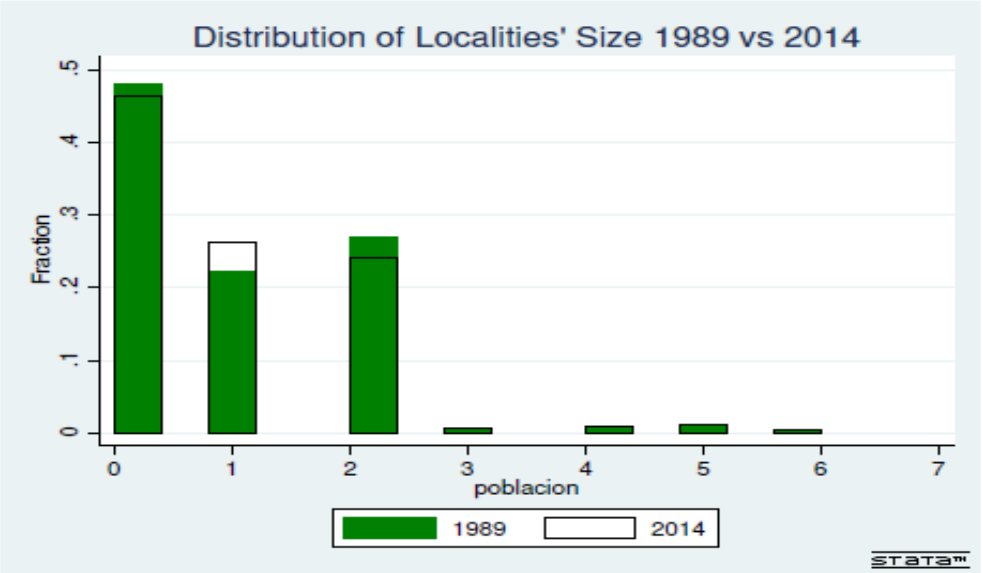
iii) between 250,000 and 349,999 (Type3)

iv) between 350,000 and 499,999 (Type4)

v) between 500,000 and less than 1 million (Type5)

vi) between 1 and less than 5 million (Type6)

vii) more than 5 million (Type7).



Results 1

Table 2 Debt Issuance based on Total Population

	(1)	(2)	(3)
	Development Bank Debt (Square Root)	Trust Funds (Square Root)	Commercial Bank Loans (Square Roots)
Financial Autonomy	0.00374*** (0.00128) ✓✓✓		
Federal transfers Dependency (Block Grants)	--0.00182** (0.000892) ✓✓		
Federal Transfer Dependency (Categorical Grants)			
Investment Capacity	0.00313** (0.00124) ✓✓		
Debt Services	2.696*** (0.284) ✓✓✓	-0.132*** (0.0438) ✓✓	1.483*** (0.315) ✓✓✓
Bureaucratic Costs			
Social Investment			
Non-election Year * Polarization Index	0.236* (0.130) ✓		0.363** (0.142) ✓✓✓
Polarization Index	-0.565*** (0.117) ✓✓✓	0.0194 (0.0179)	-0.432*** (0.128) ✓✓✓
Non-election Year			0.363** (0.142) ✓✓
GDP per capita	0.000469*** (0.0000224) ✓✓✓	0.0000132*** (0.00000350) ✓✓✓	0.000343*** (0.0000257) ✓✓✓
Constant	0.0445 (0.0905)	-0.0200 (0.0140)	0.0140 (0.103)
N	12595	12595	12595
r2			
chi2	762.0	30.47	230.1

Standard errors in parentheses* p<0.10 p<0.05 * ** p<0.01"**

Debt issuances affects Polarization in Development Bank and Commercial Bank Debt in Non-election years

Results 2

Table 3 Debt Issuance based on Population higher 50,000

	(1)	(2)	(3)
	Development Bank Debt (Square Root)	Trust Funds (Square Root)	Commercial Bank Loans (Square Roots)
Financial Autonomy			
Federal transfers Dependency (Block Grant) (DPF)	-0.00911* ✓ (0.00516)		
Federal Transfer Dependency Categorical Grants (DAF)			
Investment Capacity (CDI)	0.0139**✓✓ (0.00608)		
Debt Services (PSD)	6.716*** (1.158) ✓✓✓	-0.476** (0.198) ✓✓`	5.986*** (1.410) ✓✓✓
Bureaucratic Costs (BC)			
Social Investment (CIS)			
Non-election Year * Polarization Index			2.152*** (0.806) ✓✓✓
Polarization Index	-2.215*** (0.617) ✓✓✓		-2.502*** (0.735) ✓✓✓
Non-election Year			-1.090* (0.564) ✓
GDP per capita	0.000952*** (0.0000848) ✓✓✓	0.0000371** (0.0000147) ✓✓	0.000978*** (0.000108) ✓✓✓
Constant	0.944* (0.508)	-0.122 (0.0871)	0.817 (0.623)
N	2392	2392	2392
r2			
chi2	253.8	17.88	127.2
Standard errors in parentheses * p<0.10 ** p<0.05 *** p<0.01			

Polarization in Development Bank and Commercial Bank Debt Decreases Debt Spending! For Large cities

Results 3

Table 4 Debt Issuance based on Population less than 50,000

	(1)	(2)	(3)
	Development Bank Debt (Square Root)	Trust Funds (Square Root)	Commercial Bank Loans (Square Roots)
Financial Autonomy	0.00252*** (0.000614) ✓✓✓		0.000617*** (0.000169) ✓✓ ✓
Federal transfers Dependency (Block Grants) (DPF)	-0.00128*** (0.000407) ✓✓✓		
Federal Transfer Dependency Categorical Grants (DAF)	0.000923* (0.000477) ✓		
Investment Capacity (CDI)	0.00276*** (0.000575) ✓✓✓		
Debt Services (PSD)	1.477*** (0.137) ✓✓✓		0.111*** (0.0420) ✓✓✓
Bureaucratic Costs (BC)			
Social Investment (CIS)	-0.325** (0.141) ✓✓		
Non-election Year * Polarization Index	0.206*** (0.0591) ✓✓	0.00000315** (0.00000141) ✓✓	
Polarization Index	0.198***✓✓ (0.0529)	0.00000320** (0.00000125) ✓✓	
Non-election Year			
GDP per capita	0.000168*** (0.0000117) ✓✓ ✓		0.0000173*** (0.00000329) ✓✓✓
constant	0.0344 (0.0408)	-0.000000669 (0.000000907)	-0.0144 (0.0122)
N	10203	10203	10203
r2			
chi2	656.5	.	76.00
Standard errors in parentheses * p<0.10 ** p<0.05 *** p<0.01"			

Polarization in Development Bank and Commercial Bank Debt Incrases Debt Spending! For Smaller cities >50K

Conclusions

- >50K

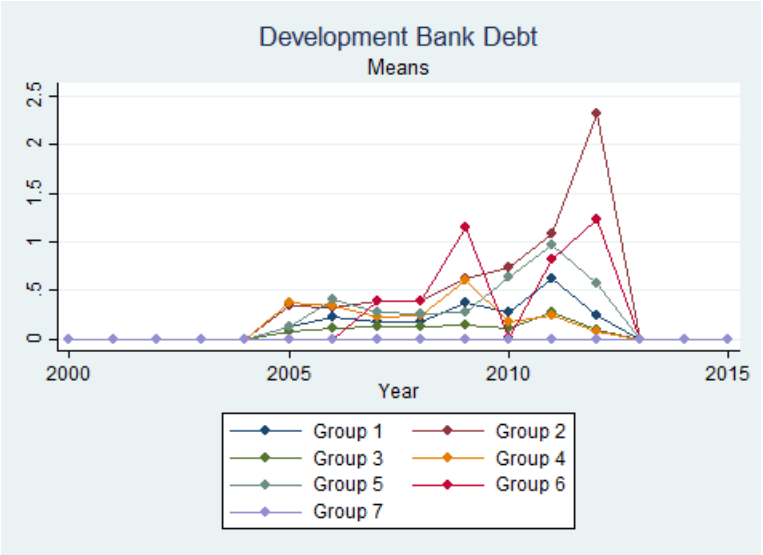
1. the findings show that polarization is critical for smaller size towns between 15,000 to 50,000. (theory of political markets to determine which level of authority and autonomy is needed to create fiscal rules to control deficit spending.)
2. Research finds that polarization creates more local politics which is an important determinate of increase fiscal balances.

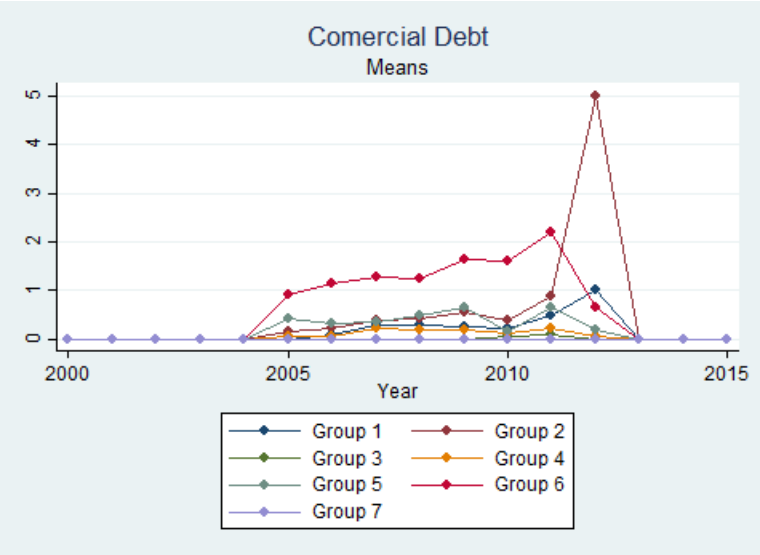
- <50K

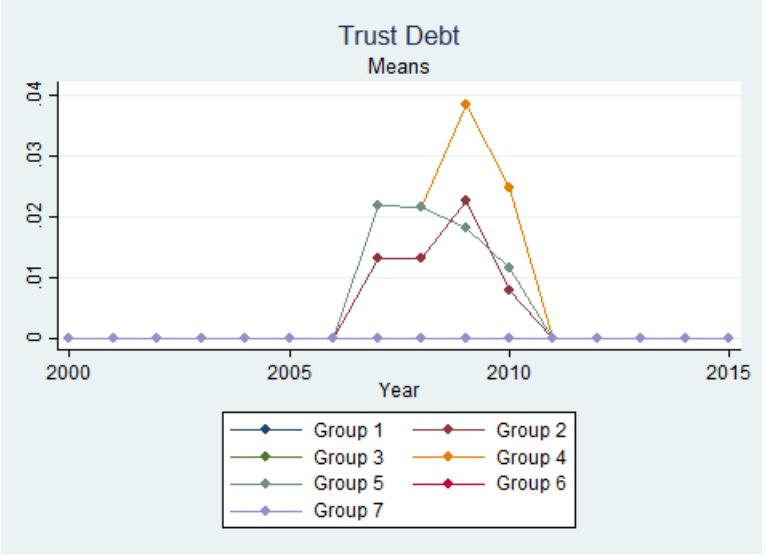
1. On the contrary larger sized cities of over 50,000 people show less impact to overspend when polarization is present.
2. One tentative explanation is that these larger cities are less susceptible to politics, or that they invite in outside financial brokers to analyze city finances and help determine more cost effect debt packages.

Conclusions

- Small town politics are more important
- Large cities can rely on better market based capital , fiscal capacity, GDP growth and financial advisors
- Fiscal Rules need to be centered on City size not on Fiscal Federalism


Development Bank Debt
Means
0
.5
1
1.5
2
2.5
2000
2005
2010
2015
Year
Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Group 7


Comercial Debt
Means
0
1
2
3
4
5
2000
2005
2010
2015
Year
Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Group 7


Trust Debt
Means
0
.01
.02
.03
.04
2000
2005
2010
2015
Year
Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Group 7