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A Rational Partisan Explanation for Irrational (Sub) Sovereign Debt Behavior: Evidence from Municipal Mexico

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Abstract

If investors and governments are rational, then governments with similar macro-economic characteristics should exhibit similarly balanced debt portfolios among financing instruments. Yet, anecdotal evidence suggests this is not always the case. Building on rational partisan theory, we argue that left-leaning governments tolerating fiscal deficits not only contract greater public debt loads but also construct debt portfolios balanced toward instruments with less cost-efficient terms. In contrast, right-leaning governments favoring balanced budgets assume lower public debt as well as debt portfolios balanced toward more cost-efficient instruments. Statistical analysis of Mexican municipal debt reveals the presence of partisan ideological effects.

Key Words: Partisan Ideology, Municipal Debt, Subnational Fiscal Spending, Mexico

Resumen

Si los inversionistas y los gobiernos son racionales, entonces los gobiernos con características macro-económicas similares deberían exhibir carteras de deuda similar equilibradas entre los instrumentos financieros. Sin embargo, la evidencia anecdótica sugiere que esto no es siempre el caso. Con base en la teoría del partidista racional, sostenemos que los gobiernos de izquierda que toleran los déficits fiscales no sólo contratan mayores cargas de deuda pública, sino también construyen carteras de deuda balanceados hacia instrumentos con los términos menos rentables. Por el contrario, los gobiernos de derecha que favorecen el equilibrio presupuestario suponen una menor deuda pública, así como las carteras de deuda equilibradas hacia instrumentos más rentables. El análisis estadístico de la deuda municipal mexicana revela la presencia de efectos ideológicos partidistas

Palabras clave: Ideología Partidista, Deuda Municipal, Gasto Fiscal Subnacional, México.

Introduction

Why do governments with similar macro-economic characteristics construct different sovereign debt portfolios? If investors are rational (Markowitz 1952; Sharpe 1964; Elton and Gruber 1997) or even quasi-rational (Thaler 1993, 1994) and seek to construct investment portfolios that balance the returns to investment against the risks, then governments with similar macro-economic and structural political characteristics should exhibit similar levels of investor demand for their sovereign debt, leading them to construct of debt portfolios that are similarly balanced among different instruments. Specifically, governments enjoying greater investor confidence in their capacity to honor debt liabilities should benefit from stronger investor demand for their sovereign debt instruments, allowing them to construct debt portfolios balanced toward the most cost-efficient financing mechanisms (Jaramillo and Tejada 2011; Anderson et al. 2010; Melecky 2007, 2012; Jaramillo 2010). In contrast, governments facing lower investor confidence in their capacity to pay should face weaker demand for their debt instruments, thereby curtailing their capacity to secure favorable debt terms and resulting in the construction of debt portfolios balanced toward the least cost-efficient financial instruments (Jaramillo and Tejada 2011; Anderson et al. 2010; Melecky 2007, 2012; Jaramillo 2010). This is the case, despite the great strides that national governments have taken to optimize sovereign debt portfolios in ways that reduce the financial costs and budgetary risk of debt emissions (Anderson et al. 2010; Melecky 2007, 2012).

Yet, anecdotal evidence suggests that governments do not always behave in ways that optimize their sovereign debt portfolios as expected. A brief look at debt portfolios across subnational units within a single nation – something that controls for international economic and political conditions as well as national political, regulatory, and policy factors that shape investor demand for and governmental supply of sovereign debt – suggests that public debt portfolios can vary quite dramatically among governmental entities that investors should otherwise consider equally attractive. Several Mexican state governments with similar credit ratings[1] – that Standard and Poor's Rating Services characterized as good credit risks in 2012 with a rating of "mxA" or better – constructed very different debt portfolios that year. Along the nation's northern border, the Coahuila state government (mxA+) reported that 96 percent of its total state and municipal debt was with commercial banks and the remainder with development banks. Meanwhile, nearby Nuevo León (mxA) reported

1 Sovereign credit ratings affect bond spreads, something that should lead investors to see the returns and risks similarly (Jaramillo and Tejada 2011; Cantor and Packer 1996; Hartelius et al. 2008; Jaramillo 2010).

that its states and municipalities owed 60 percent of debt contracted that year to commercial banks, 22 percent to development banks, and 18 percent in bonds. In the nation's southern region, the government of Chiapas (mxA) contracted 52 percent of total state and municipal debt with development banks, 11 percent with commercial banks, and the remaining 36 percent in bond issuances. At the same time, neighboring Oaxaca (mxAA) accrued 90 percent of its total state and municipal debt in 2012 through bond instruments, with the remainder split among development and commercial banks[2.]

To explain this seemingly irrational behavior, we examine how partisan ideology shapes the way that governments construct debt portfolios. Building on rational partisan theory (e.g., Hibbs 1987; Garrett 1998b; Alesina and Rosenthal 1995), we argue that left-leaning governments' preference for expansionary fiscal policies and greater tolerance for fiscal deficits leads them not only to assume larger public debt loads but also to favor less cost-efficient financial instruments. Costlier financial instruments like public development bank or private commercial bank loans are easier to access, allowing left-leaning governments to appease constituents who value the role of immediate-term public spending for job creation and thus for producing economic growth. In contrast, right-leaning governments' preference for balanced budgets should lead them not only to favor lower public deficits and public debt loads but also to prioritize the use of the most cost-efficient financing mechanisms for financing any deficits incurred. Although more cost-efficient financial instruments like bond emissions are more difficult to access, they allow right-leaning governments to appease their constituents who prioritize the role of stable macro-economic environments in attracting domestic and foreign investment considered necessary for producing economic growth.

To test for the presence of partisan ideological effects on sovereign debt portfolios, we examine municipal public debt dynamics in Mexico. Scaling down the analysis to the municipal level allows us to control for a variety international and national economic conditions and policy factors known to affect international capital markets, and thus investors' appetite for different sovereign debt instruments. Mexico is a particularly good case for study. Since 2001, Mexico's 31 states and its Federal District, as well as its states' 2,444+ municipalities,[3] have been allowed to contract public debt from public and private sources for capital investment. Mexican states and municipalities also enjoy what amount to as de facto soft budget constraints and thus have been allowed to access capital markets fairly freely. This has resulted not only in an increase in state and municipal public debt loads in recent years but also in growing variation in the amounts of debt liabilities assumed. It has also resulted in variation in

2 See Standard & Poor's Ratings Services and the SHCP for all ratings and data.
3 The number of municipalities varies over time, though our data include 2,444.

the type of financial instruments figuring into both state and municipal debt portfolios, even among entities that would be otherwise considered fiscally and economically similar. Importantly for our purposes, during this same period Mexico's states and their municipalities were governed by left-leaning, centrist, and right-leaning political parties, allowing us to examine the impact of governmental partisan ideology on public debt portfolios, while holding the nature of national partisan ideology constant. From late 2000 to late 2012, the same right-leaning party held the national presidency, allowing us to control for the impact of any national political factors on investors' appetite and governmental demand for Mexican sub-sovereign debt instruments. We make and support our case for the rational partisan politics of public debt portfolios below.

Rational Partisan Preferences and Sovereign Debt Portfolios

Most studies assume that investors take a rational (Markowitz 1952; Sharpe 1964; Elton and Gruber 1997) or bounded quasi-rational (Thaler 1993, 1994) approach to constructing investment portfolios. Investors consider a variety of structural international and country-specific macro-economic factors (Calvo and Talvi 2005; Chuha et al. 1998; Erb et al. 2000; but see Eichengreen and Mody 1998 for a different view), structural international and domestic political institutions, monetary and economic policy choices, and regulatory arrangements (Gray 2009; Koremenos et al. 2001; Smith 2000; Andritzky 2012; Archer et al. 2007; Biglaiser et al. 2008; Lee et al. 2012; Rodríguez and Santiso 2008; but see Saiegh 2005 for an alternative finding), including the size and nature of the investment base (Arslanalp and Tsuda 2014; Ejsing et al. 2012; Andritzky 2012), when determining strategies for maximizing returns and minimizing risks of including sovereign debt instruments in their investment portfolios.

A similarly rational behavior is attributed to national governments supplying investors with sovereign debt instruments (Anderson et al. 2010; Melecky 2007, 2012). National governments (through their debt management authorities) are said to consider a similar set of current (and future expected) structural international and domestic macro-economic, political institutional, policy, and regulatory factors when determining the optimal shape of sovereign debt portfolios that minimize the financial costs and budgetary (liquidity, currency, interest rate) risks of any public debt instrument assumed (Anderson et al. 2010; Melecky 2007, 2012; The World Bank and International Monetary Fund 2001; Missale 1999). Although most research focuses on national strategies in this regard, scholars have also begun to examine the complex structural economic, political institutional, administrative, and regulatory environments shaping subnational governmental debt strategies as well (e.g., Freire and Petersen

2004; Dillinger and Webb 1999; Hildreth and Miller 2002; Johnson 1996; Poterba and Von Hagen 1999).

Yet, the anecdotal evidence presented at the beginning of this study suggests that the variety of structural economic and political factors said to shape both investor demand for and governmental supply of sovereign debt may not be the only things at work, with sovereign debt strategies sometimes diverging quite dramatically from rational economic expectations. To explain this divergence, we examine how governments' "rational partisan" ideological preferences (e.g., Hibbs 1987; Garrett 1998b; Alesina and Rosenthal 1995) can contribute to seemingly irrational governmental debt portfolio behavior.

"Rational partisan theory" argues that political parties base their economic policy decisions on their voters' economic situations and the way that they are incorporated into the workforce. Left-leaning parties representing poorer and working class voters, who benefit economically from rising domestic aggregate economic demand, promise to promote greater state involvement in the economy to deliver economic growth. Scholars have shown that left-leaning parties are thus relatively more tolerant of larger fiscal deficits, implying that they also accept larger sovereign debt loads to finance them. Left leaning parties expect that rising economic demand (that outpaces inflation and interest rates) resulting from increased public spending will serve as the primary driver for private investment and private sector job creation down the line, and thus act as a key driver of future economic growth. In contrast, right-leaning parties representing middle and upper class voters, whose economic situations tend to benefit from macro-economic stability, promise to implement market-driven neoliberal economic policies with minimal state interference in the economy. These parties tend to be relatively less tolerant of fiscal deficits and prefer to minimize public debt; low inflation and related low interest rates are thought to act as the primary driver for attracting private investment and thus to spur future job creation and economic growth.[4]

Extending rational partisan theory to government sovereign debt portfolio strategies, we expect that left-leaning governments' preference for expansionary fiscal policies and greater tolerance for fiscal deficits will lead them not only to assume larger public debt loads but also to favor less cost-efficient financial instruments when financing them. The aggregate economic demand-oriented interests of left-leaning governments' constituents lead them to prioritize immediate-term public spending and investment projects that shorten time-horizons for accessing debt financing, leading them to accept less cost-efficient financing terms. Costlier financial instruments are

4 Of course, some scholars show that rational partisan governments may adopt more strategic approaches to their economic policy choices and fiscal behavior, sp see Eslava (2011) for an excellent review of these arguments. However, most studies show that governments tend to behave in ways that sincerely represent their constituents' partisan policy preferences, which is what we assume here.

relatively easier to contract and access, allowing left-leaning governments to appease their constituents apace who see value in debt-financed public spending for immediate-term job creation and longer-term economic growth. Left-leaning administrations thus should be more likely to rely on loans from single institutions like state development banks or private commercial lenders to finance public spending and investments, regardless of the higher costs usually associated with these loans. This is not to say that left-leaning administrations do not need to justify any public debt acquired to their constituents, just that the costs associated with the debt instruments they choose are justified by their near- and longer-term expected economic returns.

Right-leaning governments' preference for balanced budgets, in contrast, should lead them to favor lower fiscal deficits and public debt loads, and thus to prioritize cost-efficiency when choosing between debt instruments needed to finance any fiscal deficits they must run. Although the most cost-efficient financial instruments are usually the most difficult to access and guarantee – because they often involve more than one player and because they require stricter macro-economic requirements and administrative hurdles to cover the additional risks they pose to investors – more cost-efficient debt instruments allow right-leaning governments to appease their constituents who view fiscal deficits and any debt required to finance them askance. Right-leaning constituents prioritize the role of stable macro-economic conditions in attracting the private investment that they consider necessary for long-term economic growth. As a result, the governments that represent them are under pressure to demonstrate that any public debt assumed enjoys favorable financing terms that demonstrate their governments' credit worthiness to investors, even foreign direct investors. This leads right-leaning governments to favor more sophisticated and less costly debt instruments, like sovereign bond emissions, in their debt portfolios.

The Convenient Case of Mexico and its Municipal Public Debt

We examine subnational sovereign, that is, subsovereign debt dynamics in a single nation to test the rational partisan debt portfolio argument made here. Testing the argument at the subnational level allows us to control for many of the international and national economic and political factors mentioned above that are known to affect investor demand for and governmental supply of public debt, while multiplying the number of cases enjoying such controls. To this end, we examine municipal public debt in Mexico during the 2000s. Mexico's federal system is structured around 31 states and a Federal District, with states divided into about 2,444 municipalities, depending on the year. Mexico is a good case for study for three other reasons: its

three main parties can be cast as left-leaning, centrist, and right-leaning groups; the range of debt instruments available to subnational governments varies in their relative level of cost-efficiency; and its subnational governments enjoy de jure vertical fiscal imbalances and de facto soft budget constraints that enable them to run deficits and assume public debt with little national governmental interference. Mexico thus provides key variation on the main independent and dependent variables of interest. We explain these features below.

Mexico is known for its longtime dominant party system run by the mass-based Institutional Revolutionary Party (PRD) during most of the 20th century, with the nation's formal democratic transition in 2000 allowing multiple parties from different points along the ideological continuum to compete in and win federal, state, and municipal elections. The ideologically right-leaning longtime opposition National Action Party (PAN) defeated the mass-based PRI in the race for the presidency in 2000. The following 2006 presidential election saw the ruling PAN barely win against the left-leaning Democratic Revolution Party (PRD), a PRI splinter party that challenged PRI rule in the 1988 presidential elections, with the former hegemonic PRI coming in third. The PRI recovered in 2012 and won the presidency once again in competitive elections.

During its years ruling Mexico, the mass-based PRI implemented left-leaning state-led economic development policies until the 1980s when it introduced right-leaning neo-liberal economic reforms. It continued with neo-liberal economic policies throughout the 1990s until it left power in 2000. Nowadays, the PRI remains internally divided between those favoring a return to the state-led economic development model and those favoring a deepening of neo-liberal economic policies to strengthen the nation's now market-based economy. Given this internal ideological division, we consider the mass-based PRI as a relatively centrist party, on average, compared to the two other main political groups whose members tend to hold more uniform ideological views. The right-leaning PAN has been consistently known for its promotion of market-friendly economic policies, including free trade and market competition, low inflation and low taxes, and structural economic reforms to increase the returns to investment. It followed these policies during its time in the national presidency from 2000 to 2012. In contrast, the left-leaning PRD has consistently advocated for generating economic growth and employment based on a state-led economic development model that prioritizes infrastructure investment and social spending.

Mexico's states and municipal governments are currently known for facing de jure vertical fiscal imbalances and de facto soft budget constraints that encourage and allow subnational deficits and public debt, allowing us to analyze subnational debt dynamics that face relatively few restrictions. Mexico's state and municipal governments rely on intergovernmental transfers for their budgetary needs, with fiscal relations highly

vertically imbalanced. The 1997 National Fiscal Coordination Law (Ley de Coordinación Fiscal) centralized most tax rights in the national government, which then redistributed fiscal revenues to states (and a small share to municipalities) in earmarked and unearmarked transfers. States were made responsible for financing municipalities through the redistribution of a set share of their unearmarked federal fiscal transfer receipts to these lower levels of government, with each state using its own criteria to determine municipal distributions. Between 2001 and 2010, for example, seven percent of total state revenues came from own sources, 85 percent from federal transfers, two percent from "financing" (a euphemism for unfunded deficits run as arrears or covered with short-term bridge loans not studied here), and the remainder from "other" sources; 22 percent of total municipal revenues came from own source revenues, 69 percent from federal and state transfers, six percent from "financing," and the remainder from "other" sources.[5] Subnational reliance on federal fiscal transfers had led states and municipalities to avoid collecting taxes on their own, despite counting on important tax rights (Cabrero and Carrera 2002; Giugale et al. 2000; Sour 2004).

Mexico's subnational governments also enjoy de facto soft budget constraints. National legislation provides few de jure restrictions on subnational debt, while state regulatory and administrative frameworks provide little in the way of de facto constraints. National legislation outlining subnational debt rights and structuring subnational capital markets dates to a series of financial sector reforms begun in 1997 (Auditoria Superior de la Federación 2011; Revilla 2013), put in place after the nation's major mid-1990s "Tequila" financial crisis. National laws allow state and municipal governments to contract debt from public and private sources but consider subsovereign debt as subordinated debt and ranking below national debt in claims on assets or earnings. National legislation also states that all subnational debt liabilities must be in Mexican pesos, that all long-term[6] debt contracts must be registered with the federal finance secretariat, and that all long-term debt must be used for "economically productive" purposes (Auditoria Superior de la Federación 2011; Revilla 2013). Scholars have criticized the current regulatory framework for its lack of clarity of "economic productiveness" (Revilla 2013) and for not requiring subnational governments to outline savings mechanisms for offsetting debt liabilities (Giugale et al. 2000).

Indeed, it appears that in restructuring subnational capital markets the national government intended to prioritize the role of market forces in managing subnational debt dynamics rather than regulations (Giugale et al. 2000). Public and private sector bank capitalization requirements now require that financing decisions be based on

5 See Mexico's National Institute for Geographic and Informational Statistics (Instituto Nacional de Estadística Geografía e Informática (INEGI)).

6 We do not examine short-term bridge loans used to close year-end fiscal accounts.

credit worthiness, with state and municipal governments required to contract ratings agencies to appraise their fiscal positions.[7] Current national legislation also leaves it up to states to determine whether to impose any precise limits on state and municipal debt rights (Auditoria Superior de la Federación 2011; Revilla 2013). States are responsible for determining administrative procedures for state and municipal level debt approval (Auditoria Superior de la Federación 2011; Revilla 2013). Where state legislation exists, the approval process for municipal debt – under study here – tends to follow three-stages: municipal debt plans are first presented to and must win two-thirds support from municipal councils, plans are then presented to state legislatures which must approve them as well, and states must report any municipal debt contracts to the national finance secretariat. However, state regulation over municipal debt limits varies widely, with anecdotal evidence also suggesting that states do not strictly enforce their rules. State legislators and municipal councilors are known to ask few questions about any subnational public investment plans or the instruments chosen to finance them, while state legislative and municipal council approval is pro forma due to the power and informational imbalance between these executives and their legislatures in Mexico.

The main debt instruments available in Mexico's subnational capital market include development bank loans, commercial bank loans, "trust" instruments, and subsovereign bonds. As mentioned, states and municipalities in Mexico must secure credit ratings in order to access any of these instruments, and all loans are "guaranteed" in some way by states' or municipalities' current or future unearmarked (and increasingly earmarked) fiscal transfer revenue or own-source income (Revilla 2013). Importantly, these four debt instruments can be ranked according to their relative level of cost-efficiency. Although development bank credit is usually fairly easy to access, these loans tend to provide the least favorable terms to subnational governments because they charge additional administrative costs for technical assistance that is often a requirement for securing them (Revilla 2013). Of course, development bank debt is often the refuge of Mexico's less credit-worthy subnational governments but it is also often appealing to subnational entities with stronger ratings because it is the most familiar instrument to them; it ranks as one of the oldest sources of subsovereign financing in Mexico, with all subnational governments and the political parties having considerable experience in accessing these loans.

In contrast, "trust" instruments and bond emissions are much newer financing instruments whose existence and/or mechanisms for access are more complex as well as much less familiar to subnational governmental officials. Subnational bond markets

7 The four agencies allowed to conduct ratings include Standard & Poor's, Moody's, Fitch, and HR Ratings (a local agency). States and municipalities have also been encouraged to seek ratings from more than one agency. Interview with Luiz Martínez, Director of Public Finance Ratings, Standard & Poor's, Distrito Federal, Mexico. July 2009. Interview with Cesar Barceinas, Associate Director of Public Finance Ratings, Standard & Poor's, Distrito Federal, Mexico, July 2009.

became operational only in 2001, while the trust instruments were made available soon thereafter. Although trust and bond instruments are relatively more difficult to set up than development bank loans because they require the involvement of more players in the lending process, as well as additional and often onerous legal and financial hurdles, they tend to be more cost-efficient as a result. Trust instruments require that a portion of the subnational government's fiscal transfers or own source revenues be transferred to a legally constituted "trust" that serves as a formal guarantor of payment. The trust can even be constituted in such a way as to allow it to disburse payments to the creditors instead of the subnational government itself. Although this instrument requires additional legal costs to constitute the trust, its legal faculties lowers the credit risk to investors and thus drives down credit risk, something that should make these instruments appealing to subnational governments with both weaker and stronger credit ratings. Trusts were thus originally conceived with the aim of facilitating the access of less credit-worthy state and municipal governments to more cost-efficient private debt financing.

Mexico's subnational bond market is geared toward its relatively more credit-worthy subnational governments, although this instrument would be appealing to all subnational units more generally. The cost of this debt instrument to state and municipal governments would be relatively lower than that of development bank loans due to investor competition for sovereign debt instruments desired to balance investment portfolios. However, the process of issuing bonds also implies that those able to access them will tend to be among those who would usually enjoy relatively more cost-efficient loan terms more generally. Mexico's subnational bond issuances usually occur through a private underwriter that agrees, alone or in syndicate with other private financial institutions, to purchase the full bond issue and then to remarket them to investors. Given the risk assumed by the underwriter, only the relatively more credit-worthy subnational governments can access this type of debt instrument.

Commercial bank loans tend to lie in between these two ends of Mexico's subnational debt cost-efficiency continuum. Commercial bank credits are among the oldest type of debt instruments available to subnational governments in Mexico, alongside development bank loans. However, we expect commercial bank loans to be somewhat more cost-efficient that these public sector loans because, unlike development banks, commercial banks do not charge for technical assistance. Also, unlike development bank lending, no single commercial bank enjoys a monopoly on private sector bank lending, something that raises competition and drives down prices. Even so, we expect commercial bank loans to be less cost-efficient than trust or bond instruments. Commercial bank lenders do not benefit from the presence of a legally constituted "trust" that guarantees payment, forcing subnational governments to compensate banks for the additional risk they assume in lending. Although anecdotal

accounts suggest that the costs of commercial bank loans have been driven down in recent years – as a result of the long relationships that many subnational governments enjoy with these banks who also provide other financial services to subnational entities and by rising competition from "trust" and bond instruments[8] – commercial banks do not face the same level of inter-bank competition for credit-worthy clients as do those financial institutions hoping to underwrite and resell bonds to investors.

Given the different financing instruments available to subnational governments, if purely market forces were at work guiding the level and nature of subnational debt, we would expect states and municipalities with stronger fiscal positions and credit ratings to access the newer and relatively more cost-efficient trust and bond instruments and to move away from the better known but relatively less cost-efficient commercial and development bank loans. Yet, scholars note the failure of market forces to determine Mexico's subnational debt dynamics (Hernández Trillo et al. 2002). To explain this failure, we use our "rational partisan theory of public debt portfolios" that explains how partisan ideological positions match the debt cost-efficiency continuum, shown in Figure 1. We expect that right-leaning PAN-run municipalities will favor relatively less costly "trust" and bond instruments over commercial bank and development bank loans, respectively, all else being equal. In contrast, we expect that left-leaning PRD-run municipalities will favor development bank loans above commercial bank and trust or bond instruments, respectively, all else being equal (see Figure 1). Lying in between these two partisan ideological positions are the PRI-run municipalities whose relatively more ideologically centrist (on average) voters will lead their leaders to favor commercial bank loans (see Figure 1). These tendencies should occur regardless of (controlling for) any state or municipal demographic features, its population or it socio-economic makeup, or its government's fiscal position or wealth.

8 We thank Federico Estévez and Fausto Hernández for these insights. Unfortunately, information on commercial bank interest rates and fees is not publically available.

FIGURE 1: RATIONAL PARTISAN IDEOLOGY AND THE DEBT COST-EFFICIENCY CONTINUUM IN MEXICO

Economically Left-Leaning	Economically Centrist	Economically Right-Leaning
State-Led Economic Development	Mixed Economic Policy Approach	Market-Driven Economic Development
PRD	PRI	PAN
Development Bank Loans	Commercial Bank Loans	Trust & Bond Instruments
Less Cost-Efficient Financing	Average Cost-Efficient Financing	More Cost-Efficient Financing

Statistical Analysis

We assess the impact of partisan ideolo
gy on the total and type of municipal debt in Mexico using cross-sectional times-series analysis. Our dependent variable of concern is total debt and total debt according to the type of instrument (development bank loans, commercial bank loans, trust instruments, and municipal bond obligations) reported to the national finance secretariat (Secretaría de Hacienda y Crédito Público or SHCP). Mexico's SHCP has only recorded this data in a systematic way since 2004, so we consider 2004 through 2012 (the last year of national presidential PAN rule before turnover to the PRI). We transform the peso-denominated debt data into per capita terms and then take its square root to reduce the impact of outliers (and address nonlinearity). (Square roots are used instead of log transformations due presence of 0 values.) Timmons and Broid (2013) show that states supplement transfers to municipalities for political reasons, leading us to prefer a per capita debt measure rather than a measure of debt as a share of municipal revenues. State supplements to scheduled municipal transfers can lower municipal debt to revenue ratios and distort cross-municipal comparison. Even so, we reran all models using municipal debt measured as a share of total own-source revenues and unearmarked transfers, which are often pledged to guarantee loans. These results follow those of the main per capita analysis analyzed here and are included in the appendix as a cross-validation of the main results.

Mexico's 2,444 municipalities and the nine years (2004 – 2012) under study gave us a total of 21,958 municipal-year observations (with missing data for 38 observations). Among the 21,598 observations, there were 5,604 municipal-year observations with debt, including 4,700 development bank loans, 803 commercial bank loans, 149 trust instruments, and 802 bond emissions, with all remaining municipal-year observations having zero debt emissions. Development bank loans averaged 269 pesos per capita, commercial bank loans 784 pesos per capita, trust instruments 81 pesos per capita, and bond issuances 183 pesos per capita (excluding observations with zero debt emissions).

The main explanatory variable of concern is municipal partisan ideology. We use a series of dummy variables to capture whether the right-leaning PAN, the left-leaning PRD, or the mass-based and thus relatively more centrist PRI controlled each municipality in each year under study. A host of other small national and state parties periodically won municipal elections but we include them under a single dummy variable called "other" to control for their presence. To construct the dummy variables, we considered any coalition between one of the main national PAN, PRI, or PRD parties and any small parties as dominated by the main national party. The PAN and PRD formally joined in coalition together to compete against the PRI in three states (Chiapas, Oaxaca, Puebla) in different years. We considered any PAN-PRD coalition apart from the main PAN and PRD ones, in order to isolate and control for any potential differences in their dynamics compared to those of these parties when operating on their own or in coalition with small parties. The state of Oaxaca holds nonpartisan elections in most (418 out of 570) of its municipalities, so we used state results as a proxy for municipal elections.[9]

We include a series of fiscal, political, and socio-economic controls. Scholars have shown that federal fiscal contracts that create vertical fiscal imbalances (Rodden 2002) and lack hard budget constraints (Rodden et al. 2003) on state governments encourage state leaders to overspend, leaving us to expect these dynamics might operate at municipal levels as well. Revenue sharing systems where taxes are collected by the federal government and shared with states reduce the incentive of state leaders to design efficient public spending programs (Rodden 2002; Rodden and Wibbels 2002; Rodden 2006). We suspect that this might also undermine state interest in efficient public debt portfolios, as well as operate at the municipal level. Scholars have also shown that soft budget constraints reinforce this tendency because state executives believe that federal officials will cover excess spending if they are unable to pay (Rodden 2002; Rodden and Wibbels 2002; Rodden 2006). We suspect that this may also lead state executives, as well as municipal officials, to seek quicker sources of

9 Election results are from state electoral institutes, the Federal Electoral Institute (Instituto Federal Electoral (IFE)), and the Center for Research on Development (Centro de Investigación para el Desarrollo (CIDAC)).

financing rather than search out financial instruments with higher hurdles to access but with more favorable terms. Federal constitutions that give states veto power over national policy, as in the Mexican case, aggravate these dynamics by preventing the rebalancing of federal fiscal contracts (Rodden 2002; Rodden and Wibbels 2002; Rodden 2006). We thus include the share of municipal transfer revenue relative to total revenue to control for the municipality's vertical fiscal imbalance.[10] We also include state fixed effects and variables capturing the nature of vertical partisan alignment, discussed below.

Scholars of subnational fiscal spending have shown that vertical partisan alignment between national and state levels of government encourages subnational state leaders to engage in fiscal discipline because they fear presidential retribution (Jones et al. 2000) or harming their parties' reputations at national polls (Rodden and Wibbels 2002). We thus control for the presence of the PAN, PRD, PRI, and PAN-PRD state governors. We use gubernatorial partisan ideology dummies, rather than a dummy noting gubernatorial-municipal copartisanship, in order to control for any effect that the partisan ideology of state governments might have on municipal borrowing trends as well.

We also include a municipal election year dummy. Although we expect most loans to be concentrated in off-election years, as municipal governments find it hard to justify increased debt when they leave the political benefits of any debt-financed spending to successor administrations (mayors cannot be immediately re-elected in Mexico), a growing body of research demonstrates that municipalities in developing democracies engage in expansionary fiscal policies at election time (e.g. Drazen and Eslava 2010; Sakurai and Menezes-Filho 2008; Veiga and Veiga 2007) and that this helps them win elections (Sakurai and Menezes-Filho 2008; Jones et al. 2012).

Finally, we control for a series of other variables that have been said to influence municipal debt dynamics. Larger unban areas have greater access to subnational capital markets and to a greater variety of debt instruments, while fiscally wealthier subnational governments that count on better credit ratings enjoy the same (Thau 2005). We thus include controls for population size (square root), poverty (marginality index), and total municipal income (square root per capita). Data on municipal credit ratings are unavailable because municipalities not seeking loans did not secure ratings. The inclusion of a variable capturing actual credit ratings would lead many municipal-year observations to drop out, biasing the results. Even so, many of our control variables (vertical fiscal balance, per capita fiscal income, population size) include the main factors considered by credit rating agencies, so they serve as proxys.

10 All data are from INEGI and Mexico's National Population Council (Consejo Nacional de Población (CONAPO)).

We use Generalized Least Squares (GLS) - Random Effects (RE) models to analyze the data. GLS models account for within-municipal unit heteroskedasticity[11] and autocorrelation[12] that we found present in the data. We use robust standard errors (clustered on the municipality) to address within-unit heteroskedasticity and autocorrelation. We choose GLS - RE rather than GLS – Fixed Effect (FE) models because our main explanatory variables for the different partisan ideologies do not vary much over time in most municipalities, and because we care most about measuring differences between municipalities rather than within them (which is what FE models do).[13] We include year fixed effects (dummy variables) to control for inter-temporal variation found to exist across all municipalities.[14] Year fixed effects also control for shifting investor appetites for sovereign debt across time, both in general and among different debt instruments, caused by changing international and domestic structural macro-economic and political conditions. As mentioned above, we include state fixed effects (dummy variables) to control for any differences between states' de jure and de facto soft budget constraints that might also matter for municipal spending. State dummies are more appropriate than state-clustered standard errors because, although we expect some state regulatory features to matter for the uppermost debt levels reached by some municipalities, we do not expect all municipalities (for the rational partisan reasons argued here) within a state to choose to reach this uppermost level just because of any shared state attribute.

Table 1 presents results for five models analyzing the effect of partisan ideology on per capita total, development bank, commercial bank, trust, and bond debt (square roots). Mexico's de facto soft budget constraints do not restrict subnational debt in its level or type, which means that each municipality took each debt decision separately. Even so, in the models (2 through 5) analyzing the different types of debt, we include controls (per capita square root) for all debt assumed under the other types of loan instruments, in order to account for any interplay between these different types in overall portfolio construction. We use the PRI-run municipalities as the point of comparison and omit this dummy variable from the models. We expect average PRI ideological interests to lie somewhere between the left-leaning PRD and right-leaning PAN.

11 Wald tests for group-wise (within municipal unit) heteroskedasticity were significant ($p < 0.01$) across GLS - FE models using different measures of the dependent variables. Test results can be supplied upon request.

12 Woolridge tests for serial autocorrelation of group-wise disturbances were significant ($p < 0.01$) across GLS - FE models using different measures of the dependent variables. Test results are available upon request.

13Breusch and Pagan Lagrangian multiplier tests on GLS - FE models showed that we could reject the null that the unit-specific residuals are zero ($p<0.01$ for all measures of the dependent variable used here), so there is variance across the units (municipalities) beyond that explained by FE models and thus that RE models are appropriate. Test results are available upon request.

14 A test for whether year dummy coefficients were jointly equal to zero across all models with different the dependent variables analyzed in this study allowed us to reject the null hypothesis that they were as well (with $p < 0.01$). Test results are available upon request.

We begin with an analysis of total municipal debt per capita (square root), shown in Model 1. Before proceeding to our analysis of partisan ideological preferences for different types of debt, it is important to confirm whether Mexico's three main political parties conformed to "rational partisan" expectations that right-leaning parties would have a lower appetite for public debt than their relatively more left-leaning counterparts. The findings in Model 1, Table 1 generally conform to our expectations: the coefficient for the dummy variable recording whether the municipality was PAN-led was negative (-0.417) and significant at the $p < 0.1$ level, showing that per capita debt in PAN municipalities was lower than PRI-run ones, all else being equal. Interestingly, PRD municipalities showed total per capita debt levels no different from those of the PRI, as shown by this variable's insignificant coefficient. It thus appears that the formerly hegemonic but nowadays mass-based PRI behaves on average similarly to the left-leaning PRD in its appetite for debt at the municipal level. This is not surprising when considering the distribution of partisan support and population in Mexico: the PRI is known for its right-leaning policy rhetoric when competing with the PAN in the more sparsely populated north, while it relies on a more left-leaning policy rhetoric in the nation's denser central and southern regions – divided into a greater number of municipalities – where it competes with the PRD.

The municipal election year dummy was negative and significant, with municipalities contracting lower per capita development bank debt in municipal election years. Higher population cities also assumed greater per capita debt but municipal fiscal wealth and poverty levels had no effect on total per capita debt levels. The municipality's vertical fiscal imbalance had the opposite effect than usually theorized, with the negative -3.735 ($p < 0.01$) coefficient showing that municipalities more dependent on fiscal transfers had lower per capita total debt. With the exception of total population, the absence of or contrary effects of these variables normally associated with subnatioanl governmental credit ratings suggests that credit ratings had no effect on the tendency of municipal governments to access subantional capital markets in Mexico. This demonstrates that Mexico's subnational capital markets, thanks to the variety of instruments available in them, are not closed to the less credit worthy, and thus that our subsequent analysis of partisan tendencies across different types of debt are not biased because they exclude municipalities with greater credit risk.

In numeric terms, the results for total debt in Model 1, Table 1 show that an "average" PAN municipality – with an average population (50,000 people), fiscal wealth (2,601) pesos per capita, vertical fiscal imbalance (0.80), and poverty level (-0.33 marginality index),[15] and all other covariates at their global means – would have yearly total debt liabilities of 25.81 pesos per person compared to an equivalent "average"

15 These averages were calculated across those municipalities with debt.

PRI municipally whose total yearly debt liabilities would be 30.25 pesos per person.[16] This 4.44 peso per capita difference in debt between equivalent PAN and PRI municipalities does not seem very large at first but aggregated over the entire municipal population and/or over a longer period of time it can become quite striking. For example, comparing two towns of 50,000 people each, this seemingly innocuous 4.44 pesos per capita difference in debt becomes 222,000 pesos total additional debt in the PRI-run compared to the PAN-run locality. Over a ten-year period, this 4.44 pesos per capita difference becomes 2.2 million pesos additional debt in the PRI-run compared to PAN-run municipality. Across, 10 years and 10 PAN-run and 10 PRI-run municipalities, this per capita difference becomes 22.2 million pesos additional total debt liabilities among the 10 PRI compared to the 10 PAN places. The insignificant PRD municipality coefficient means that the difference noted between an "average" PRI and the PAN municipalities is also true for a PRD-PAN comparison as well. Moreover, this per capita peso partisan difference grows with the size of the municipal population, with larger towns and cities counting on greater per capita debt differences, thereby aggravating these noted trends across multiple localities and time. Table 2 summarizes the estimated per capita partisan differences in total municipal debt across multiple years and multiple municipalities; Table 3 summarizes the difference in per capita debt by municipal population size.

16 These per capita peso counts are based on the coefficient for the PAN municipal dummy, which estimates (and tests) the effect of PAN municipal control (compared to PRI control) across all observations, including those with zero debt.

TABLE 1: THE EFFECT OF PARTISAN IDEOLOGY ON DEBT LEVELS AND TYPE OF DEBT INSTRUMENT IN MEXICO (PER CAPITA, SQUARE ROOT)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
	ALL DEBT INSTRUMENTS (PER CAPITA, SQUARE ROOT)	DEVELOPMENT BANK DEBT (PER CAPITA, SQUARE ROOT)	COMMERCIAL BANK DEBT (PER CAPITA, SQUARE ROOT)	"TRUST" INSTRUMENT DEBT (PER CAPITA, SQUARE ROOT)	"TRUST" INSTRUMENT DEBT (PER CAPITA, SQUARE ROOT)	MUNICIPAL BOND DEBT (PER CAPITA, SQUARE ROOT)
PAN Municipality (Dummy)	-0.417*	-0.400**	-0.316**	0.0311	0.0311**	0.195**
	(0.243)	(0.171)	(0.154)	(0.0198)	(0.0151)	(0.0827)
PRD Municipality (Dummy)	-0.0975	-0.221	-0.202**	-0.00158	-0.00158	0.214**
	(0.205)	(0.181)	(0.0937)	(0.0104)	(0.0186)	(0.0887)
PAN-PRD Municipality (Dummy)	0.0268	0.608***	-0.300***	0.00399	0.00399	-0.255***
	(0.214)	(0.217)	(0.0876)	(0.0153)	(0.0261)	(0.0426)
"Other" Party Municipality (Dummy)	-0.515	-0.128	-0.255	0.0346	0.0346	-0.268***
	(0.326)	(0.277)	(0.169)	(0.0300)	(0.0279)	(0.100)
Total Population (sqrt)	0.0137***	0.00576***	0.0109***	0.000166*	0.000166*	-0.000184
	(0.00131)	(0.00132)	(0.00114)	(0.0000987)	(0.0000935)	(0.000157)
Fiscal Revenue (per cap sqrt)	0.00457	-0.00404	0.0231***	-0.000831	-0.000831	0.00227
	(0.00779)	(0.00625)	(0.00690)	(0.000605)	(0.000743)	(0.00147)
Vertical Fiscal Imbalance	-3.735***	-2.379***	-1.218**	-0.261	-0.261***	-0.163
	(0.769)	(0.665)	(0.494)	(0.166)	(0.0663)	(0.189)
Poverty (Marginality Index)	-0.0749	-0.0714	-0.0208	0.0146**	0.0146	-0.0351
	(0.118)	(0.110)	(0.0533)	(0.00577)	(0.0143)	(0.0271)
Municipal Election Year (Dummy)	-0.671***	-0.886***	0.0828	0.0138	0.0138	-0.0442**
	(0.101)	(0.0785)	(0.0611)	(0.00924)	(0.0115)	(0.0191)

Develop. Bank Debt (per cap sqrt)			**-0.0437*** **	**0.00369**	**0.00369*** **	**0.0141*** **
			(0.0100)	**(0.00459)**	**(0.000982)**	**(0.00457)**
Commerc. Bank Debt (per cap sqrt)		**-0.0454***		**0.00249**	**0.00249** **	**0.000588**
		(0.0267)		**(0.00250)**	**(0.00101)**	**(0.00308)**
"Trust" Debt (per cap sqrt)		**0.213**	**0.136**			**-0.0182*** **
		(0.154)	**(0.143)**			**(0.00462)**
Bond Debt (per cap sqrt)		**0.0874*** **	**-0.00606**	**-0.00229***	**-0.00229**	
		(0.0294)	**(0.0183)**	**(0.00120)**	**(0.00234)**	
PAN Governor (Dummy)	**1.427*** **	**0.438**	**0.225**	**0.176*** **	**0.176*** **	**0.880*** **
	(0.342)	**(0.307)**	**(0.183)**	**(0.0671)**	**(0.0281)**	**(0.0820)**
PRD Governor (Dummy)	**1.061** **	**1.152*** **	**0.0338**	**-0.00626**	**-0.00626**	**-0.0899**
	(0.415)	**(0.359)**	**(0.165)**	**(0.0160)**	**(0.0314)**	**(0.0730)**
PAN-PRD Governor (Dummy)	**-3.665*** **	**-2.432*** **	**-0.576*** **	**0.00698**	**0.00698**	**-1.192*** **
	(0.253)	**(0.218)**	**(0.132)**	**(0.0293)**	**(0.0236)**	**(0.0958)**
Year Dummy 2005	**1.903*** **	**1.601*** **	**0.402*** **	**0.000972**	**0.000972**	**-0.0675*** **
	(0.142)	**(0.132)**	**(0.0647)**	**(0.00769)**	**(0.0208)**	**(0.0149)**
Year Dummy 2006	**2.590*** **	**2.357*** **	**0.330*** **	**-0.00602**	**-0.00602**	**-0.0763**
	(0.166)	**(0.153)**	**(0.0659)**	**(0.0145)**	**(0.0211)**	**(0.0492)**
Year Dummy 2007	**2.953*** **	**2.659*** **	**0.379*** **	**0.0419** **	**0.0419***	**-0.113*** **
	(0.168)	**(0.155)**	**(0.0811)**	**(0.0171)**	**(0.0214)**	**(0.0232)**
Year Dummy 2008	**2.668*** **	**2.228*** **	**0.379*** **	**0.0567*** **	**0.0567** **	**-0.126*** **
	(0.201)	**(0.183)**	**(0.0982)**	**(0.0217)**	**(0.0236)**	**(0.0281)**
Year Dummy 2009	**5.774*** **	**4.660*** **	**0.835*** **	**0.0657** **	**0.0657*** **	**0.378*** **
	(0.287)	**(0.214)**	**(0.203)**	**(0.0283)**	**(0.0238)**	**(0.0439)**
Year Dummy 2010	**7.564*** **	**5.054*** **	**1.258*** **	**0.0627** **	**0.0627*** **	**1.626*** **
	(0.310)	**(0.238)**	**(0.227)**	**(0.0254)**	**(0.0242)**	**(0.117)**
Year Dummy 2011	**7.558*** **	**5.203*** **	**1.177*** **	**0.00873**	**0.00873**	**1.595*** **

	(0.289)	(0.255)	(0.176)	(0.0267)	(0.0272)	(0.119)
Year Dummy 2012	6.390***	3.923***	1.133***	0.0675**	0.0675**	1.662***
	(0.289)	(0.240)	(0.179)	(0.0300)	(0.0263)	(0.122)
Constant	1.127	3.191***	-2.055***	0.0397	0.0397	-0.893**
	(1.118)	(1.069)	(0.795)	(0.0948)	(0.168)	(0.365)
R2 Within	0.1357	0.1322	0.014	0.0052	0.0052	0.1047
R2 Between	0.4459	0.3979	0.2724	0.0771	0.0771	0.7363
R2 Overall	0.2703	0.2647	0.1034	0.0394	0.0394	0.3423
Chi-Squared	3322.5***	2332.2***	345.8***	15.81	294.5***	1629.8***
State Fixed Effects (Dummies)	Yes	Yes	Yes	Yes	Yes	Yes
Robust SE's Clustered on Municip.	Yes	Yes	Yes	Yes	No	Yes
Number of Observations	18126	18125	18125	18125	18125	18125

Note: GLS-RE regression with robust standard errors clustered on the municipality. Year and State effects dummy variable results reported. Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 2: ESTIMATED PARTISAN DIFFERENCES IN PUBLIC DEBT IN "AVERAGE" MUNICIPALITIES (MEXICAN PESOS)

	TOTAL DEBT		DEVELOPMENT BANK LOANS		COMMERCIAL BANK LOANS		TRUST INSTRUMENTS		MUNICIPAL BONDS	
	PARTISAN DIFFERENCE		PARTISAN DIFFERENCE		PARTISAN DIFFERENCE		PARTISAN DIFFERENCE		PARTISAN DIFFERENCE	
YEARS	PAN - PRI*	PRD - PRI	PAN - PRI*	PRD - PRI	PAN - PRI*	PRD - PRI*	PAN - PRI*	PRD - PRI	PAN - PRI*	PRD - PRI*
	(-4.44 PER PERSON)	(-1.07 PER PERSON)	(-2.98 PER PERSON)	(-1.66 PER PERSON)	(-0.89 PER PERSON)	(-0.58 PER PERSON)	(0.004 PER PERSON)	(0 PER PERSON)	(0.21 PER PERSON)	(0.24 PER PERSON)
Comparing Two "Average" 50,000-person Municipalities (One PAN or PRD versus One PRI)										
1	-222,000	-53,500	-149,000	-83,000	-44,500	-29,000	200	0	10,500	12,000
2	-444,000	-107,000	-298,000	-166,000	-89,000	-58,000	400	0	21,000	24,000
3	-666,000	-160,500	-447,000	-249,000	-133,500	-87,000	600	0	31,500	36,000
4	-888,000	-214,000	-596,000	-332,000	-178,000	-116,000	800	0	42,000	48,000
5	-1,110,000	-267,500	-745,000	-415,000	-222,500	-145,000	1,000	0	52,500	60,000
6	-1,332,000	-321,000	-894,000	-498,000	-267,000	-174,000	1,200	0	63,000	72,000
7	-1,554,000	-374,500	-1,043,000	-581,000	-311,500	-203,000	1,400	0	73,500	84,000
8	-1,776,000	-428,000	-1,192,000	-664,000	-356,000	-232,000	1,600	0	84,000	96,000
9	-1,998,000	-481,500	-1,341,000	-747,000	-400,500	-261,000	1,800	0	94,500	108,000
10	-2,220,000	-535,000	-1,490,000	-830,000	-445,000	-290,000	2,000	0	105,000	120,000
Comparing Twenty 50,000-person Municipalities (10 PAN or PRD versus 10 PRI)										
1	-2,220,000	-535,000	-1,490,000	-830,000	-445,000	-290,000	2,000	0	105,000	120,000
2	-4,440,000	-1,070,000	-2,980,000	-1,660,000	-890,000	-580,000	4,000	0	210,000	240,000
3	-6,660,000	-1,605,000	-4,470,000	-2,490,000	-1,335,000	-870,000	6,000	0	315,000	360,000
4	-8,880,000	-2,140,000	-5,960,000	-3,320,000	-1,780,000	-1,160,000	8,000	0	420,000	480,000
5	-11,100,000	-2,675,000	-7,450,000	-4,150,000	-2,225,000	-1,450,000	10,000	0	525,000	600,000
6	-13,320,000	-3,210,000	-8,940,000	-4,980,000	-2,670,000	-1,740,000	12,000	0	630,000	720,000

7	**-15,540,000**	**-3,745,000**	**-10,430,000**	**-5,810,000**	**-3,115,000**	**-2,030,000**	**14,000**	**0**	**735,000**	**840,000**
8	**-17,760,000**	**-4,280,000**	**-11,920,000**	**-6,640,000**	**-3,560,000**	**-2,320,000**	**16,000**	**0**	**840,000**	**960,000**
9	**-19,980,000**	**-4,815,000**	**-13,410,000**	**-7,470,000**	**-4,005,000**	**-2,610,000**	**18,000**	**0**	**945,000**	**1,080,000**
10	**-22,200,000**	**-5,350,000**	**-14,900,000**	**-8,300,000**	**-4,450,000**	**-2,900,000**	**20,000**	**0**	**1,050,000**	**1,200,000**

Note: Per capita partisan debt figures estimated using Stata's margins command based on the models in Table 1. Socio-economic variables held at averages of the subsample of those municipalities with any reported debt, all other variables held at the full sample mean. *Municipal partisan control dummy variable in the original model achieved significance, so the reported partisan difference in this table is significant.

TABLE 3: ESTIMATED PARTISAN DIFFERENCES IN PUBLIC DEBT BY MUNICIPAL POPULATION (MEXICAN PESOS PER CAPITA)

	TOTAL DEBT		DEVELOPMENT BANK LOANS		COMMERCIAL BANK LOANS		TRUST INSTRUMENTS		MUNICIPAL BONDS	
	PARTISAN DIFFERENCE (PER CAPITA)		PARTISAN DIFFERENCE (PER CAPITA)		PARTISAN DIFFERENCE (PER CAPITA)		PARTISAN DIFFERENCE (PER CAPITA)		PARTISAN DIFFERENCE (PER CAPITA)	
Municipal Population+	*PAN - PRI**	*PRD - PRI*	*PAN - PRI**	*PRD - PRI*	*PAN - PRI**	*PRD - PRI**	*PAN - PRI**	*PRD - PRI*	*PAN - PRI**	*PRD - PRI**
10,000	-3.02	-0.72	-2.42	-1.35	-0.05	-0.04	0.002	0.00-	0.22	0.25
40,000	-4.16	-0.99	-2.88	-1.60	-0.74	-0.48	0.003	0.000	0.21	0.24
50,000++	*-4.44*	*-1.07*	*-2.98*	*-1.66*	*-0.89*	*-0.58*	*0.004*	*0.000*	*0.21*	*0.24*
90,000	-5.30	-1.26	-3.34	-1.86	-1.43	-0.92	0.005	0.000	0.21	0.23
160,000	-6.45	-1.52	-3.80	-2.11	-2.12	-1.36	0.006	-0.001	0.20	0.23
250,000	-7.59	-1.79	-4.26	-2.36	-2.81	-1.81	0.007	-0.001	0.19	0.22
360,000	-8.73	-2.06	-4.72	-2.62	-3.50	-2.25	0.008	-0.001	0.18	0.21
490,000	-9.88	-2.33	-5.18	-2.87	-4.19	-2.69	0.009	-0.001	0.18	0.20
640,000	-11.02	-2.59	-5.64	-3.13	-4.88	-3.13	0.01	-0.001	0.17	0.20
810,000	-12.16	-2.86	-6.10	-3.38	-5.57	-3.57	0.01	-0.001	0.16	0.19
1,000,000	-13.31	-3.13	-6.57	-3.64	-6.26	-4.01	0.01	-0.001	0.16	0.18
1,210,000	-14.45	-3.40	-7.03	-3.89	-6.95	-4.45	0.01	-0.001	0.15	0.17
1,440,000	-15.59	-3.66	-7.49	-4.15	-7.64	-4.89	0.01	-0.001	0.14	0.16
1,690,000	-16.73	-3.93	-7.95	-4.40	-8.32	-5.33	0.01	-0.001	0.13	0.16

Note: Per capita partisan debt figures estimated using Stata's margins command based on the models in Table 1. Socio-economic variables held at averages of the subsample of those municipalities with any reported debt, all other variables held at the full sample mean. +Municipal population varied from 1002 to 13002; ++mean municipal population among those places with debt highlighted. *Municipal partisan control dummy variable in the original model achieved significance, so the reported partisan difference in this table is significant.

We now turn to the analysis of the different debt types. Model 2 in Table 1 presents results for the effect of partisanship on public development bank debt (per capita square root). We expect that the left-leaning PRD will tend to favor this comparatively more costly debt instrument compared to the relatively more centrist mass-based PRI, and especially compared to the more right-leaning PAN. As shown in Model 2, right-leaning PAN municipalities enjoyed lower per capita development bank debt than PRI places, with the -0.400 coefficient significant at the $p < 0.05$ level. Interestingly, the left-leaning PRD municipalities enjoyed per capita development bank debt levels no different from municipalities ruled by the mass-based PRI, with the coefficient for whether the municipality was run by the PRD or not insignificant. The mass-based PRI thus appears to be driven not only to contract total debt at rates comparable the left-leaning PRD, but also to contract development bank debt at similar rates to this party as well. Again, this finding makes sense when considering that most PRI-PRD political competition occurs in the more densely populated the central and southern regions of Mexico, which together account for most municipal governments.

Put in peso terms, an "average" PAN-run municipality thus counted on a yearly average of 12.38 pesos per capita in development bank debt compared to PRI-run (or PRD-run) municipalities' 15.36 per capita peso figure, that is, on average 2.98 pesos per capita less. This amounts to 149,000 pesos additional total yearly development bank debt in an "average" 50,000-person PRI (or PRD) municipality compared to a PAN one. Over the span of 10 years, this same PRI (or PRD) municipality would owe 1.49 million pesos more in total development bank debt than a similar PAN one; over 10 years, 10 "average" PRI (or PRD) municipalities would owe 14.9 million total pesos more than 10 PAN ones. Estimates for the total partisan differences in total development bank debt across numerous municipalities and over time are found in Table 2. Model 2, Table 1 also shows that larger population municipalities showed greater development bank debt per capita (see Table 3 as well). Vertical fiscal imbalances had a negative effect, while municipal fiscal wealth and poverty rates had no effect, as in Model 1.

Model 3 presents results for the analysis of commercial bank debt. In line with expectations, PRI municipalities favored commercial bank debt over PAN and PRD ones. The analysis shows that PAN municipalities contracted lower commercial bank debt per capita than PRI localities, with this variable's -0.316 coefficient significant at the $p < 0.05$ level, and that PRD municipalities also contracted lower commercial bank debt per capita than PRI localities, with this variable's -0.202 coefficient significant as well ($p < 0.05$). Interestingly, the PAN and PRD variable coefficients also show that PRD municipalities enjoyed greater commercial bank per capita debt liabilities than PAN ones, although we did not speculate about these parties' relative commercial bank debt preferences. We interpret these results as supporting our theoretical claim that the mass-based PRI will be demonstrate a greater partisan preference for debt instruments lying to the center of the cost-efficiency continuum compared to the left-leaning PRD and right-leaning PAN (we

discuss and dismiss an alternative explanation for this finding below). Surprisingly, the similarly indebted PRD municipalities (compared to the PRI) made up for the relative lack of commercial bank debt in their debt portfolios with municipal bonds, as discussed below.

The commercial bank debt results show that an "average" PRI-run municipality would have accrued about 2.46 pesos per capita per year in commercial bank debt compared to the PAN's 1.57 and the PRD's 1.76 yearly pesos per capita. Across 50,000 people and 10 years time, these seemingly small differences translate into 445,000 fewer pesos in total commercial debt owed by an "average" PAN compared to an "average" PRI municipality, and 290,000 fewer pesos in total commercial debt owed by an "average" PRD compared to an "average" PRI municipality. Across 10 years' time, 10 "average" PRI municipalities would owe 4.45 million pesos more to commercial banks than similar 10 PAN ones, and 2.89 million pesos more than 10 PRD ones. See Table 2 for these estimates, and Table 3 for per capita partisan differences across different municipal population sizes.

Model 4 presents results for the comparatively more cost-efficient "trust" instruments. The results for partisan ideology on trust instrument debt were insignificant across all parties in the models with municipality-clustered standard errors, although the PAN municipal control variable was nearly significant at $p < 0.11$. However, this model failed Chi-squared tests testing whether all coefficients were equal to zero due to the small number of trusts. Trust instrument contracts were heavily concentrated in just a few states and occurred mostly in 2010, with 125 of the 149 total trust contracts occurring that year. We conclude that relaxing the assumption that standard errors were clustered on the municipality is theoretically and methodologically justified for this instrument, and thus report Model 5 without municipal-clustered standard errors. Model 5 shows that, as expected, PAN-led municipalities (coefficient 0.0311, $p < 0.05$) contracted greater trust fund instrument debt compared to PRI and PRD municipalities. The insignificant PRD coefficient means that PRD-led municipalities performed no differently than PRI ones when considering trust fund instruments. Although we conclude that these cost-efficient debt instruments have been favored by the nation's right-leaning PAN, this instrument is still relatively new to Mexico's subantional capital markets, so it remains to be seen how municipalities will access them over time. Practically speaking, ten 50,000-person "average" PAN municipalities would have amassed about 186,000 pesos more trust fund debt liabilities in ten years compared to 10 similar PRI places. See Table 2 and Table 3 for additional estimates.

In contrast to lesser-known trusts, the municipal bond market was more widely used. Model 6 presents results for the models examining per capita municipal bond liabilities (square root). In line with expectations, PAN municipalities held higher bond debt per capita than PRI municipalities, despite their generally lower total per capita total debt liabilities (Model 1), with the PAN dummy variable 0.195 significant at the $p < 0.05$ level. Contrary to our expectations, PRD municipalities demonstrated higher bond debt per

capita than PRI localities, with this coefficient 0.214 ($p < 0.05$) revealing that PRD per capita bond debt was also higher than that of the PAN as well. We discuss the reason for this surprising finding below. We calculate that an "average" PRI municipality would have 0.20 pesos of bond debt per capita and the PAN 0.41 per capita bond debt, a difference of 0.21 pesos per capita. The PRD would have an even larger per capita level of bond debt, at 0.45 pesos, or 0.24 pesos per capita more than the PRI. An "average" PAN municipality would thus accrue 106,000 pesos in additional bond debt over 10 years compared to a similar PRI municipality, while an "average" PRD municipalities would accrue 120,000 pesos additional bond debt compared to a similar PRI place. See Table 2 and Table 3 for additional points of comparison. We present bond debt results across different municipal population sizes in Table 3 but population size had no effect on bond debt. The coefficient for the municipal election year dummy variable was negative and significant, as expected, while poverty, fiscal wealth, and vertical fiscal imbalances had no effect on municipal bond liabilities.

Before turning to a further discussion of the PRD's surprising bond liabilities, it is important to note that all left-leaning PRD, mass-based PRI, and right-leaning PAN municipalities accrued debt from a variety of instruments across the years under study. However, the municipal partisan dummy variables showed that partisan ideological preferences guided municipal leaders to rebalance portfolios in favor of some debt instruments over others, controlling for the other demographic, fiscal, and socio-economic factors that are also known to drive governments toward different instruments as well. The right-leaning PAN tended to assume lower per capita debt liabilities than its relatively more left-leaning counterparts. The PAN also tended to rely more heavily on the more cost-effective trust and bond instruments and less heavily on development bank and commercial bank loans compared to the PRI and the PRD (except in the case of bonds). All of these findings are in line with our rational partisan expectations.

The PRD, in turn, relied on greater development bank and greater commercial bank debt than the right-leaning PAN, as well as lower trust instrument loans compared to this right-leaning party. However, the PRD also demonstrated a greater penchant for municipal bond issuances compared to both the more centrist PRI and the right-leaning PAN, contrary to our "rational partisan" expectations. This seemingly inconvenient finding, however, helps us dismiss a compelling alternative argument. It could be argued that the PAN-led national government encouraged their copartisan municipal governments to undertake municipal bond issuances not out of party ideology but out of their superior knowledge about these financial instruments. The PAN-run national government managed all national sovereign bond issuances in international capital markets through its control over the national finance secretariat as a result of its two presidential terms (December 2000 to December 2006, and December 2006 to December 2012). If the PAN's national level technical experience were the main force at work, however, then we should have also seen the PRI driven to enter subsovereign bond markets at

greater rates as well. The PRI's longtime control over the national government until 2000 would have given this party a similar level of experience with international financial and bond markets to that of the PAN. Yet, we observed the PRI accessing municipal bond markets at lower rates than both the PAN and PRD, a party never having held the presidency and thus not counting the same level of experience in international capital markets, instead.

It could also be argued that the parties' different histories accessing international capital markets or accessing different debt instruments in domestic capital markets are what drive their preferences among instruments. However, if debt portfolio construction were primarily driven by party history, then the nation's oldest PRI and PAN party organizations, tracing their foundations to the 1930s, should prefer the nation's long available development bank and commercial bank loans over the much newer trust and bond instruments. Yet, this was not the case. The long surviving right-leaning PAN moved into the more cost-efficient trust and bond instruments as soon as they became available. (Assertions that the PAN's role in implementing financial sector reforms after December 2000 encouraged PAN municipal access to these instruments ignore the PRI's original role in kicking off these reforms in the late 1990s.) Meanwhile, the long-ruling centrist PRI's more left-leaning PRD factional splinter group prioritized less cost-efficient development bank financing. The PRI is well known for its long ties to the nation's banking sector, with its governors heavily relying on commercial bank loans in the 1980s to fund public spending (Hernández Trillo et al. 2002). Because the PRD did not split from the PRI until the late 1980s, their members also counted on the same longtime ties and resort to commercial bank lending during this period as well. If these parties' ties to the nation's banking sector had shaped their preferences, then PRD leaders should displayed a greater penchant for commercial bank loans more comparable to that of the PRI, which they did not.

Before concluding, we must address the PRD's unexpected and unexplained preference for municipal bonds. The newness of this instrument to subnational capital markets in Mexico means that this party would not have counted on any particular party history with this instrument, so (once again) we dismiss party history as a possible explanation. Although the PRD shared a common history with the PRI until its split, the timing of this split means that its founders would have, at best, counted on similar levels of experience in international capital markets to that of remaining PRI leaders and, at worst, considerably less, but certainly no more, so we (once again) dismiss any argument that the PRD counted on greater experience with international or domestic capital markets, especially bond markets, compared to the PRI or PAN as an explanation as well.

However, one thing makes the PRD stand out from the PRI and PAN. The basis of PRD support has always been heavily concentrated in the nation's Federal District, with this party also gaining full control over its government in 1997 when it's executive was first elected. Because of its 8-million plus population and role as host to the federal

government's seat of power, the Federal District has enjoyed privileged access to all subnational debt instruments available in Mexico, allowing it to construct a balanced public debt portfolio that does not rely on any single tool.[17] Critically for the PRD, the party's organizational stronghold in and political control over the Federal District has given its leadership privileged knowledge about the variety of debt instruments available to subnational governments. Many of the PRD's most well known national leaders began their political careers in the Federal District's executive or legislative branches, with the best known also serving as mayor. The PRD's Federal District-based national leadership thus benefits from superior knowledge about Mexico's domestic capital markets compared to that of PRI and PAN. Although PRI and PAN national leaders often rise up through the ranks of municipal and state governments as well, they have done so in outer-lying states, not the oversized Federal District that benefits of proximity to the federal seat of power. As such, we argue that the PRD party leadership has been more knowledgeable about and thus better able to disseminate information about subnational bond instruments to municipal leaders compared to the other political groups, even if the PRD's left-leaning ideological predisposition still pushed its municipal leaders to rely on less cost-efficient but more easily accessible development bank loans. Although party history with different debt instruments does not play a role, national party structure affects how information is disseminated to subnational copartisans across the nation.

17 We thus do not include the Federal District in our study, in order to prevent the debt dynamics of this large 8 million-plus sized city from skewing the analysis. In 2012, for example, 30 percent of total Federal District debt obligations were in the form of commercial bank debt, 35 percent in development bank debt, and 23 percent in municipal bonds, and 12 in trusts.

Conclusions

The original aim of this study was to examine subnational debt dynamics for the presence of partisan ideological effects. Most research on governmental spending, deficits, and debt portfolios in emerging market nations has tended to focus on a variety of international and domestic structural macro-economic and political factors that drive either investors or national governments toward different types of sovereign debt. However, anecdotal evidence shows that governments, at least at the subnational level, do not always construct subsovereign debt portfolios that make rational investor or rational governmental sense. To explain the seemingly irrational behavior of subnational governments when constructing debt portfolios, we examined a non-structural political factor that also comes into play: the partisan ideological preferences of the subnational government taking out the loans. Building on "rational partisan" theory, we argue that left-leaning governments inclined toward greater spending to appease constituents – that prioritize the role of immediate-term public spending and public investment for job creation and economic growth – tolerate not just greater public debt loads but also debt portfolios balanced toward instruments with less cost-efficient terms. In contrast, right-leaning governments favoring balanced budgets to satisfy constituents – who prioritize the role of macro-economic stability for attracting private investment deemed instrumental to job creation and economic growth – construct debt portfolios balanced toward instruments with more cost-efficient terms when they must seek financing.

We tested our argument using the case of Mexico, and examined public debt portfolios cross Mexico's 2,444 municipalities across time. Subnational analysis allows us to control for a variety of international and national economic and political factors that also affect international capital markets and investors' appetite for different sovereign debt instruments. Mexico is a particularly good case for study because left-leaning, centrist, and right-leaning political groups have regularly competed at all levels of government since the nation's democratic transition in 2000. Equally important, examination of the post-2000 period allows us to control for the effect of national political ideology on investors' appetite for Mexican public debt: between late 2000 and late 2012, Mexico was ruled by a single party, the right-leaning National Action Party (PAN).

Statistical analysis of yearly debt across Mexico's 2,444 municipalities over nine years (2004 – 2012) showed that the Mexico's parties behaved largely as expected, except in one interesting case. The right-leaning PAN assumed lower per capita debt, as well as preferred more cost-efficient debt instruments compared to the relatively more centrist and mass-based Institutional Revolutionary Party (PRI). The distinctly left-leaning Democratic Revolution Party (PRD) relied on more traditional, cost-inefficient debt

instruments like development bank and commercial bank loans compared to right leaning PAN. The relatively more centrist PRI exhibited a strong reliance on commercial bank loans compared to the left-leaning PRD and right-leaning PAN, as a result of these financing instruments' relatively centrist position on the debt cost-efficiency continuum. Interestingly, however, the left-leaning PRD also demonstrated a surprising tendency to access the sophisticated and cost-efficient subsovereign bond market. We argue that this surprising finding is explained by party organization: the PRD's control over the nation's populous Federal District and proximity to federal financial authorities raised the knowledge of PRD national leaders about subnational capital markets, thereby helping its municipal leaders balance its strong partisan preference for immediate-term development bank loans with more cost-efficient municipal bonds. We thus conclude that partisan ideological preferences affect debt dynamics in Mexico but also that party organizational structures that facilitate access to and the dissemination of information about subnational capital markets can help balance these tendencies.

The findings about subnational debt dynamics in Mexico support observations that this nation's reliance on market dynamics to produce efficient subsovereign debt portfolios has not worked. Instead, just as the electoral connection between parties and voters leads governments to engage in "rational partisan" economic policy-making, it also leads them to extend this logic to debt portfolio construction, an area often thought left to technocratic rational market forces. Our research thus contributes to current policy discussions in Mexico and in other nations about the optimal level of national oversight over subnational capital markets (Canuto and Liu 2010; Leigland 1997; Martell 2003; Poterba and Von Hagen 1999). Most experts have focused on the importance of developing regulatory frameworks according to weaknesses in nation's structural fiscal, budgetary, and administrative institutions. We show, in contrast, that there is a key non-structural factor falling outside of the typical point of regulatory focus that can also affect subsovereign debt behavior: governmental partisan ideology. We argue that national regulatory frameworks must consider how subnational governmental debt behavior might also be affected governmental partisan preferences

Though our analysis of municipal debt dynamics in Mexico, we also seek to contribute to debates about national sovereign debt as well. Of course, the range of financing instruments available to municipalities in Mexico is more limited than those available to sovereign nations. However, we view these limitations as convenient simplifications or controls that facilitate rather than limit our identification of partisan effects. Given that Mexican states and municipalities enjoy soft budget constraints and a range of instruments occupying different positions on the debt cost-efficiency continuum, we believe that subnational debt dynamics in Mexico (and in other nations) is a convenient avenue for investigating the presence of complex partisan trends that might more difficult to capture in cross-national econometric models that must control for a far greater number of international and domestic structural macro-economic and political factors, let alone

domestic regulatory ones, that also affect investor behavior and sovereign debt dynamics. Our analysis should thus be taken as a strong suggestion that partisan effects might operate at the national level as well. Research shows that, despite years of economic policy convergence, institutional investors might be more tolerant of policy divergence than once thought (Garrett 1998a; Garrett and Lange 1991; Mosley 2000) because they can take profits in a variety of situations (Jensen 2003), leading to the possibility that governments might take advantage of such flexibility to entertain rational partisan ideological concerns during sovereign debt decisions

Appendix

APPENDIX: THE EFFECT OF PARTISAN IDEOLOGY ON DEBT LEVELS AND TYPE OF DEBT INSTRUMENT IN MEXICO (SHARE OF FISCAL REVENUES)

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
	ALL DEBT INSTRUMENTS (SHARE OF FISCAL REVENUES)	DEVELOPMENT BANK DEBT (SHARE OF FISCAL REVENUES)	COMMERCIAL BANK DEBT (SHARE OF FISCAL REVENUES)	"TRUST" INSTRUMENT DEBT (SHARE OF FISCAL REVENUES)	"TRUST" INSTRUMENT DEBT (SHARE OF FISCAL REVENUES)	MUNICIPAL BOND DEBT (SHARE OF FISCAL REVENUES)
PAN Municipality (Dummy)	-0.00807	-0.00476*	-0.00765*	0.000297	0.000297**	0.00444***
	(0.00671)	(0.00284)	(0.00460)	(0.000187)	(0.000144)	(0.00148)
PRD Municipality (Dummy)	-0.00431	-0.00463	-0.00389*	-0.0000130	-0.0000130	0.00438***
	(0.00399)	(0.00306)	(0.00222)	(0.0000896)	(0.000177)	(0.00151)
PAN-PRD Municipality (Dummy)	0.000768	0.0122***	-0.00438***	0.000148	0.000148	-0.00398***
	(0.00394)	(0.00415)	(0.00113)	(0.000176)	(0.000248)	(0.000770)
"Other" Party Municipality (Dummy)	-0.00873	-0.00100	-0.00652*	0.000248	0.000248	-0.00424***
	(0.00581)	(0.00414)	(0.00353)	(0.000206)	(0.000265)	(0.00155)
Total Population (sqrt)	0.000225***	0.0000994***	0.000137***	0.00000122	0.00000122	-0.00000369
	(0.0000260)	(0.0000203)	(0.0000194)	(0.000000802)	(0.000000827)	(0.00000533)
Fiscal Revenue (per cap sqrt)	-0.000162	-0.000354***	0.000481	-0.00000791	-0.00000791	-0.0000783***
	(0.000304)	(0.0000881)	(0.000384)	(0.00000551)	(0.00000681)	(0.0000281)
Vertical Fiscal Imbalance	0.0279**	0.0309***	0.00732	-0.00230	-0.00230***	-0.000600
	(0.0126)	(0.00859)	(0.0121)	(0.00176)	(0.000625)	(0.00332)
Poverty (Marginality Index)	0.00160	0.000802	-0.00115	0.000107**	0.000107	0.00123
	(0.00253)	(0.00185)	(0.00132)	(0.0000496)	(0.000128)	(0.00144)
Municipal Election Year (Dummy)	-0.0107***	-0.0140***	0.00242	0.000105	0.000105	-0.0000146
	(0.00261)	(0.00116)	(0.00181)	(0.0000894)	(0.000110)	(0.00100)
Develop. Bank Debt (share fisc rev)			-0.0457***	0.000616	0.000616	0.00711

			(0.0125)	(0.00123)	(0.000567)	(0.00719)
Commercial Bank Debt (share fisc rev)		-0.00721		0.000110	0.000110	-0.000561
		(0.00534)		(0.000165)	(0.000229)	(0.000473)
"Trust" Instrum. Debt (share fisc rev)		0.0970	0.127			-0.0208**
		(0.169)	(0.177)			(0.0103)
Bond Debt (share fisc rev)		0.00849	-0.00403	-0.000174	-0.000174	
		(0.0111)	(0.00472)	(0.000186)	(0.000672)	
PAN Governor (Dummy)	0.0187***	0.00161	0.00477	0.00166**	0.00166***	0.0103***
	(0.00635)	(0.00471)	(0.00400)	(0.000716)	(0.000270)	(0.00117)
PRD Governor (Dummy)	0.00695	0.0105**	0.00142	-0.0000813	-0.0000813	-0.00160
	(0.00708)	(0.00445)	(0.00331)	(0.000151)	(0.000302)	(0.00155)
PAN-PRD Governor (Dummy)	-0.0587***	-0.0341***	-0.0109***	-0.000226	-0.000226	-0.0171***
	(0.00508)	(0.00341)	(0.00371)	(0.000289)	(0.000224)	(0.00201)
Year Dummy 2005	0.0239***	0.0202***	0.00468***	0.0000622	0.0000622	-0.000319
	(0.00241)	(0.00214)	(0.000892)	(0.0000435)	(0.000199)	(0.000579)
Year Dummy 2006	0.0349***	0.0287***	0.00269*	0.0000185	0.0000185	0.00403
	(0.00491)	(0.00231)	(0.00161)	(0.0000690)	(0.000202)	(0.00398)
Year Dummy 2007	0.0394***	0.0367***	0.00256	0.000480**	0.000480**	0.000242
	(0.00377)	(0.00261)	(0.00295)	(0.000232)	(0.000205)	(0.000664)
Year Dummy 2008	0.0265***	0.0235***	0.000513	0.000550**	0.000550**	0.000835*
	(0.00401)	(0.00249)	(0.00415)	(0.000255)	(0.000224)	(0.000462)
Year Dummy 2009	0.0795***	0.0606***	0.0145***	0.000737**	0.000737***	0.00370***
	(0.00676)	(0.00327)	(0.00521)	(0.000301)	(0.000224)	(0.000786)
Year Dummy 2010	0.114***	0.0677***	0.0224***	0.000645**	0.000645***	0.0246***
	(0.00851)	(0.00352)	(0.00700)	(0.000259)	(0.000226)	(0.00229)
Year Dummy 2011	0.104***	0.0658***	0.0126**	0.000279*	0.000279	0.0230***
	(0.00618)	(0.00393)	(0.00510)	(0.000145)	(0.000254)	(0.00180)
Year Dummy 2012	0.0884***	0.0504***	0.0116**	0.000741**	0.000741***	0.0236***
	(0.00632)	(0.00347)	(0.00566)	(0.000324)	(0.000246)	(0.00182)
Constant	-0.0880***	-0.0334**	-0.0632**	0.000417	0.000417	-0.00917**
	(0.0243)	(0.0140)	(0.0293)	(0.00109)	(0.00150)	(0.00422)
R2 Within	0.0271	0.0794	0.0023	0.004	0.004	0.0186

R2 Between	0.1535	0.2568	0.0598	0.0635	0.0635	0.0953
R2 Overall	0.0632	0.1649	0.0157	0.0298	0.0298	0.0592
Chi-Squared	1590.4***	1261.7***	244.9***	14.58	238.8***	1426.0***
State Fixed Effects (Dummies)	Yes	Yes	Yes	Yes	Yes	Yes
Robust SE's Clustered on Municip.	Yes	Yes	Yes	Yes	No	Yes
Number of Observations	18126	18126	18126	18126	18126	18126

Note: GLS-RE regression with robust standard errors clustered on the municipality. Year and State effects dummy variable results reported. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

References

Alesina, Alberto, and Howard Rosenthal. 1995. *Partisan Politics, Divided Government, and the Economy*. Cambridge: Cambridge University Press.

Anderson, Philip R. D., Anderson Caputo Silva, and Antonio Velandia-Rubiano. 2010. "Public Debt Management in Emerging Market Economies: Has This Time Been Different?" *Policy Research Working Paper*. WPS5399. Washington, D.C.: The World Bank.

Andritzky, Jochen R. 2012. "Government Bonds and Their Investors: What are the Facts and Do They Matter?" *IMF Working Paper*. WP/12/158. Washington, D.C.: International Monetary Fund.

Archer, Candace C., Glen Biglaiser, and Karl DeRouen. 2007. "Sovereign Bonds and the "Democratic Advantage": Does Regime Type Affect Credit Rating Agency Ratings in the Developing World?" *International Organization* 61 (02):341-65.

Arslanalp, Serkan, and Takahiro Tsuda. 2014. "Tracking Global Demand for Emerging Market Sovereign Debt." *IMF Working Paper*: International Monetary Fund.

Auditoria Superior de la Federación. 2011. "Análisis de la Deuda Pública de las Entidades Federativas y Municipios, 2000-Marzo 2011." Distrito Federal, México: Cámara de Diputados.

Biglaiser, Glen, Brian Hicks, and Caitlin Huggins. 2008. "Sovereign Bond Ratings and the Democratic Advantage: Portfolio Investment in the Developing World." *Comparative Political Studies* 41 (8):1092-116.

Cabrero, Enrique, and Ady Carrera. 2002. "Fiscal Decentralisation and Institutional Constraints. Paradoxes of the Mexican Case." *Documento de Trabajo, División de Administración Pública*. No. 85. Distrito Federal, México: Centro de Investigación y Docencia Económicas (CIDE).

Calvo, Guillermo A., and Ernesto Talvi. 2005. "Sudden Stop, Financial Factors and Economic Collpase in Latin America: Learning from Argentina and Chile." *NBER Working Paper* No. 11153.

Cantor, Richard, and Frank Packer. 1996. "Determinants and Impact of Sovereign Credit Ratings." *Economic Policy Review* 2 (2):37-54.

Canuto, Otaviano, and Lili Liu. 2010. "Subnational Debt Finance and the Global Financial Crisis." *World Bank - Economic Premise* 13:1-7.

Centro de Investigación para el Desarrollo (CIDAC). Available from <http://www.cidac.org/esp/Datos_Electorales.php>.

Chuha, Punam, Stijn Claessens, and Nlandu Mmingi. 1998. "Equity and bond flows to Latin America and Asia: the role of global and country factors." *Journal of Development Economics* 55 (2):439-63.

Consejo Nacional de Población (CONAPO). Available from <http://www.conapo.org.mx>.

Dillinger, William , and Steven Webb. 1999. "Fiscal Management in Federal Democracies: Argentina and Brazil." *Policy Research Working Paper No. 2121* Washington, DC: World Bank.

Drazen, Allan, and Marcela Eslava. 2010. "Electoral Manipulation via Voter-Friendly Spending: Theory and Evidence." *Journal of Development Economics* 92 (1):39–52.

Eichengreen, Barry, and Ashoka Mody. 1998. "Interest Rates in the North and Capital Flows to the South: Is There a Missing Link?" *International Finance* 1 (1):35-57.

Ejsing, Jacob, Magdalena Grothe, and Oliver Grothe. 2012. "Liquidity and Credit Risk Premia in Government Bond Yields." *ECB Working Paper Series*. No. 1440. Main, Germany: European Central Bank.

Elton, Edwin J., and Martin J. Gruber. 1997. "Modern Portfolio Theory, 1950 to Date." *Journal of Banking & Finance* 21 (11-12):1743-59.

Erb, Claude B., Campbell R. Harvey, and Tadas E. Viskanta. 2000. "Understanding Emerging Market Bonds." *Emerging Markets Quarterly* 4 (7-23).

Eslava, Marcela. 2011. "The Political Economy of Fiscal Deficits: A Survey." *Journal of Economic Surveys* 25 (4):645-73.

Freire, Mila, and John Petersen, eds. 2004. *Subnational Capital Markets in Developing Countries: From Theory to Practice*. Washington, D.C.: The World Bank and Oxford University Press.

Garrett, Geoffrey. 1998a. "Global Markets and National Politics: Collision Course or Virtuous Circle?" *International Organization* 52 (4):787-824.

———. 1998b. *Partisan Politics in the Global Economy*. Cambridge: Cambridge University Press.

Garrett, Geoffrey, and Peter Lange. 1991. "Political Responses to Interdependence: What´s "Left" for the Left?" *International Organization* 45 (4):539-64.

Giugale, Marcelo, Fausto Hernández Trillo, and Joao de Carmo Oliveira. 2000. "Subnational Borrowing and Debt Management." In *Fiscal Decentralization in Mexico: Achievements and Challenges*, ed. S. Webb and M. Giugale. Washington, DC: The World Bank.

Gray, Julia. 2009. "International Organization as a Seal of Approval: European Union Accession and Investor Risk." *American Journal of Political Science* 53 (4):931-49.

Hartelius, Kristian, Kenichiro Kashiwase, and Laura E. Kodres. 2008. "Emerging Market Spread Compression: is it Real or is it Liquidity?" *IMF Working Paper*. WP/08/10. Washington, D.C.: International Monetary Fund.

Hernández Trillo, Fausto, Alberto Díaz-Cayeros, and Alberto Gamboa González. 2002. "Determinants and Consequences of Bailing out States in Mexico." *Eastern Economic Journal* 28 (3):365-80.

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

Hildreth, W. Bartley, and Gerald J. Miller. 2002. "Debt and the Local Economy: Problems in Benchmarking Local Government Debt Affordability." *Public Budgeting & Finance* 22 (4):99-113.

Instituto Federal Electoral (IFE). Available from <http://www.ife.org.mx>.

Instituto Nacional de Estadística Geografía e Informática (INEGI). *Sistema Municipal de Base de Datos (SIMBAD)*. Available from <http://www.inegi.gob.mx>.

Jaramillo, Laura. 2010. "Determinants of Investment Grade Status in Emerging Markets." *IMF Working Paper*. WP/10/117. Washington, D.C.: International Monetary Fund.

Jaramillo, Laura, and Catalina Michelle Tejada. 2011. "Sovereign Credit Ratings and Spreads in Emerging Markets: Does Investment Grade Matter?" *IMF Working Paper*. WP/11/44. Washington, D.C.: International Monetary Fund.

Jensen, Nathan M. 2003. "Democratic Governance and Multinational Corporations: Political Regimes and Inflows of Foreign Direct." *International Organization* 57 (5):587-616.

Johnson, Craig L. 1996. "Alternative Debt Financing Mechanisms for Economic Development." *State & Local Government Review* 28 (2):78-89.

Jones, Mark P., Osvaldo Meloni, and Mariano Tommasi. 2012. "Voters as Fiscal Liberals: Incentives and Accountability in Federal Systems." *Economics and Politics* 24 (2):135-56.

Jones, Mark P., Pablo Sanguinetti, and Mariano Tommasi. 2000. "Politics, Institutions, and Fiscal Performance in a Federal System: An Analysis of the Argentine Provinces." *Journal of Development Economics* 61 (2):305-33.

Koremenos, Barbara, Charles Lipson, and Duncan Snidal. 2001. "The Rational Design of International Institutions " *International Organization* 55 (4):761-99.

Lee, Hoon, Joseph L. Staats, and Glen Biglaiser. 2012. "The importance of legal systems for portfolio investment in the developing world." *International Area Studies Review* 15 (4):339-58.

Leigland, James. 1997. "Accelerating Municipal Bonds Market Development in Emerging Economies: An Assessment of Strategies and Progress." *Public Budgeting & Finance* 17 (2):57-79.

Markowitz, Harry. 1952. "Portfolio Selection." *The Journal of Finance* 7 (1):77-91.

Martell, Christine R. 2003. "Municipal Investment, Borrowing, and Pricing Under Decentralization: The Brazilian Case." *International Journal of Public Administration* 26 (2):173-96.

Melecky, Martin. 2007. "A Cross-Country Analysis of Public Debt Management Strategies." *Policy Research Working Paper* WPS4287. Washington, D.C.: The World Bank.

———. 2012. "Formulation of Public Debt Management Strategies: An Empirical Study of Possible Drivers Economic Systems." *Economic Systems* 36 (2):218-34.

Missale, Alessandro. 1999. *Public Debt Management*. Oxford: Oxford University Press.

Mosley, Layna. 2000. "Room to Move: International Financial Markets and National Welfare States." *International Organization* 54 (4):737-73.

Poterba, James M., and Jürgen Von Hagen, eds. 1999. *Fiscal Institutions and Fiscal Performance*. Chicago: University of Chicago Press.

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

Rodden, Jonathan. 2002. "The Dilemma of Fiscal Federalism: Grants and Fiscal Performance Around the World." *American Journal of Political Science* 46 (3):670-87.

———. 2006. *Hamilton's Paradox: The Promise and Peril of Fiscal Federalism*. New York: Cambridge University Press.

Rodden, Jonathan, Gunnar S. Eskeland, and Jennie Litvack, eds. 2003. *Fiscal Decentralization and the Challenge of Hard Budget Constraints*. Cambridge, MA: MIT Press.

Rodden, Jonathan, and Erik Wibbels. 2002. "Beyond the Fiction of Federalism: Macroeconomic Management in Multitiered Systems." *World Politics* 54 (4):494–531.

Rodríguez, Javier, and Javier Santiso. 2008. "Banking on Democracy: The Political Economy of International Private Bank Lending in Emerging Markets." *International Political Science Review* 29 (2):215-46.

Saiegh, Sebastian M. 2005. "Do Countries Have a "Democratic Advantage"?: Political Institutions, Multilateral Agencies, and Sovereign Borrowing." *Comparative Political Studies* 38 (4):366-87.

Sakurai, Sergio , and Naercio Menezes-Filho. 2008. "Fiscal policy and reelection in Brazilian municipalities." *Public Choice* 137 (1):301-14.

Secretaría de Hacienda y Crédito Pública (SHCP). Available from <http://www.shcp.gob.mx>.

Sharpe, William F. 1964. "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk." *Journal of Finance* 19 (3):425-42.

Smith, James McCall. 2000. "The Politics of Dispute Settlement Design: Explaining Legalism in Regional Trade Pacts." *International Organization* 54 (01):137-80.

Sour, Laura. 2004. "El sistema de transferencias federales en Mexico ¿Premio o castigo para el esfuerzo fiscal de los gobiernos locales urbanos?" *Gestión y Política Pública* XIII (3):733-51.

Standard & Poor's Ratings Services. 2013. Available from http://www.standardandpoors.com/ratings/es/la/.

Thaler, Richard H. 1993. *Advances in Behavioral Finance*. New York: Russell Sage Foundation.

———. 1994. *Quasi Rational Economics*. New York: Russell Sage Foundation.

Thau, Annette. 2005. *The Bond Book, Third Edition: Everything Investors Need to Know About Treasuries, Municipals, GNMAs, Corporates, Zeros, Bond Funds, Money Market Funds, and More*. New York: McGraw-Hill.

The World Bank and International Monetary Fund. 2001. *Guidelines for Public Debt Management*. Washington, D.C.: The World Bank and International Monetary Fund.

Timmons, Jeffrey F., and Daniel Broid. 2013. "The Political Economy of Municipal Transfers: Evidence from Mexico." *Publius: The Journal of Federalism* 43 (4):551-79.

Veiga, Linda Gonçalves, and Francisco José Veiga. 2007. "Political business cycles at the municipal level." *Public Choice* 131 (1-2):45-64.