SOBRE MÉXICO
TEMAS DE ECONOMÍA

WORKING PAPER SERIES

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

Heidi Jane Smith

Isabel Melguizo

WP 2019-001
12.06.2019

Over indebted Subnational Mexico: Does political polarization affect debt policy decisions?[1]

by
Heidi Jane Smith[2] and Isabel Melguizo[3]

Abstract

Does polarization promote overspending and increase local deficits? Alesina and Tabellini (1990) suggests that more conflict between political parties encourages the opposition to over spend causing inefficient levels of public debt. According to cross national OECD data analyst find that high-level of political conflict result in surging fiscal deficits. The larger the ideological difference, the higher the likelihood of not being reelected. Thus, the incumbent will have higher incentive to spend in order to meet campaign promises. These promises often exceed current expenditures and therefore lead to public officials to access the debt market, ultimately raising the total amount of debt spending. Empirical studies to evaluate this inefficiency are typically done at the state level or cross national, but few have evaluated sub-sovereign debt issuance (Alt and Lassen 2006; Alesina1989; Alt 1985; Drazen and Eslava 2010). This research evaluates Alesina and Tabellini's polarization theory within the newly democratizing Mexico. By using data from 2000-2014, the study first uses Dalton (2008) measure of polarization, based on voter perceptions of party positions in the Comparative Study of Electoral Systems (CSES), and secondly as the margin of victory in a panel data set with public finance indicators (percentage of total expenditures gathered by Mexico's National Geography and Statistics Institute (INEGI) and type of debt issuance presented by Mexico's National Treasury office (Secretaria de Hacienda y Credito Publico –SHCP). Next the study evaluates not only when in the electoral political cycles (Hibbs 1977, 1987 and Cox and McCubbins 2001) influence deficit spending, but also which type of debt does (public bond bank, commercial banks, trusts funds of the bond market increases that debt). The tentative results show that municipal debt increases in non-electoral years, i.e. the year before and after the next election, which is congruent with other research on Mexico (Benton and Smith 2017); but also that debt issuance increases for commercial bank loans and the public bond bank in those years, suggesting the easier the accessibility of the type of debt will have more probability to be effected by these ideologically difference in the electoral cycle.

KEYWORDS: Polarization, Debt, Bonds, Inter-governmental Relations,

---

[1] Paper prepared for the "Political Economy of Sovereign Debt" panel at the American Political Science Association 2018 Annual Meeting in Boston, Mass. and the VII Jornadas Iberoamericans de Finanzacion Local organized by CEPAL, BID and CFCE in Cartagena, Colombia 5-6, 2018.

[2] Economics Department, Universidad Iberoamericana, Prolongación Paseo de Reforma 880, Lomas de Santa Fe, México, C.P. 01219, Ciudad de México heidi.smith@ibero.mx

[3] Economics Department, Centro de Investigación y Docencia Económicas (CIDE), Carr. México-Toluca 3655, Altavista, 01210 Ciudad de México, CDMX isabelmelguizolopez@gmail.com

I. Introduction

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? This research evaluates the effects of political polarization on government overspending within the newly democratizing Mexico.

By using data from 1990-2014, the study uses Dalton (2008) measure of polarization, based on voter perceptions of party positions in the Comparative Study of Electoral Systems (CSES) in a panel data set which includes: public finance indicators at the municipal level (percentage of total expenditures gathered by Mexico's National Geography and Statistics Institute (INEGI), type of debt issuance presented by Mexico's National Treasury office (Secretaría de Hacienda y Crédito Público –SHCP) and towns' population size and Gross Domestic Product. Specifically, the study evaluates when in the electoral political cycles polarization (Hibbs 1987 and Cox and McCubbins 2001) influences deficit spending (development bank, trust funds and commercial banks) and whether the towns' size matters. This research seeks to determine which level of authority and rules should be put into place to manage overt fiscal deficits.

The tentative results show that polarization has a positive affect on municipal debt only in non-electoral years, which is congruent with other research on Mexico (Benton and Smith 2017) and Canada (Kneebone and Mckenzie, 2001), but also that debt issuance increases for commercial and development banks loans. Moreover, towns' population matters for the way in which polarization affects the amount of debt issuances. By categorizing municipalities by size similarly to Berdegué and Soloaga (2018). In particular, the findings show that polarization is critical for smaller size towns between 15,000 to 50,000. We relate this finding to the theory of political markets to determine which level of authority and autonomy is needed to create fiscal rules to control deficit spending. This research finds that polarization creates more local politics which is an important determinate of increase fiscal balances. On the contrary larger sized cities of over 50,000 people show less impact to overspend when polarization is present. 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.

II. Literarure review

a) Polarization

As Alesina and Tabellini (1990) point out, 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.

Analyzing the effects of polarization is important because it may have severe economic and political consequences. Azzimonti (2011) uses a theoretical model in which 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. This disagreement is the degree of polarization in society. The author conclusions indicate how the degree of polarization affects the economy. For him, groups with conflicting interests try to gain power in order to implement their preferred fiscal plan. The author suggests that highly polarized societies tend to grow at a lower rate and converge to lower levels of income per capita in the long run.

Another study, for example by Easterly and Levine (1997), empirically find a relationship between ethnic fragmentation, which may by caused by polarization, in Africa affect economic growth and the implementation of public policies. Roubini and Sachs (1989) use a cross national OECD data analysis to find that high-level of political conflict results in surging fiscal deficits. Alt and Lassen (2006) evaluate the effect of fiscal transparency and political polarization on fiscal balance for fully developed OECD countries. They find that low transparency and more polarized countries have higher electoral cycles. Although with similar conclusions, the majority of empirical studies on the fiscal budget cycle are done at the national level.

To the best of our knowledge there is no work that specifically considers political polarization and its relation to sub-sovereign debt issuance. The closest research examines the presence of opportunistic budget. 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. This over spending is due to opportunistic manipulation of public spending in Colombian municipalities. Gonzalez (2002) finds evidence on opportunistic manipulation of public spending in Mexico between 1957 and 1997 and Schneider (2010) examine budget cycles and the strategies for incumbents to being reelected in West German states.

Furthermore, this research also focuses on population size because it reveals the institutional capacity to manage the internal conflict and therefore determine to what extend divergent ideologies drive spending decisions. Here we also include not only economic indicators but also political ones. Corbi and Papaioannou (2004) study the effect of changes in the size of legislature in Brazil on total spending and find how a decrease in the size of municipal legislature increases total spending over the subsequent mandate, most of the increase take places before the elections, which is consistent with budget cycles theories.

Not only is the quality of the institution, but also the types of fiscal rules (Rose 2006) and institutional arrangements (Besley and Case 2007) are important for a particular policy outcome. We argue that city size is crucial for determining the affects of polarization. The reason is that city size is an important determinate of how much participation is involved in the decision making process and therefore, we suspect that larger cities are able to access external markets, using financial advisors and tools, which creates less politics sounding the decision making process. In fact, one of the significant functions of big cities is to provide better access to external sources of funding (Lee and Luca 2018). Rather, smaller size towns and cities are more influenced by internal political pressures and promises by incumbents, therefore the effect of polarization matters more in these localities. We see this as contribution to theory of political markets, which is a broader interpretation of city decision making, evaluating factors such as institutional analysis, of whether property rights owners, interest groups engagement or administrative capacity affect how cities make decisions (Lubell, Feiock, Ramirez de la Cruz 2009).

Hence the first hypothesis relates polarization and city size to subnational spending. It is as follows:

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.

b) Administrative Capacity

The capacity of local governments may influence the quality of work, level of policy engagement and provision of public services within a town, city and metropolitan area (Cabrero and Carrera 2002, Campbell 2003). Capacity is often cited within the literature as one of developing regions biggest problems as to why local governments have not lead to more development and implement sustainability fiscal policies. In general, local governments in developing countries are perceived to have disproportionately lower levels of autonomy, fiscal capacity and human resources, which make it difficult for them to deliver public services effectively and efficiently (Pillay 2008). Given the incipient administrative capacity of the majority of local governments, it is expected that cities with larger administrative structures are more capable of delivering sustainable fiscal policies and local regulations.

Quality government service delivery, including debt services, has proved to have different effectiveness at the local level depending on the consolidation versus fragmentation of metropolitan regional governments. The advocates of regionalist (Olstrom 1990) focus on the convergence of metropolitan space to tackle provision of public services with economies of scale. Localists who follow a public choice perspective are centered on the competition between local governments for taxpayers, thus bring market mechanism and competition into the foreground for public service provision (Tiebout/Warren). The later theory is often criticized for the enviable lack of mobility by consumers, especially by the most marginalized parts of society, that create regional inequalities and unintended consequences in public service provision. Often regional inequalities are exacerbated in developing countries where governments have limited resources and structures to deliver quality public services.

Defragmentists focus on the social groups that are disenfranchised because of a lack of consolidated government (Miller 1981). Other research focuses on civic participation and the engagement of the provision of public goods. Government local autonomy in consolidated municipalities can also create higher capacity to collect taxes and pay for their debt services. Therefore, it is assumed that consolidated urban governments can service their consistencies with additional public goods, pay for their debt and access markets with more efficiency.

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).

c) Market Approaches

Rather, here we link polarization to debt issuances in an attempt to shed light on when this decision making at the city level is crucial for institutional development of capital markets and where regulation should be applied. The Mexican bond market, for example, guaranteeing credits from different sources are contained in Article 9 of the National Fiscal Coordination Law, created in 1980, which states that sub-national governments can

borrow from commercial and development banks to finance investment projects only after receiving authorization of the local congress. This law also states that around 20 percent of federal tax revenue must be transferred to state and local governments (that is, Mexico has a revenue-sharing system).

To induce market discipline in subnational borrowing, Article 9 of the National Fiscal Coordination Law was reformed twice by President Enrique Peña Nieto. First in 2013 to simplify accounting codes and secondly in 2016 with the National Law for Financial Discipline. In the past, national legislation governing subnational debt rights provides few de jure restrictions on municipal debt. Legislation specifies that subnational debt liabilities must be in Mexican pesos, and that long-term debt must be registered with the national finance secretariat and be used for "economically productive" purposes (Auditoria Superior de la Federación 2011, Revilla 2013). Only until 2016 did states determine limits on municipal debt and approval procedures (Auditoria Superior de la Federación 2011, Revilla 2013). Yet, in 2016 the new regulatory procedures ensure that the national treasury could oversee over indebted states with a traffic light system of control. In general, state legislators ask few questions and municipal council support is pro forma because mayors enjoy majority support (Pérez Durán 2008, Merino Huerta 2008). Still national legislation does not require municipalities to ensure savings to offset debt liabilities (Giugale, Hernández Trillo, and Oliveira 2000), and there is a weak link between revenue and estimated repayment capacity (Espinosa and Martell 2015).

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.

III. The Case of Mexico

The analysis needs to describe when and why polarization could become a factor of debt issuance in Mexico. The article aims to explain how the patterns of indebtedness in Mexican subnational governments have become overused and consumed the common pool. Yet, market mechanisms and private solution have not worked to manage public accounts of subnational governments.

In 1997, legal reform to article 9 of the Fiscal Coordination Law (LCF) granted the municipalities the power to contract credits with commercial banks. In 2000, the reform was approved successfully in the congress to establish a local bond emissions and market. The law requires each city to have two evaluations of its municipality's rating agencies that evaluate its financial systems, operation, economic profile and eight criteria such as economic liquidity, debt, finances, support systems, and so on. The four rating agencies in Mexico are: Standard & Poor's, Moody, Fitch and HR Ratings, a local agency. Through its use, not only of the rating systems but also of the approval of indebtedness in the financial markets, a solution is found by the private sector because it will be monitoring the public finances of Mexican cities. However, in 2009, of the 2454 municipalities, only 155 had qualified for loans and 40 had active private bank loans (Smith, 2009).

With the approval of the law, subnational governments (states and municipalities) have several options to acquire public debt. There are four categories of loans: (1) development banking, (2) secured trust loans from the source of income itself, (3) trust loans with guarantees from the Mexican Stock Exchange, and (4) guaranteed public loans with future transfers. Officials can select high or low interest rates and longer or shorter

terms through the use of packages, either from the public or private sector. For example, many municipal governments use commercial banking to cover their current expenses until the next federal transfer arrives; therefore, they take loans with very high interest rates, but usually pay them during the same fiscal year. A large part of the states still obtained more loans from the development bank than from private investors or directly from the capital markets for their investment works. The following chart shows a diversification of the origin of the debt by states and municipalities.

Table 1 summarizes Mexico's instruments by sector and relative cost-efficiency. Municipal governments are able to assess the relative cost-efficiency of different private sector credits, each with different associated financial costs. Less cost-efficient debt instruments tend to be easier and quicker to access; more cost-efficient financing tends to be more difficult and slower to get.

Table 1 Types of Debt

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*

It is worth mentioning that sovereign risk and country risk are not equal. The first refers to the evaluation of the risk that the government of a sovereign nation will not pay its debts. The latter is related to the risk derived from events or factors of a particular country that are outside the control of the private sector and that affect investment conditions and cross-border loans in foreign currency. The country ceiling rating is positively correlated with the sovereign rating (i.e. the higher the sovereign rating, the more the country ceiling is more likely to be strengthened). Corporate banks and structured transactions can only be

qualified as sovereigns, up to the country ceiling, if the quality of your credit is judged as strong enough to withstand a sovereign debt crisis.

"Sovereign ceiling" is the rating of the foreign currency and entities in the long term regardless of whether the credit quality is particularly strong and high enough to withstand the sovereign debt crisis. In addition, there are several factors that affect the commercialization of bonds (Clark, DeSeve, & Johnson, 1985). Among these are: denominations of bonds, interest rates, credit ratings, payment schedules and special clauses. In general, the higher the credit rating, the more profitable the maturity structure for investors will be, and the farther away the payment requirement is from the issuance date, the more attractive the issue will be to investors (MIS Report, 1987).

While, it is impossible to gauge the real cost of financing in Mexico, given that interest rates are just one aspect of all terms and conditions attached to loans. Even so, Freire (2014) notes that municipal bond emissions tend to be more cost-efficient than commercial bank loans. Commercial bank loans are easier to organize than bond emissions because governments can take advantage of pre-existing relationships with banks who handle their retail banking needs. Indeed, such relations can also help governments secure somewhat better terms but as bank loans are often released in tranches, banks can change terms and conditions with little municipal recourse. If municipalities do not have access to a wide range of commercial banks to refinance loans – as is the case in Mexico – they must accept changes that usually raise costs.

Bond issuances tend to be more difficult to organize than commercial bank loans because they require credit ratings whereas bank loans do not (Freire 2014). In Mexico, however, municipalities must secure credit ratings for both bond issuances and commercial bank loans, eliminating this differential. Freire (2014) notes that bond emissions provide three benefits that raise their cost-efficiency over commercial bank loans. Bond emissions allow immediate liquidity, according to standardized terms and conditions that are nearly impossible to change once the issuance occurs; they lower the cost of future borrowing once an issuance has been made; and they allow borrowers to reach a wider range of lenders (investors) – with competition among them improving terms and conditions – than possible with commercial banks (especially in Mexico).

All municipal governments have full discretionary powers to select the bond options of their choosing, yet, authors have identity that local entities are not choosing to should pursue a cost-efficient strategy to supplement development bank credits with bonds (Benton and Smith 2017; Hernandez Trillo 2018). Furthermore, commercial loans would be used for short term loans and not help economic growth, but more cost-efficient bonds and trust funds would. In addition, the least cost-effective loans commercial banks and development bank bonds would be least likely to generate economic growth. To understand the oft-noted failure of Mexico's subnational capital market (e.g., Hernández Trillo, Díaz-Cayeros, and Gamboa González 2002a, Espinosa and Martell 2015, Giugale, Hernández Trillo, and Oliveira 2000), further tested here are the kinds of debt on the issuance of debt *vis-a-vi* the population size and polarization.

1) Independent variables.

2.1) Polarization. Polarization has been traditionally measured using indirect indicators such as the number of parties in an electoral system, the size of extremist parties, or the vote share for governing parties (Pennings and Lane, 1998 and Powell, 2000). Sartori (1976) estimates polarization by categorizing parties as left, right or center.

In the same vein Sigelman and Yough (1978) use a 4-category grouping of party families available from a U.S. State Department report and Gross and Sigelman (1984) use 10-party family categories (i.e., communist, socialist, centrist, fascist) coded by the Britannica Year book and assigned them interval values. These methods provide broad approximations of the actual position of parties but treating all parties of a family as identical and differences between families as equal interval differences. Another option is the use of party manifestos to estimate parties left and right positions (Budge et al., 1987, Caul and Gray, 2000 and Klingemann, 2005). The main weakness of this approach is that the comparative manifesto focused on the salience of issues rather than party positions.

This study therefore follows 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).[4] 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:

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

$$PI=SQRT\ \{\sum (\text{Party vote share}_i) * ([\text{party L/R score}_i - \text{party system average L/R score}]5^2\}$$

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 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. The computation of the index is for the electoral years and then we fulfill….it requires further development.

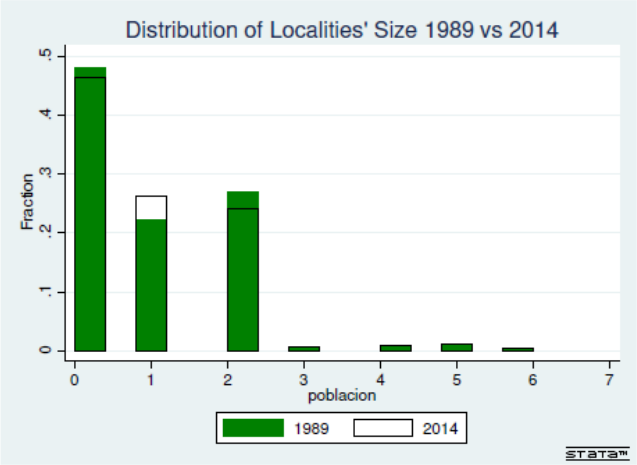
2.2) *Municipalities' size*.

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). The current empirical approach follows this characterization and define rural localities (RL) as those with fewer than 15,000 inhabitants (Type0 for short) and urban localities (UL) as those with 15,000 or more inhabitants. Several UL are made up of several individual localities that form conurbations (i.e., an aggregation of two or more municipalities that include multiple cities). Thus, the term UL identifies either a single locality or a conurbation. There are seven types of UL, by population: 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) and, vii) more than 5 million (Type7).[5] This is used also in Berdegue and Soloaga (2018).

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

[5] OECD (2013) presents the following classification for OECD countries, including Mexico*: "Small urban areas, with a population below 200 000 people; Medium-sized urban areas, with a population between 200 000 and 500 000; Metropolitan areas, with a population between 500 000 and 1.5 million; Large*

As an illustration, the figure below shows the distribution of sizes for 2014. The distribution has not change significantly since the eighties. The vast majority of localities are of type up to 2, i.e. less than 249.999 inhabitants.



2.3) *Own source revenue.*

Own source revenue is the key independent variable for fiscal autonomy and urban consolidation. The public finance data was collected from Mexico's National Institute of Geography and Statistics (INEGI). This is defined as a percentage of all local tax collection, which is calculated as property taxes, fees, fines, user charges and other local income sources minus state and national transfers (Ramo 28 and 33) and any other philanthropic donations over total revenue.

The other variables to indicate fiscal autonomy deal with the amount of fiscal autonomy and dependency of the federation for public expenditures. For example, Federal transfers Dependency is a way to measure Block Grants, which are the direct funds sent by the federation to the state governments for their discretion to allocate. We measure this as: *Dependencia de participaciones federales(DPF) = (Participaciones / Ingresos Totales) * 100*. The second variable for federal dependency is on Categorical Grants. These are grants sent by the federation based on the need of the locality. In Mexico, these are aportaciones which are based on a formula which is constructed every year by the Ministry of Finance to evaluate the needs of the states. These funds are topical based on policy initiatives created by the central government such as crime, schooling, health and basic municipal services. The variable is measured as the following: *Dependencia de aportaciones federales (DAF) = (Aportaciones / Ingresos Totales) * 100.*

The next measure to capture the capacity of the local governments to pay back loans relates to Investment Capacity (CDI). This is measured as the amount of investment and the ability to pay for those debts accrued. The variable is measured as the CDI = (*Gasto de inversión / Gasto total) * 100*. Furthermore, the study also includes a measure of Debt services, or how much the local government pays to service the loans. The variable is measured as the following: *Debt Services Peso del servicio de la deuda (PSD)= (Deuda / Gasto total) * 100.*

---

metropolitan areas, with a population of 1.5 million or more." To gain a better understanding of how different urban population sizes affect non-urban ones, we use finer categories in this paper.

2.4) *Control Variables.*

Furthermore, we have several control variables of other ways the municipalities can spend their local budgets (spending decision making). First the measure of Social Investment, which capture whether the local government is paying for other public policies based on social needs other than debt. Since Mexico is a country recently going through the process of decentralization and has high vertical imbalances with many local regions in need of social policies to protect the needed, we wanted to capture the efforts that these local governments invest in social policy (Medrano and Smith 2017). The social investment variable is measured as: *Capacidad de inversión social (CIS)= (Gasto en obra pública y acciones sociales / Gasto total) * 100*. Second includes Bureaucratic Costs. As the classic theory suggests, with more urbanized bureaucracy, the more likelihood that the costs of public employment will increase. The more developed the local government these costs raise. This vairiable is measured as: *Costo burocrático (BC) = (Gasto en servicios personales / Gasto total) * 100*.

Finally, we use the local gross domestic product (GDP) per capita to stabilize the economic development of the local munciaplity. The theory suggests that cities with more economic growth will likely increase their debts for public services, but these local governments will also have a more likely avliblity to pay for their services. WE measure this variable as: PIB per cápita = (PIB / Población) (pesos corrientes). The data comes from World Bank since the Mexican government does not collet this information.

Method: We run the following regressions.

Model 1: Development Bank Debt (Square Root)

$$\text{Type of Debt}_{t-1} = \beta_1 + \beta_2 \text{ Polarization}_{,t} + \beta_3 \text{ Financial Autonomy }_{i,t} + \beta_4 \text{ federal transfer Dependency (Block Grants)}_{i,t} + \beta_5 \text{ Federal Transfer Dependency (Catagorical Grants)}_{i,t} + \beta_6 \text{ Investment Capacity}_{i,t} + \beta_7 \text{ Social Investment}_{i,t} + \beta_8 \text{ Debt Services}_{i,t} + \beta_9 \text{ Bureaucratic Costs}_{i,t} + \beta_{10} \text{ GDP per capita}_{i,t} + \mu_i$$

Model 2: Trust Funds (Square Root)

$$\text{Type of Debt}_{t-1} = \beta_1 + \beta_2 \text{ Polarization}_{,t} + \beta_3 \text{ Financial Autonomy }_{i,t} + \beta_4 \text{ federal transfer Dependency (Block Grants)}_{i,t} + \beta_5 \text{ Federal Transfer Dependency (Catagorical Grants)}_{i,t} + \beta_6 \text{ Investment Capacity}_{i,t} + \beta_7 \text{ Social Investment}_{i,t} + \beta_8 \text{ Debt Services}_{i,t} + \beta_9 \text{ Bureaucratic Costs}_{i,t} + \beta_{10} \text{ GDP per capita}_{i,t} + \mu_i$$

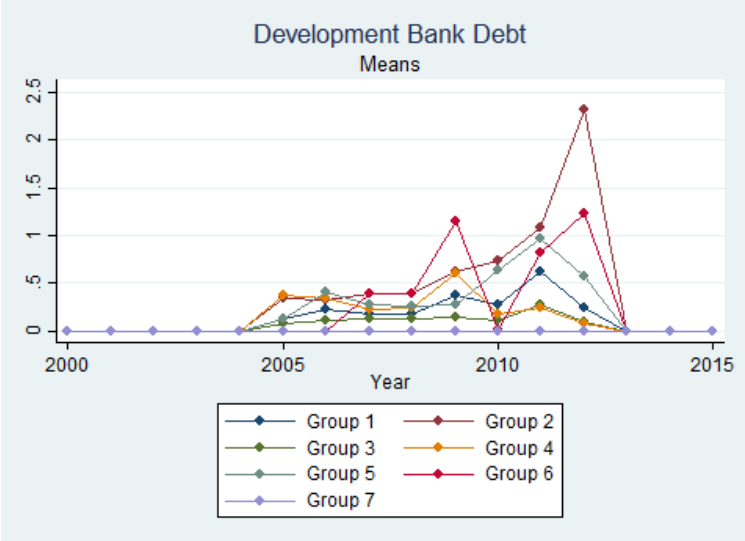
Model 3: Comercial Bank Loans (Square Roots)

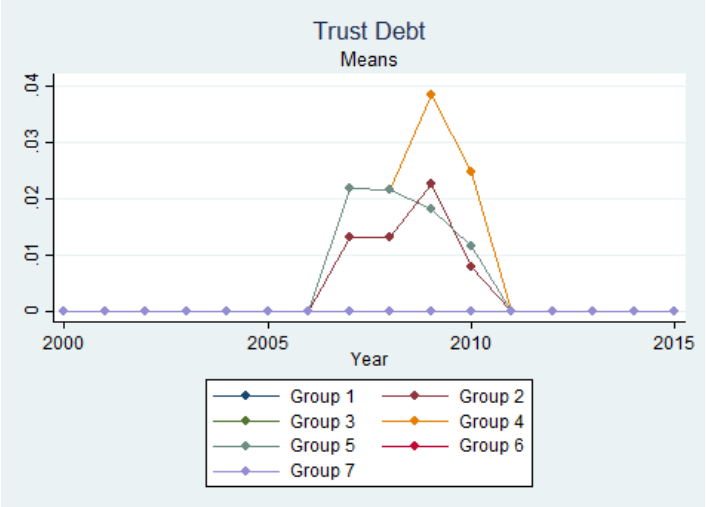
$$\text{Type of Debt}_{t-1} = \beta_1 + \beta_2 \text{ Polarization}_{,t} + \beta_3 \text{ Financial Autonomy }_{i,t} + \beta_4 \text{ federal transfer Dependency (Block Grants)}_{i,t} + \beta_5 \text{ Federal Transfer Dependency (Catagorical Grants)}_{i,t} + \beta_6 \text{ Investment Capacity}_{i,t} + \beta_7 \text{ Social Investment}_{i,t} + \beta_8 \text{ Debt Services}_{i,t} + \beta_9 \text{ Bureaucratic Costs}_{i,t} + \beta_{10} \text{ GDP per capita}_{i,t} + \mu_i$$

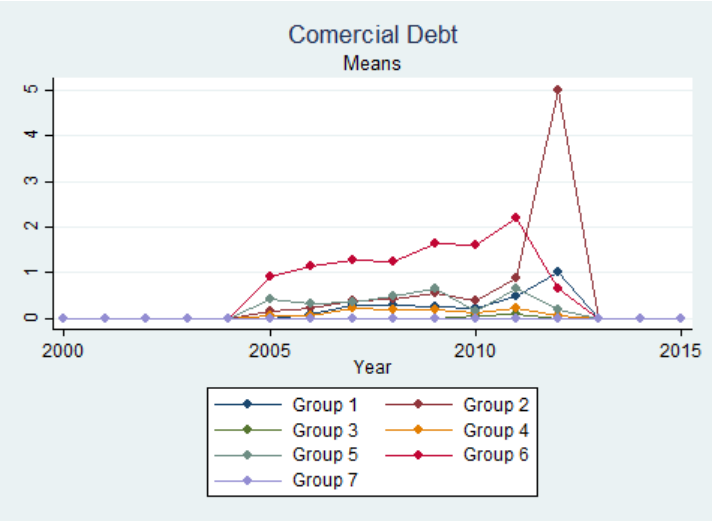
In order to run our panel data sets, we check the model for inconsistencies in the data and run several tests. First, we created dummy variables for the change in PIB and run

four types of root tests (LT, HT, Breitung, and Hadri) all come as negative therefore we find that the is sufficient amount of variance over the dependent variable, which is the type of debt used by each municipality. Second, we check to see if we can use a general least squares regression as a fix effects model. We can reject the null hypothesis and determine their group wise heteroscedasticity in the model and created state and year dummies to correct for autocorrelation within the errors. Thankfully, the Woodridge test suggest we can use the het test, and therefore a PCSE model is not presented here.

Our empirical strategy is twofold, first to test each of the types of debt issuance (Development bank debt, Trust fund debt (Fideicomisos) and Commercial bank loans) on the total population of the municipalities in the sample and secondly, we test it based on the size of municipality. This allows us to see the effectiveness of the issuance biased on the type by the size of the city and second for when polarization is more influential. The first evaluating towns of over 50,000 and then cities and towns in our sample with a population of less than 50,000.







IV. Results

The first set of results is presented in Table 2. It relies on an analysis which includes all cities and towns in our data set overtime (total number of observations is 12,595). The findings show that polarization negatively affects the amount of debt issuance in development bank (-0.565) and commercial bank loans (-0.432) but the results change when we combine polarization and electoral cycle. These data show that there is an increase in debt issuance for development bank debt and bank loans in non-electoral years when reporting high amounts of polarization in all cities. Related to the hypothesis of administrative capacity (hypothesis 2) the finding is that fiscal autonomy positively affects the amount of development bank loans, is negatively affected by block grants, which are given equally to all states and municipalities in Mexico.

The investment capacity increases debt issuance for development bank, loans (0.0313). For payments of debt services, the development bank and commercial bank loans increase, but trust funds decrease (which is consistent with the literature and the variation between large and small cities).

Finally, the market-based hypothesis is used with all types of debt issuance under study, development bank, trusts and commercial loans increase with GDP. This is consistent with market-based literature that suggest more economically development the locality will increase the debt issuances in cities and better and more cost effective their investments are used.

The second part of the analysis pays attention to city size and replicated the exercise above distinguishing between large and small cities. The results are presented in tables 3 and 4. First, we analyze cities with populations of higher than 50,000 people. The result is that polarization has a negative effect on the amount of the debt when we evaluate debt issuance based on a population of higher than 50,000 inhabitants for slightly few commercial bank loans (coefficient of -0.432) and much more for development bank debt (coefficient of -2.152). That means that the amount of debt decreases with higher amounts of polarization, contrary to the theory of Alesina and Tabellini (1990) but when we interact polarization with non-election year, we find that there is a positive effect on commercial banks loans. These types of loans perhaps are more transparent and easier to access; therefore, incumbents use this instrument more readily to access debt and overspend. This

finding is consistent with Alt and Lassen (2006) work. We found positive relationship of these large cities and easily accessible credit when we link the polarization and contrast the political budget cycle (2.152).

With regards to the second hypothesis as administrative capacity we found that cities with higher populations than 50,000 had a negative relationship on the amounts of transfers (block grant) and development bank loans. This is consistent with public finance theory that regards the transfers should not be dependent on bond markets.

Also, when we evaluate populations of above 50,000 which should use commercial banks and trust funds (more sophisticated debt instruments) for those cities with more likelihood of market access. We found that the cities with higher debt services were likely to use higher amounts of development banks loans (6.716) and commercial bank loans (5.996) and less likely to use trust funds. This is consistent with other previous research Benton and Smith (2017) that find municipalizes in Mexico are not making logical decision making on which types of instruments based on interest rates, credit ratings and other market-based approaches for effective decision making. Basically, these cities should be most credit-worthy and therefore making the most cost-efficiency decisions, but we find that they are not using a cost-effective method to select the type of bonds services.

Finally, in large cities the investment capacity affects positively when using development bank debt but this coefficient is very narrow (.0139) which further suggest that public policies of how the development bank debt is being authorized by BANOBRAS is not allocated correctly, to help poor municipalities, but rather based on access to market approaches.

The final test is presented in table 4 for Mexican municipalities and towns with a population of less than 50,000 inhabitants. First, we find that polarization has negative affect on the amount of the debt issued by development bank funds (-0.198) and increases with trust funds (although very small increments). This is consistent with Alesina and Tabellini's (1990) findings that more political separation between parties will increase the amount of debt issuances, which is inefficient. But when we interact polarization with non-election year, we find the positive affects on development bank bonds (.206) which is opposite of largest cities which had a positive affect on commercial bank loans. Again, we attribute this increase in debt by development bank loans to small municipalities as for the over politicization of the debt issuance by the public source and not in terms of its market ability. Basically, the PRI has determined its policies of BANOBRAS to assist for political advantages.

These results reflect the second hypothesis is administrative capacity which first states that fiscal autonomy, own source revenue collections and local assets, determine increases in both development bank and commercial bank loans. Yet, these small towns situated in states with high amounts of block grants, degreases the amount of debt, but increases when the states receive more categorical grants (-0.00128) although effects of the intergovernmental transfers are very small. This is contrary to Rodden's work that intergovernmental transfers affect the overspending of subnational governments.

Finally, these towns with small populations have the same effects of debt services. Whereas they both are highly indebted to both development bank loans and commercial banks. This reason for this is that perhaps credit ratings are not servicing their purpose and or are over evaluated. Towns are not determining the best cost-efficient method for its debt issuance.

V. Disccussion

The consequences of the locality size results relate to the theory of "political markets" to understand when politics influence policy dynamics and specifically debt policy decisions (Benton and Smith 2017). "Political Market theory" of institutional changes combines political economy of property rights (Alston, Eggertsson and North 1996) with institutional analysis of how local governments are structured (Ostrom 1999; Feiock 2002) and their capacity (Avalleneda, 2010) to influence decision making of local public finances. In a nutshell the type of public policy decisions being made may also be influenced by the size of the municipality, its capacity to govern and the market application of decision that the population is making. The political markets approach defined by Lubell, Feicock, Ramirez de la Cruz (2009) is used to identify which factors increase the participation of which types of groups in to local economic activities. This contrasts with property rights approaches and interest group models that suggest that the type of public policy is controlled by sectors of the populations participation. This study models the type of participation of local institutions thereby creates the economic development. We on the other hand, measure participation and engagement in policy preferences by the size of the city and the spending alternatives that the population is able to make in the decision-making process.

To add to this literature a new variation, not contemplated, we consider public debt policy as an economic development initiative, which has infinite amount of regulation—each time a new financial regulation is made additional possible financial instruments are produced. Fiscal rules and hard budget constrains are suggested to withhold subnational debt often at the national level of governments (Ter-Minassian, 1997, 1999; Rodden 2004). The political economy literature suggests voting as a way in which these decisions are made (Poterba 1994 and Von Hagen 1991). The property rights approach has a contracting system with finite regulation, because the public good of land has limited space to expand and thus decreases its market competition of supply. In contrast, municipal finances and debt is based on credit-worthiness of the municipality (Espinosa and Martell 2015) and often is supplied the national governments who typically also regulate the system. In sum the size of the local government may have an effect to the amount of local regulation, polarization and political competition that exists to control over indebtedness subnational governments.

That is the size of the municipality should meet the market-based approaches, but because the market does not work effectively in Mexico, this is why we have various measures for fiscal payments for services. Rodden's work that intergovernmental transfers affect the overspending of subnational governments is important. He highlights that vertical imbalances makes governments need fiscal rules (created by the central government) to avoid over expenditures and potential macroeconomic instability. While, this is correct, we here are trying to unpack how markets, coopetition and intergovernmental relations affect local decisions making. We find the size of the population also influences these differences in the debate between the wealthier more autonomous local governments, their ability to pay debt issuances based on the type of debt issued, more than the type of intergovernmental transfer that exists. Because the market is not the only determinate of a local political decision, but rather, politics are also a part of this debate. We measure polarization in the decision-making process by the size of the city. We find that large cities with a population of over 50,000 people in Mexico are likely to manage their debt

issuances, but smaller towns are often trussed in the over expenditures and create cause for concern to create too much debt. This therefore shows that political variances are only in smaller towns where the polarization might increase debt issuances to unsustainable levels.

VI. Conclusions

Historically academic literature to deal with over expenditures and debt issuances has been to between two options theories 1) voters and local decision making in cities and towns and 2) between fiscal rules or how national governments will create budget rules from the central government. But these opposing positions also relate to how they were created. For example, in the United States for constraining the common pool resource problem of overreaching municipal debt was managed in the intergovernmental system by political constraints of voters. This has been done through balanced budget requirements, tax and expenditure restrictions (TELS) and debt limitations. Von Hagen's (1991) classic piece explained that the principal-agent of the voter-politician relationship resembles an "incomplete contract" allowing voters and citizens to constrain the electorate would lead to stronger institutions. Von Hagen (1991) found that the effectiveness of fiscal rules is limited at best, because politicians are likely to find ways to circumvent them, such as governor's veto powers.

This research has suggested that these voting constraints are only present in smaller sized towns of less than 50,000 inhabitants. Polarization of voting do not affect the levels of debt in larger sized cities. This means that voters, whether informed or not, may or may not know what the debt issuance is used for and why. The cities with higher fiscal authority to contract financial managers, may be more affect by the dark web of these advisors some authors have described.

Therefore, the international comparative research has evaluated the effectiveness of fiscal rules for federalist or unitary countries and found they work better in the former not the latter (Ter-Minassian, 1997) must be taken with more caution. Not all cities are made equally and the validity of these models especially in new democracies may have more to do with the "political market" approach to management than type of federal government who sets the federal polies.

Additional empirical evidence tests the validity of some theoretical considerations developed through economic modeling. For example, Poterba (1994) and Alt and Lowry (1994) find that states with harder balanced-budget rules react more promptly to revenue or spending shocks. Poterba (1994) and Von Hagen (1991) find that state budget rules affect the level and composition of state debts. But Bails and Tieslau (2000) suggest there is a conflict in the political science literature between "public choice" and "institutional irrelevance" view for the relevance of state budget institutions. Furthermore, endogeneity issues are tussled throughout this body of empirical literature. Finally, other researchers test data to ensure that adequate sub-national fiscal discipline can help prevent sub-national debt crisis (Rodden 2004). In effect, this research seeks to find the appropriate rules to ensure that core design of inter-governmental fiscal arrangements is sustainable and collaborative, but few evaluate what type of arrangements are necessary when the nation state is newly democratizing and voters are relevant to make economic decisions.

In short, devolution, fragmentation, and shared responsibility across all levels of government has been the mantra of academic literature based on fiscal decentralization for developing countries (Eaton, 2004; Ebel and Yilmaz 2002; Falleti 2005). Despite the tensions that exist between collaboration between lower levels of government and the appropriate policy response by national governments. What is clear when working in newly democratizing societies, that the size of the population will also inform or migrate local policy debates and change economic decision making. What's more, credit worthiness is not the only variable needed to promote good federal public policy and voting, but also the size of the city and its local politics could help constrain the decision to create higher deficits in a particular locality.

References

Alesina, A. and Tabellini, G. (1990) A positive theory of fiscal deficits and government debt. *The Review of Economic Studies*, 57(3):403–414.

Alt, J. E., and Lassen D.D. (2006) Fiscal transparency, political parties, and debt in OECD countries. *European Economic Review*, 50(6):1403–1439.

Alt, James E., Lassen D.D. and Shanna, Rose (2006). "The causes of fiscal transparency: evidence from the US states." IMF Staff papers vol. 53 (1), 30-57.

Alston, Lee, Thrainn Eggertsson, and Douglas North. 1996. *Empirical Studies in Institutional Change.* New York: Oxford University Press.

Avellaneda, C. (2009). "Mayoral Quality and Local Public Finance." *Public Administration Review* 69(3):469-86.

Azzimonti, M. (2011). Barriers to investment in polarized societies, *The American Economic Review*, Vo. 101(5), 2182-2204.

Besley, Timothy, and Anne Case. (2003). "Political Institutions and Policy Choices:Evidence from theUnited States." Journal of Economic Literature 41(1):7–73.

Barro, Robert and Xavier Sala-i-Martin. (1991). Convergance accross state and regions. 108 Brookings Papers on Economic Activity, 1, 107-182.

Bails, Dale and Margie A. Tieslau. (2000). "The Impact of Fiscal Constitutions on State and Local Expenditures" *Cato Journal*, Vol. 20, No. 2.

Benton, A. and Smith, H. (2017). The impact of parties and elections on municipal debt policy in Mexico. *Governance*, vol. 30(4), 621-639.

Berdegué J. and I. Soloaga (2018). Small and medium cities and development of Mexican rural áreas. *World Development* 107, 277–288.

Budge, Ian, David Robertson, and Derek Hearl (1987). Ideology, strategy and party change: spatial analyses of post-war election programmes in 19 democracies. Cambridge University Press.

Brennan, G., y J. Buchanan. (1977). "Towards a Tax Constitution for Leviathan", *Journal of Public Economics*, 8: 255–274.

Cabrero, E. and A. Carrera. (2002). "Fiscal Decentralisation and Institutional Constraints. Paradoxes of the Mexican Case." Working Paper. DAP-CIDE, Mexico.

Campbell, T. (2003). *The Quiet Revolution: Decentralization and the Rise of Political Participation in Latin American Cities*. Pittsburgh: University of Pittsburgh Press.

Clark, T., Nichols, G., Edwards DeSeve, J., & Johnson, C. (1985). *Financial Handbook for Mayors and City Managers*. New York: Van Nostrand Reinhold Company, Inc

Corbi, R and Papaioannou, E (2004). "Size of legislature, public spending and political budget cycle." Working Paper.

Curini, L., and Ahino, A. (2012). Missing links in party-system polarization: How institutions and voters matter. *The Journal of Politics* vol. 74(2), 460-473.

Dalton, Russell J (2008). The quantity and the quality of party systems party system polarization, its measurement, and its consequences. *Comparative Political Studies*, vol. 41 (7), 899-920.

Gonzalez, M (2002). "Do changes in democracy affect the political budget cycle? Evidence from Mexico." *Review of Development Economics* 6(2): 204-224.

Gross, Donald A and Lee Sigelman (1984). Comparing party systems: A multidimensional approach. *Comparative politics*, 16(4):463–479.

Cabrero, E., and Carrera, A. (2002). Fiscal Decentralisation and Institutional Constraints. Paradoxes of the Mexican Case. DAP-CIDE.

Consejo Nacional de Población (CONAPO). Accessed at http://www.conapo.org.mx.

Cox, Gary W., and Mathew D. McCubbins. (2001). "The Institutional Determinants of Economic Policy Outcomes." In *Presidents, Parliaments, and Policy*, ed. S. Haggard and M. D. McCubbins. Cambridge: Cambridge University Press.

Easterly, W, and Levine, R (1997). "Africa's growth tragedy: policies and ethnic divisions." *The quarterly journal of economics*, 112(4): 1203-1250.

Eaton, K., (2004). Politics Beyond the Capital: The Design of Subnational Institutions in South America, Stanford University Press, Stanford.

Ebel, R. D., y S. Yilmaz. (2002.) "On Measurement and Impact of Fiscal Decentralization", Policy Research Working Paper No. 2809, Banco Mundial.

Espinosa, S., y C. Martell (2015). "Building Bond Repayment Capacity in Developing Countries: A Study on Property Tax Collections and Debt Affordability in Mexico", International Journal of Public Administration, 38 (3): 227-236.

Falleti, T., (2005). "Decentralization and Democracy in Latin America (A Review)", The Americas, The Academy of American Franciscan History, 62 (1): 144-145.

Feiock, Richard C. 2002. A Quasi-Market Framework for Local Economic Development Competition. *Journal of Urban Affairs* 24(2): 123–42.

Giugale, M., F. Hernandez Trillo, and J.C. Oliveira (2000). Subnational Borrowing and Debt Management in (S. Webb and M.Giugale eds) *Fiscal Decentralization in Mexico: Achievements and Challenges,* Washington, DC: The World Bank.

Gross, D. A., & Sigelman, L. (1984). Comparing party systems: A multidimensional approach. *Comparative Politics*, 16(4), 463-479.

Hanssen, F.A.d (2004). Is there a politically optimal degree of judicial independence? *The American Economic Review*, vo. (97), 711-729.

Hibbs, Douglas A. 1987. *The Political Economy of Industrial Democracies*. Cambridge: Harvard University Press.

Hernández-Trillo, Fausto. (2016). Poverty Alleviation in Federal Systems: The Case of México. *World Develoment* (87), 204-214.

Klingemann, Hans-Dieter (2005). *Political parties and party systems* in (J. Thomassen Ed.), The European voter: A comparative study of modern democracies (pp. 22-63). Oxford, UK: Oxford University Press.

Kneebone, R.D. and Mckenzie, K.J. (2001). Electoral and partisan cycles in fiscal policy: an examination of Canadian provinces. International tax and public finance, vol. 8, 753-774.

Lee N. and D. Luca (2018). "The big city bias in access to finance: Evidence from firm perceptions in almost 100 countries." Working Papers in Responsible Banking & Finance. University of St Andrews, School of Management.

Lubell, M., R. C. Feiock, E. E. Ramirez de la Cruz (2009). "Local institutions and the politics of urban growth." *American Journal of Political Science* 53 (3): 649-665.

Lupu, N (2015). Party polarization and mass partisanship: A comparative perspective." Political Behavior vol. 37(2), 331-356.

McCarty, Nolan M. Keith T Poole, and Howard Rosenthal. (1997). Income redistribution and the realignment of American politics. Washington DC: American Enterprise Institute.

McCarty, N. and Poole, K. T. and Rosenthal, H., Political Polarization and Income Inequality (2003). Accessed on January 27, 2018. Available at SSRN: https://ssrn.com/abstract=1154098 or http://dx.doi.org/10.2139/ssrn.1154098

Medrano, Anahely and Heidi Jane M. Smith. (2017). Inversión estatal en programas sociales a tres décadas de ladescentralización y la reforma social en México / State Investment in Social Programs after Three Decades of Decentralization and Social Reform in Mexico. *Revista de Gestion y Politica Publica*, Vol. 26, núm. 3 Volumen Temático 2017: Reformas a los sistemas de bienestar y seguridad social pp. 157-189.

Miller, David (1981). *The Regional Governing of Metropolitan America*. University of Pennsylvania.

MIS Report. (1987). *Designing a bond issue: A Guide "Municipal Bonds"*

Musgrave, R. (1959). *Public Finance in Theory and Practice*. New York, NY: McGraw-Hill.

Oates, W. (1999). "An Essay on Fiscal Federalism." *Journal of Economic Literature* 37(3): 1120-49.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action.* New York, NY, Cambridge University Press.

Ostrom, Elinor. (1999). "Institutional Rational Choice: An Assessment of the Institutional Analysis and Development Framework." In Theories of the Policy Process, ed. P. Sabatier. Boulder, CO: Westview Press, 35–71.

Pennings, Paul and Jan-Erik Lane (1998). The triad of party system change: votes, office and policy. *Comparing party system change*, pages 79–100.

Poterba, James M. (1994). "State Responses to Fiscal Crises: the Effect of Budgetary Institutions and Politics" *Journal of Political Economy*, 104(4), 799-821.

Poterba, James and Kim Rueben. (1999). "State Fiscal Institutions and the U.S. Municipal Bond Market." in J. Poterba and J. von Hagen (eds.). *Fiscal Institutions and Fiscal Performance*. Chicago: University of Chicago Press

Powell, G Bingham (2000). *Elections as instruments of democracy: Majoritarian and proportional visions*. Yale University Press.

Sartori, Giovanni.(1976). Parties and party systems: A framework for analysis. ECPR press,

Sigelman, L. and Syng, N. Y. (1978). Left-right polarization in national party sys-tems: A cross-national analysis. *Comparative Political Studies*, 11(3):355–379.

Revilla, Ernesto. (2013). "Debt Management in Mexico: A Tale of Two Crises" in (Canuto, O and Liu, L eds) *Until Debt Do Us Part: Subnational Debt, Insolvency, and Markets*. Washington, DC: World Bank.

Rodden, J.(2004). Comparative Federalism and Decentralization: On meaning and Measurement. *Comparative Politics, 36*(4), 481-500.

Rose, Shanna. 2006. "Do Fiscal Rules Dampen the Political Business Cycle?" Public Choice, 2006, vol. 128, issue 3, 407-431

Schneider, C (2010). "Fighting with one hand tied behind the back: political budget cycles in the West German states." *Public choice* 142 (1-2), 125-150.

Taliercio, J., Robert (2004). Administrative Reform as Credible Commitment: The Impact of Autonomy on Revenue Authority Performance in Latin America. *World Development Journal, 32*(2), 213–232.

Tamayo-Flores, R., and Hernández-Trillo, F. (2006). Financiamiento de la Infraestructura Local en México: Temas Actuales y Perspectivas. CIDE y Tecnológico de Monterrey.

Ter-Minassian, Teresa, (1997). Decentralization and Macroeconomic Management, No 97/155, IMF Working Papers, International Monetary Fund, https://EconPapers.repec.org/RePEc:imf:imfwpa:97/155.

Tiebout, C. (1956). A pure theory of local expenditures. *Journal of Political Economy, 64*(5), 416-424.

Zhang, T. and Zou, H.F., (1998). Fiscal decentralization, public spending, and economic growth in China. *Journal of Public Economics*, *67*(2), pp.221-240.

Von Hagen, J. (1991). A note on the empirical effectiveness of formal fiscal restrains. *Journal of Public Economics* 44, 199–210.

Table 1 Descriptive Statistics of the variables and Measurements

Variable	Measurement
Polarization	Polarization
Population	Population identifies either a single locality or a conurbation. We identify seven types of UL, by population: 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) and, vii) more than 5 million (Type7)
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)

Variable	Obs	Mean	Std. Dev.	Min	Max
Population	57376	47118.64	114906.7	224	1762892
Polarization	34578	0.6581208	0.2084253	0	1.3183
Margin of Victory	15677	772.0934	9533.443	0	548700
Financial Autonomy	96307	9.360654	14.04489	0	100
Federal transfers Dependency (Block Grants)	96307	33.84252	32.7248	0	100
Federal Transfer Dependency (Categorical Grants)	96307	15.04059	22.47813	0	100
Investment Capacity	96307	18.30731	20.67954	0	100
Social Investment	96307	0.1145137	0.114751	0	0.4409643
Debt Services	96307	0.0140681	0.0384881	0	0.92476
Bureaucratic Costs	96307	16.87933	17.57739	0	100
GDP per capita	96307	1131.862	966.9407	0	9067.073
Development Bank Debt	96307	1.035952	20.21609	0	1825.576
Trust Funds	96307	0.011598	0.8801452	0	130
Commercial Bank Loans	96307	1.053709	26.03913	0	2680.702

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***	0.000262	0.00242
	(0.00128)	(0.000201)	(0.00149)
Federal transfers Dependency (Block Grants)	-0.00182**	-0.0000799	0.000374
	(0.000892)	(0.000138)	(0.000994)
Federal Transfer Dependency (Categorical Grants)	-0.000217	-0.000149	-0.00163
	(0.00103)	(0.000159)	(0.00115)
Investment Capacity	0.00313**	-0.0000540	-0.00165
	(0.00124)	(0.000191)	(0.00137)
Debt Services	2.696***	-0.132***	1.483***
	(0.284)	(0.0438)	(0.315)
Bureaucratic Costs	0.000658	0.0000789	-0.00170
	(0.00153)	(0.000238)	(0.00173)
Social Investment	-0.263	0.0466	0.469
	(0.307)	(0.0474)	(0.341)
Non-election Year * Polarization Index	0.236*	-0.0165	0.363**
	(0.130)	(0.0200)	(0.142)
Polarization Index	-0.565***	0.0194	-0.432***
	(0.117)	(0.0179)	(0.128)
Non-election Year	-0.0456	0.0120	-0.166*
	(0.0874)	(0.0134)	(0.0958)
GDP per capita	0.000469***	0.0000132***	0.000343***
	(0.0000224)	(0.00000350)	(0.0000257)
Constant	0.0445	-0.0200	0.0140
	(0.0905)	(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"			

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	-0.00701	0.000231	-0.00234
	(0.00582)	(0.00101)	(0.00739)
Federal transfers Dependency (Block Grant) (DPF)	-0.00911*	-0.000530	-0.00141
	(0.00516)	(0.000885)	(0.00630)
Federal Transfer Dependency Categorical Grants (DAF)	-0.00464	-0.000839	-0.00916
	(0.00515)	(0.000880)	(0.00624)
Investment Capacity (CDI)	0.0139**	0.000414	0.000946
	(0.00608)	(0.00104)	(0.00728)
Debt Services (PSD)	6.716***	-0.476**	5.986***
	(1.158)	(0.198)	(1.410)
Bureaucratic Costs (BC)	0.00542	0.000509	-0.00589
	(0.00711)	(0.00123)	(0.00886)
Social Investment (CIS)	-1.857	0.110	0.819
	(1.528)	(0.261)	(1.842)
Non-election Year * Polarization Index	0.569	-0.119	2.152***
	(0.680)	(0.116)	(0.806)
Polarization Index	-2.215***	0.167	-2.502***
	(0.617)	(0.105)	(0.735)
Non-election Year	-0.138	0.0848	-1.090*
	(0.475)	(0.0807)	(0.564)
GDP per capita	0.000952***	0.0000371**	0.000978***
	(0.0000848)	(0.0000147)	(0.000108)
Constant	0.944*	-0.122	0.817
	(0.508)	(0.0871)	(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			

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***	-1.26e-08	0.000617***
	(0.000614)	(1.19e-08)	(0.000169)
Federal transfers Dependency (Block Grants) (DPF)	-0.00128***	-9.12e-09	0.00000875
	(0.000407)	(8.91e-09)	(0.000122)
Federal Transfer Dependency Categorical Grants (DAF)	0.000923*	-1.29e-08	0.0000693
	(0.000477)	(1.07e-08)	(0.000145)
Investment Capacity (CDI)	0.00276***	1.49e-08	0.000181
	(0.000575)	(1.28e-08)	(0.000174)
Debt Services (PSD)	1.477***	-0.000000638	0.111***
	(0.137)	(0.00000311)	(0.0420)
Bureaucratic Costs (BC)	0.000207	-1.56e-09	-0.000175
	(0.000717)	(1.49e-08)	(0.000208)
Social Investment (CIS)	-0.325**	-0.000000384	-0.0447
	(0.141)	(0.00000307)	(0.0421)
Non-election Year * Polarization Index	0.206***	-0.00000315**	0.0208
	(0.0591)	(0.00000141)	(0.0186)
Polarization Index	-0.198***	0.00000320**	-0.000682
	(0.0529)	(0.00000125)	(0.0166)
Non-election Year	-0.0577	0.00000117	-0.00667
	(0.0394)	(0.000000939)	(0.0124)
GDP per capita	0.000168***	1.60e-10	0.0000173***
	(0.0000117)	(2.33e-10)	(0.00000329)
constant	0.0344	-0.000000669	-0.0144
	(0.0408)	(0.000000907)	(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"			