

GOVERNMENT CHOICES OF DEBT INSTRUMENTS

Abstract

Governments borrow from a range of creditors – commercial banks, sovereign bondholders, official bilateral creditors, and multilateral financial institutions. Sovereigns' creditor portfolios vary significantly across space and time, partly reflecting supply-side considerations (macroeconomic profiles and associated default risk). We theorize that creditor composition also reflects governments' (demand-side) attention to domestic political concerns. Governments with a desire to avoid scrutiny for their fiscal choices will prefer borrowing instruments that are less public. These include private sector borrowing from banks (versus bondholders) and official sector borrowing from bilateral (versus multilateral) creditors. Our empirical analyses of government debt composition in developing nations suggest that, indeed, governments that are generally inclined to opaque behaviors tend to borrow from commercial banks (rather than issue issue bonds) and to borrow from official bilateral (rather than multilateral) creditors. We also find support for our claims at the subnational level, using data on the borrowing behavior of Mexican municipalities. Our analyses point to the importance, for the study of international political economy, of treating the political economy of different types of finance (bilateral lending, multilateral finance, sovereign bonds) as connected, rather than as distinct.

Word Count: 11,997

Nearly all governments borrow to finance their activities. The ways in which they borrow, however, vary markedly: some governments access credit mostly from official sources (international financial institutions or individual governments), while others seek capital largely from private sources (commercial banks, sovereign bonds). Within these broad categories, some governments access private credit mostly via borrowing from commercial banks, while others focus on bond issuance. Government choices among financing instruments have important implications for governments' policy-making autonomy (Mosley 2003b, Stone 2008), as well as for exposure to and the resolution of debt and financial crises (Ballard-Rosa 2020).

Creditor composition partly reflects supply-side attention to creditworthiness: underwriters of and investors in government bonds are not willing to offer such instruments to each and every sovereign. Yet all but the weakest borrowing governments have some agency in choosing from where to borrow. We know surprisingly little, however, about the demand-side process which drives governments' borrowing choices. This reflects a long-standing assumption that markets are relatively more powerful than governments. Governments, especially those of developing countries, have been treated largely as price-takers, with little agency relative to supply-side creditors (Ballard-Rosa, Mosley, and Wellhausen 2019). Domestic politics has been assumed to affect the allocation of credit via its influence on creditors' assessments of default risk or willingness to impose and enforce loan conditions (Beaulieu, Cox, and Saiegh 2012, Mosley 2003b). The relative inattention to demand-side factors also reflects international political economy's siloed approach to creditors. Scholars have tended to treat international financial institutions, sovereign bond markets, and foreign aid (which includes concessional lending) as distinct entities.

Borrowing governments, however, make choices across potential sources of financing, considering their costs and benefits. We argue that these choices reflect a logic of political survival: some governments worry that the disclosure of information related to the amount and terms of their borrowing will weaken their domestic standing. Those governments tend

to prioritize financing sources which involve less public disclosure of debt commitments – both their existence as well as their terms. In the sphere of private credit, they will be more inclined to borrow from commercial banks (rather than via sovereign bond issuance); with respect to official credit, such governments seek financing from bilateral creditors (rather than from multilateral financial institutions). Using governments’ overall transparency practices as a proxy for preferences over disclosing fiscal activity, we test these hypotheses for a large set of developing countries. Transparency correlates positively with the choice of bond-based (versus bank-based) credit, as well as with the use of multilateral (vs. bilateral), credit. We further test, and find support for, these claims using data on the borrowing behavior of Mexican municipalities.

This analysis calls attention to the role of borrowing governments in determining not only how much but also from whom to borrow. We conceptualize states as active players in their own financing strategies on competitive international markets, rather than as passive recipients of market assessments (e.g., [Campello 2015](#), [Kaplan and Thomsson 2017](#)). As such, this analysis contributes to an emerging literature on the *financial statecraft* of debtor governments (e.g., [Bunte 2019](#), [Kaplan 2021](#), [Zeitz 2019](#)). We highlight the importance of treating sovereign credit more broadly, rather than confining analyses only to sovereign bonds, multilateral lending or foreign aid. We also ground the choice of borrowing instruments in domestic politics, emphasizing how preferences over disclosure matter for government finance.

The Domestic Politics of Sovereign Finance

Political leaders fund government activities via taxation (on income, consumption and imports), “unearned” income (resource rents, the profits of state owned enterprises or foreign aid), or borrowing. While taxation may contribute to state-building, taxes are often po-

litically costly as well as consequential (e.g., [Acemoglu and Robinson 2006](#), [Boix 2003](#), [Flores-Macías and Kreps 2017](#), [Levi 1989](#), [Queralt 2019](#), [Stasavage 2011](#), [Tilly 1985](#)). Other windfalls, such as oil or aid, are not always available.

Borrowing is different in that creditors expect repayment,¹ often made via future tax revenues or resource rents.² Whether to smooth expenditures; to engage in counter-cyclical fiscal policy ([Alesina and Passalacqua 2015](#), [Barseghyan, Battaglini, and Coate 2013](#)); to buy political support ([Arias 2019](#), [DiGiuseppe and Shea 2016](#)); to finance wars ([Queralt 2019](#), [Slantchev 2012](#)); or to address balance of payments deficits, leaders usually have access to credit.

Yet there is substantial heterogeneity – even among low- and middle-income countries – not only in how much governments borrow, but also from what sources they borrow. Leaders can access private debt markets, which include bonds that are typically publicly issued and traded in secondary markets; and loans from commercial banks and other financial institutions. Governments also may draw on private credits from manufacturers, exporters and commodity traders. Alternatively, leaders can seek funds from official creditors, including international financial institutions (IFIs such as the World Bank; regional development banks) as well as bilateral creditors (national governments and government agencies, including national central banks and export credit agencies).

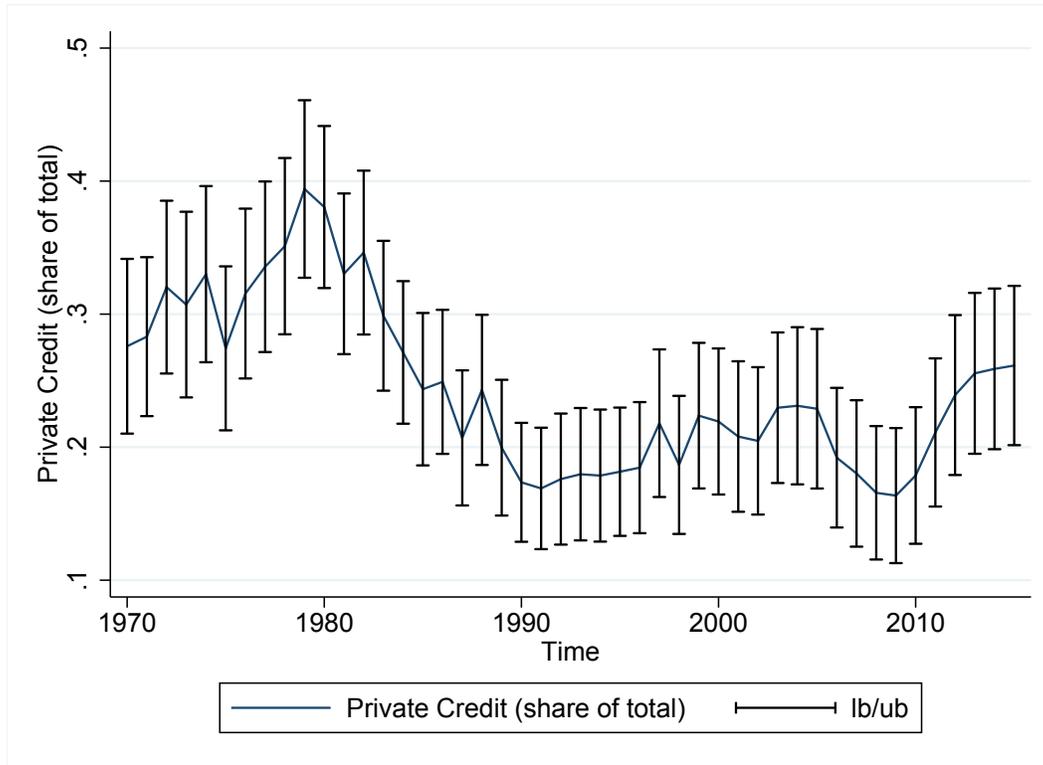
As we note below, variation in creditor profiles is not explained fully by borrowers’ economic fundamentals. On average, private lending declined as a share of total sovereign borrowing from approximately 40% in the early 1980s, to a low of about 15% in the mid-2010s, before increasing again (see [Figure 1](#)).³ Within the subset of government borrowing

¹We treat borrowing as distinct from other forms of non-tax revenue, such as resource-based revenues; [Morrison \(2014\)](#) treats all non-tax revenue as somewhat equivalent.

²Ricardian equivalence suggests that borrowing today reduces private spending today in anticipation of future taxation. Empirical evidence supporting the Ricardian equivalence proposition is mixed at best. Also see [Queralt \(forthcoming\)](#).

³[Figure 1](#) shows the proportion of private borrowing as a share of total borrowing among non-OECD countries. The error bars indicate one standard deviation above and below each year’s mean value.

Figure 1: Private vs. Official Borrowing

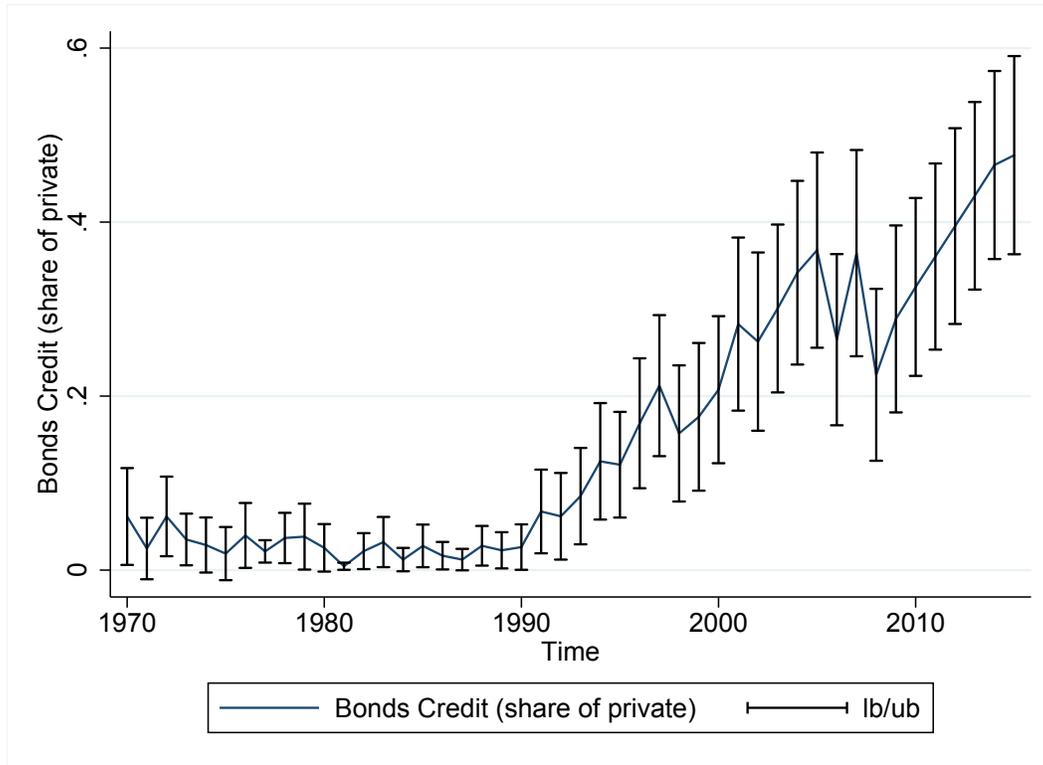


from private sources, sovereign bonds were most common during the last two decades, expanding to more than 50% of private sovereign lending (see Figure 2). Especially in periods of high global capital market liquidity, many lower-income sovereigns have been able to join the ranks of sovereign bond issuers (International Monetary Fund 2018, Mecagni et al. 2014, Zeitz 2019).

There also is variation across time within official lending. Recent decades have witnessed a significant decline in the share of bilateral lending in total official credit. This is strikingly evident in Figure 3), although the more recent rise of China as a bilateral creditor has offset some of this decline ⁴

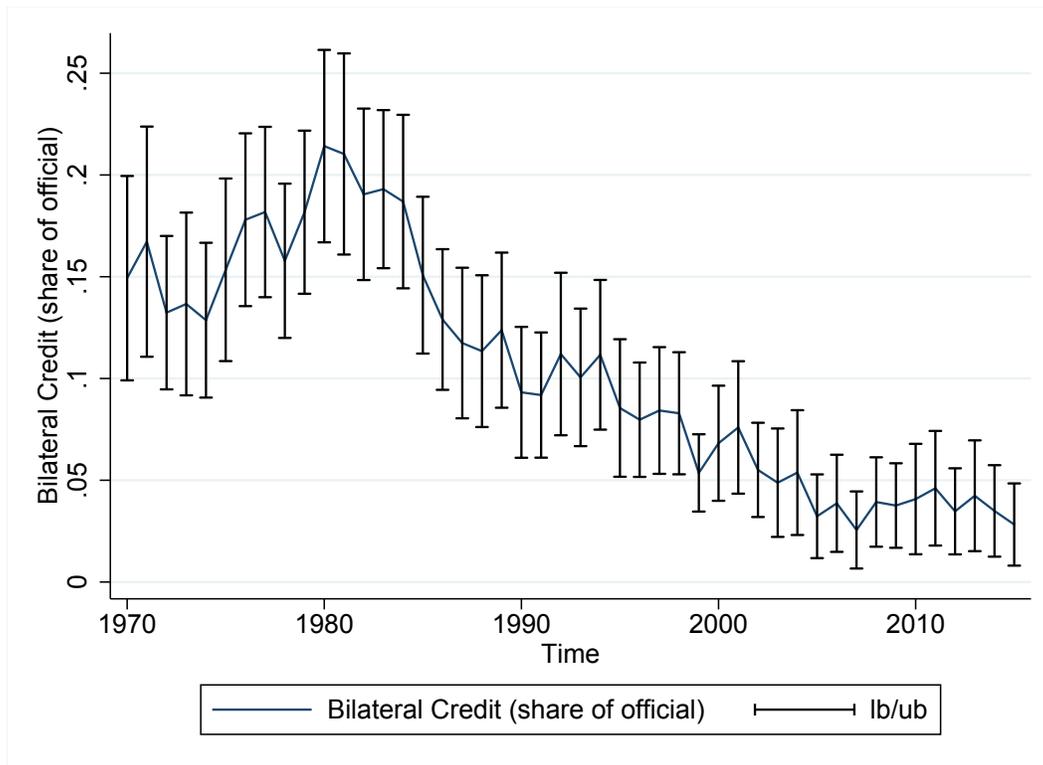
⁴Much of the increase in Chinese bilateral lending occurs after the time frame of our analyses; we discuss our expectations related to accessing Chinese bilateral credit in the conclusion.

Figure 2: Bonds vs. Commercial Banks Private Borrowing



While there is a growing literature on governments' choices among tax instruments (e.g., [Scheve and Stasavage 2016](#), [Bastiaens and Rudra 2016](#), [Timmons 2005](#)), much less is known about government decisions regarding borrowing. On the supply side, we know that professional investors are attentive to political institutions and events, as well as to peer group effects, when evaluating the risks associated with government bonds ([Brooks, Cunha, and Mosley 2015](#), [Ballard-Rosa, Mosley, and Wellhausen 2019](#), [Gray 2013](#)). And in the foreign aid sector, domestic publics' concerns over burden-sharing and control affect the choice between multilateral and bilateral aid delivery ([Milner and Tingley 2013](#)). Similarly, [Schneider and Tobin \(2020\)](#) suggest that the provision of bilateral bailouts – often in conjunction with multilateral loans – is constrained by donors' domestic audiences. These accounts, however, typically say much less about demand-side processes in debtor countries.

Figure 3: **Bilateral vs. Multilateral Official Borrowing**



Moreover, in analyzing the political economy of sovereign borrowing, political scientists have treated bond markets as the prominent form of (at least private) credit since the 1990s. This reflects, in part, the resolution of the 1980s developing country debt crisis via the conversion of commercial bank loans into dollar-guaranteed Brady Bonds. And, for developed economies, private market bond finance indeed dominates. However, in developing countries, governments choose among a variety of creditors and instruments.

These borrowing choices are crucially important not only for meeting governments' fiscal needs, but also in affecting creditors' future influence over governments. The traditional "market constraints" view is that governments' dependence on capital gives investors the upper hand in influencing government macroeconomic, and perhaps microeconomic, policies (e.g., [Bodea and Hicks 2015](#), [Mosley 2003b](#), [Przeworski and Wallerstein 1988](#)). International

financial institutions may be even more effective at extracting concessions from borrowers, especially those with limited strategic or economic importance (e.g., [Clark and Dolan 2021](#), [Copelovitch 2010](#), [Stone 2011](#)). More recently, some observers would suggest that borrowing from “new” creditors such as China frees governments from the constraints imposed by IFIs; allows them to express displeasure with the global financial system ([Broz, Zhang, and Wang 2019](#)); but also subjects them to diplomatic pressures ([Bunte 2019](#), [Zeitz 2019](#)).

Creditor composition also affects the likelihood of debt restructuring and crisis resolution: disintermediated finance, in which sovereign bonds are held by a large and varied set of investors, presents challenges to orderly debt restructurings.⁵ By contrast, in crises involving commercial bank loans, the number of creditors is significantly smaller, making collective action problems less severe. Additionally, [Kaplan and Thomsson \(2017\)](#) argue that, because commercial banks tend to extend credit even during crisis, whereas bondholders more quickly exit, Latin American governments with a greater reliance on bond rather than bank financing face greater pressures for fiscal austerity. Additionally, sovereign borrowers might default strategically: [Schlegl, Trebesch, and Wright \(2019\)](#) show that developing country governments repay and default on their debt at different rates, depending on the type of creditor, suggesting a *de facto* seniority among creditors⁶. Moreover, recent worries about unsustainable debt burdens are exacerbated by uncertainty over creditor coordination: it is unclear, for instance, whether Chinese creditors will participate in Paris Club debt reschedulings.

To the extent that governments make choices among borrowing instruments, they can exercise some autonomy from the demands of specific sets of creditors.⁷ Our demand-side analysis, focused on governments’ choices over credit instruments, highlights the agency of developing country governments in choosing how to borrow. This focus echoes scholarship

⁵The presence of collective action clauses may mitigate this problem, although the empirical evidence is mixed thus far. See [Bardozzetti and Dottori \(2014\)](#).

⁶Also see [Cordella and Powell \(2019\)](#).

⁷On heterogeneity among investors in the interpretation of political events and political institutions, see [Bernhard and Leblang \(2006\)](#), [Cunha \(2017\)](#), [Wellhausen \(2015\)](#).

on conditional borrowing from IFIs. [Vreeland \(2003\)](#), for instance, notes that governments' decisions to seek IMF loans are not merely the result of macroeconomic distress: some governments use IMF programs to tie their hands, even when their macroeconomic fundamentals do not require a lender of last resort ⁸. At the same time, governments on the brink of default may avoid IMF lending, as they worry about how loan conditions could be detrimental to their political survival ([Ballard-Rosa 2020](#), [Stone 2008](#)). Likewise, analyses of foreign aid note that governments use aid revenues not only to provide benefits to politically-important domestic constituents, but also to claim credit domestically for attracting aid ([Cruz and Schneider 2017](#)).

Similarly, in the realm of private sector finance, [Betz and Pond \(2019\)](#) illustrate how, to facilitate their capacity to raise funds domestically, many governments impose financial regulations which privilege national or sovereign debt relative to other assets. Focusing on interest group coalitions more broadly, [Bunte \(2019\)](#) posits that as the domestic political strength of finance, industry and labor varies, so do governments' preferred combinations of multilateral official, bilateral official and private sector creditors.⁹ We contribute to this emergent domestic political economy of the choice across creditors.

Our core claim, developed below, is that governments vary, as a function of their domestic political environment, in their willingness to disclose information about the amount and terms of their borrowing. Certainly, all governments worry that their constitutions will view debt accumulation negatively: borrowed funds may seem to serve the narrow interests of elites or their supporters, rather than broader societal purposes. High-profile cases in which governments take on or guarantee questionable debt, sometimes secured via natu-

⁸Also see [Humphrey and Michaelowa \(2013\)](#) on governments' choices across multilateral financial institutions.

⁹Bunte does not explore variation in choices with private sector creditors, as we do. Nor does his analysis consider how the interests of societal groups interact with domestic political institutions. He does, however, distinguish between traditional (OECD) official bilateral creditors and new bilateral donors and lenders, such as Brazil and China. Also see [Bunte \(2018\)](#) on the strategic incentives to lend of smaller bilateral creditors.

ral resources, and enrich themselves as well as foreign financiers, amplify these concerns.¹⁰ And even when debt is used to improve productive capacity, the positive effects of such investments appear only in the medium- to long-term.

Some governments, however, are keener to obfuscate their fiscal practices than others. In some countries, little budget or borrowing information is shared with publics or even with opposition parties: governments frequently make use of extra-budgetary funds (often without legislative approval) and there is little or no independent oversight of fiscal policy behavior. We expect that governments in such systems will strongly prefer financing instruments which align with these *de jure* rules and *de facto* practices. We also expect that the tendency to obfuscate will be especially pronounced in countries with a history of debt crises (in which post-crisis austerity typically affects significant swaths of the population [Ballard-Rosa \(2020\)](#)); with high levels of existing debt (so that opposition parties and the public worry about the potential for new crises); or in political systems characterized by corruption (and, therefore, by suspicion of government economic policy choices).

We test our expectations with a study of non-OECD countries from 1980 to 2015. Using the World Bank’s International Debt Statistics (IDS), we find that fiscal opacity is a strong predictor of the choice of borrowing instruments. Countries with more opaque fiscal institutions and practices tend to exhibit a greater reliance on bank borrowing within private credit, as well as a greater share of bilateral borrowing within official credit. This finding is remarkably robust to alternative proxies for fiscal transparency (such as subscription to the IMF’s Special Data Dissemination Standard, or the adoption of freedom of information laws); to alternative estimation specifications (from OLS and SUR models to differences-in-differences designs), and to alternative controls for the degree to which the sovereign borrower is credit-constrained.

¹⁰Perhaps the best-known recent case involves Mozambique: in 2013 and 2014, three government-connected firms took out loans from three European banks equivalent to nearly 13 percent of GDP. The government guaranteed these loans, even though they were not – as legally required – approved by parliament.

To address the risks to inference that inhere in the use of cross-country statistical analyses, we also test – and find support for – our claims at the subnational level, where many of these unobserved factors are presumably held constant. We generate a local-level measure of transparency for Mexican municipalities. Mexico offers a good case to test our argument as its municipalities not only have the independent ability to borrow, but also often choose between accessing the bond market or commercial banks. These subnational analyses confirm that bond credit as a share of total private credit rises with municipal-level transparency.

Our analyses contribute to the growing study of the domestic political economy of government finance. Our findings also suggest that international financial markets may not create incentives to improve domestic institutions ([Eichengreen and Leblang 2008](#), [Freeman and Quinn 2012](#), [Queralt forthcoming](#)). Rather, governments with a desire to obfuscate, and perhaps facing pressure from the IFIs or bond market investors to improve their domestic informational environments, can circumvent such pressures by accessing bilateral credit or commercial bank loans. Moreover, global market conditions can further dampen incentives to disclose: when global liquidity is high, low transparency borrowers are even better able to access credit markets. This suggests another pernicious effect of capital market booms ¹¹

Theorizing Disclosure across Instruments

Governments often make choices among financing instruments, just as they choose among instruments in other policy areas. International trade economists have debated the welfare consequences of tariffs versus quotas ([Findlay and Wellisz 1986](#), [Rodrik 1986](#)); fixed versus flexible exchange rates ([Reinhart and Rogoff 2004](#)); or exchange rate devaluation versus domestic austerity to address a balance of payments crisis ([Krugman 1979](#)). The political determinants of these choices, however, are fundamental. When the instruments differ in

¹¹Also see [Pinto and Zhu \(2016\)](#), [Zhu \(2017\)](#).

their domestic political effects, leaders will choose an instrument that is politically preferable, even if it economically inefficient (Robinson 1998). Rosendorff (1996a,b) shows how trade instruments with the same effects on prices and imports can differ in salience across interest groups and, therefore, in their attractiveness to governments (also see Naoi (2009)). Pinto and Pinto (2008) considers how government ideology matters for choosing which foreign investment flows to tax. Davis (2012) notes that the use of legalistic instruments is more likely when the political returns from a more public approach to protectionism exceed those from a more subtle bargaining-based approach. In the realm of conflict, Flores-Macías and Kreps (2017) find that governments may face fewer domestic constraints in waging long and costly wars when financed via debt rather than taxation.

Leaders finance and implement their fiscal strategies with an eye to remaining in power (e.g., Morrison 2009, Bueno de Mesquita et al. 2003).¹² Governments frequently choose policies that are less “legible” (Lee and Zhang 2017) to their domestic audiences when they wish to obscure the redistributive effects of their policies. Kono (2006) finds that, in polities with greater accountability, governments use more obscure trade policy instruments (such as non-tariff barriers). Esberg and Perlman (2020) suggest that democracies use “more subtle methods” (compared to non-democracies) to violate domestic and international property rights.

Governments may wish to obscure both the amounts and the terms of their sovereign borrowing.¹³ Domestic audiences may fear that debt puts governments at risk of financial crisis (and, perhaps, of austerity measures); that debt will serve the interests of a narrow group of domestic actors; and that debt (and debt service) can increase future tax burdens. Opposition parties or mass publics therefore may use information regarding borrowing to

¹²In their review of research related to sovereign default, Panizza, Sturzenegger, and Zettelmeyer (N.d.) note that the availability of multiple sources of consumption smoothing reduce the impact of threats of exclusion from global capital markets.

¹³Terms include the interest rate, as well as the maturity, currency denomination and governing law. See Ballard-Rosa, Mosley, and Wellhausen (forthcoming)

challenge the incumbent government.¹⁴ When governments worry that the release of information related to government borrowing will undermine their domestic political position, they will seek debt instruments that involve less disclosure.

Our key theoretical assumption is that some leaders anticipate political costs when their fiscal policy choices are disseminated to a wider audience. Some governments share less information about their fiscal policy decisions, have weaker bureaucratic oversight of fiscal policy, and are more inclined to adjust spending and borrowing outside of the regular political process. These governments also will prefer to borrow in ways that are less transparent to their publics. Choosing debt instruments with more opaque features increases these governments' odds of political survival.

Sovereign debt instruments vary in the extent to which their existence and features are disclosed; that is, their legibility to domestic audiences varies. First, in the realm of private sector sources of finance, the principal choice facing governments is between bond issuance and commercial bank loans. Sovereign bonds are usually issued with the advice of underwriting firms (investment banks). Those designed to appeal to international investors are often (but not always) issued under London or New York law. Prior to offering a debt issue, borrowers – especially those who are new or have been absent for a period of time – will participate in “road shows,” presenting information about their country and its economy to potential professional investors. These events, typically run by governments' debt management offices (DMOs) seek not only to provide information about the borrower, but also to position that sovereign relative to “peer” or “aspirational peer” borrowers ([Brooks, Cunha, and Mosley 2015](#), [Gray 2013](#)).

As part of their professionalized marketing, DMOs provide a detailed accounting of the issuing state's balance of payments, monetary and fiscal conditions, forecasts of political,

¹⁴The domestic benefits of debt, perhaps from income smoothing or via buying political support, imply that debt may have its proponents. We argue that debt is a *salient* political issue only when mass publics or rival elites perceive debt as a source of potential economic hardship.

military and economic events, and even data on potential natural disasters. Additionally, if they do not have one already, sovereign bond issuers will seek a credit rating from at least one ratings agency (e.g., Fitch, Moody's or Standard & Poor's). When a bond is offered, its prospectus usually runs to hundreds of pages, detailing specifics such as monetary and fiscal policy history and risk, upcoming political events and resource endowments. This prospectus is broadly available to potential investors; it typically is filed with regulatory authorities as well, as a condition of listing the bond on secondary market exchanges. Bond prospectuses, the dates of the bond auctions, and sovereign ratings outcomes are not only publicly available, but often highlighted by domestic and foreign media, and not infrequently a source of fodder for political conflict. Indeed, [Zeitz's \(2019\)](#) study of sovereign credit in African nations notes that bond issues tend to receive extensive coverage in the local press, given the public's concerns regarding government borrowing and spending behavior.

Commercial bank lending, by contrast, is characterized by a narrow process. Banks typically form a close relationship with the sovereign precisely to gather information and monitor prospective borrowers ([World Bank 2006](#), [Kaplan and Thomsson 2017](#)). Commercial bank creditors may well insist that governments disclose information to them about domestic economic and political conditions; such disclosures facilitate the development of longer-term relationships between banks and sovereigns ([Tomz 2007](#)). Information collected from sovereign borrowers is shared only with the lead bank and members of the bank syndicate (if one exists). While commercial banks may need to disclose country exposures to regulators, specific sovereign loan instruments are not usually subject to public scrutiny, legal examination or regulatory filings. Banks also tend to keep their credit assessments, and the rationales for them, private.

Additionally, sovereign bank loan contracts are rarely, if ever, made public ([Edwards 1986](#)). Indeed, commercial bank loan contracts often are subject to non-disclosure provisions, leading to their absence from –among other places– archival holdings related to debt

rescheduling. Concerned with the opacity of bank lending, in June 2019, the G-20 governments endorsed the Institute of International Finance’s Voluntary Principles for Debt Transparency. These principles, to be applied prospectively, focus on the disclosure of information about private sector lending to sovereigns; they noted that, while information about bond-based financing is often publicly available, commercial bank financing is not.¹⁵

In general, bond-based financing is more public than bank-based financing. Banks apply fewer legal requirements, and their loan decisions often rely more on relationship-specific dynamics. The concentrated management and private monitoring of bank loans stands in contrast to bonds, which are managed and held by a large number of (often somewhat anonymous) creditors, relying partly on public monitoring and assessments lead by credit rating agencies (Tanaka 2006). Along these lines, Zeitz (2019) finds that publics in African nations are much less aware of bank borrowing than of bond issues. While sovereigns that are newly able to issue bonds may tout their access as evidence of their policy acumen, many sovereigns prefer to avoid this spotlight. Rather, some governments will avoid the attention that comes with bond issues, preferring instead syndicated bank loans. This is especially true when public scrutiny over borrowing and spending is acute.

Second, official creditors also differ substantially on the degree and depth of information that they make publicly available. Multilateral lending naturally involves more principals – likely all members of an international financial institution (IFI), perhaps with some delegation to staff in the negotiation of specific loan packages (Clark and Dolan 2021, Copelovitch 2010). Moreover, IFIs often have specific and explicit disclosure requirements. For instance, since the mid-1990s, the International Monetary Fund has made its letters of agreement, as well as its annual Article IV consultations, public (except in cases where the borrower disallows this).

By contrast, the terms of bilateral lending are rarely made public. Although much has

¹⁵The IIF principles are at <https://tinyurl.com/y5rwnmfp>.

been made of the opacity of debt contracts offered by Chinese official and quasi-official lenders, other (Paris Club) bilateral lenders also have included non-disclosure (among other) provisions in their sovereign contracts (Gelpern et al. 2021). Indeed, the [International Monetary Fund \(2018\)](#) notes that significant gaps exist regarding the terms, conditions and disbursement schedules of bilateral official loans to developing country governments. The IMF attributes these gaps not only to the capacity of some debtor governments, but also to creditor practices, including confidentiality requirements. We therefore expect that governments with a propensity for opacity will, all else equal, prefer to seek credit from bilateral, rather than multilateral, official creditors.¹⁶

To summarize, governments are inclined to demand financing instruments that match their disclosure preferences. Those with a desire for opacity will be inclined to bank credit in the context of private lending, and bilateral credit in the realm of official sector finance. To the extent that supply-side creditors worry that a given borrower presents greater risk – because of its existing debt stock, its lack of domestic political accountability, or the purposes for which it intends to use credit – they will adjust lending terms accordingly, demanding higher bond yields, shorter maturities, foreign currency denomination or a variety (depending on the creditor) of non-financial terms and conditions.

This leads to our hypotheses:

Hypothesis 1 (Private). *More fiscally transparent governments are more likely to borrow in bonds as a share of private borrowing.*

Hypothesis 2 (Official). *More fiscally transparent governments are more likely to borrow multilaterally as a share of official borrowing.*

¹⁶We do not explore governments' choices among bilateral creditors, as [Bunte \(2019\)](#) does. We expect, however, that because non-Paris Club creditors on average offer even more opaque loan arrangements than their Paris Club counterparts, the least transparent governments will prefer to borrow from bilateral creditors such as China and India

We test these expectations below. Within the category of private lending, we show that less fiscally transparent countries are more likely to borrow from banks than issue bonds. Within the category of official lending, we offer evidence that less fiscally transparent states are more likely to borrow bilaterally than multilaterally. Opaque governments tend to use credit instruments requiring less disclosure.

Cross-Country Empirical Analysis

Data & Measurement

We analyze the borrowing behavior of developing countries from 1980 to 2015, with the end year varying based on the measure of transparency employed.¹⁷ We expect that governments with a greater propensity to obfuscate fiscal outcomes prefer to borrow from creditors with more narrow disclosure practices.

A direct measure of governments' disclosure in practice is the International Budget Partnership's Open Budget Index (OBI), a measure focused on the extent to which governments make comprehensive and timely budget information available to their publics. The International Budget Partnership surveys in-country (typically) researchers (with a focus on budgetary and fiscal issues) working in civil society organizations and academic institutions. The survey includes a total of 228 items, capturing public participation in, institutional oversight and transparency of the budget process.¹⁸

The survey, however, is available for only seven (non-consecutive) years: 2006, 2008, 2010, 2012, 2015, 2017 and 2019. Given the limited overlap with our dependent variable and covariates of interest, we elect instead to use a more general measure of the government's

¹⁷We define developing countries as time-invariant non-members of the OECD, with the exception of Chile and Mexico, which are included in our sample. Our findings are unchanged when removing them from our sample, or using different definitions of developing countries.

¹⁸For information about this measure, see <https://www.internationalbudget.org/open-budget-survey/about>.

willingness to disclose (fiscal as well as other) information. The HRV Transparency Index measures the government’s willingness to disclose credible aggregate economic data to the public (Hollyer, Rosendorff, and Vreeland 2014).¹⁹

The HRV index treats transparency as a latent predictor of the willingness of governments to report data to The World Bank for inclusion in the *World Development Indicators* (WDI). We take it as a proxy for government’s willingness to tolerate the public availability of economic policy and outcome measures. The measure is extracted using an item response model fit to a binary measure of whether a given variable j is reported by a given country c in a particular year t .²⁰ In our sample of developing countries, the HRV index has a mean (SD) of about 0.63 (1.9), where higher values indicate higher transparency.

For the country-year observations in which the HRV transparency measure overlaps with the Open Budget Index (OBI), the correlation is strong and positive. Figure 4 plots the overall OBI against HRV; bivariate correlation is 0.62. We also calculate the correlation between HRV and OBI scores based on two subsets of survey items most closely related to government borrowing and fiscal accountability.²¹ The debt-related sub-index has a bivariate correlation with HRV of 0.65; the accountability-and-debt-focused sub-index has a bivariate correlation of 0.66. These associations provide confidence that the more widely available HRV measure captures the domestic political features in which we are most interested.

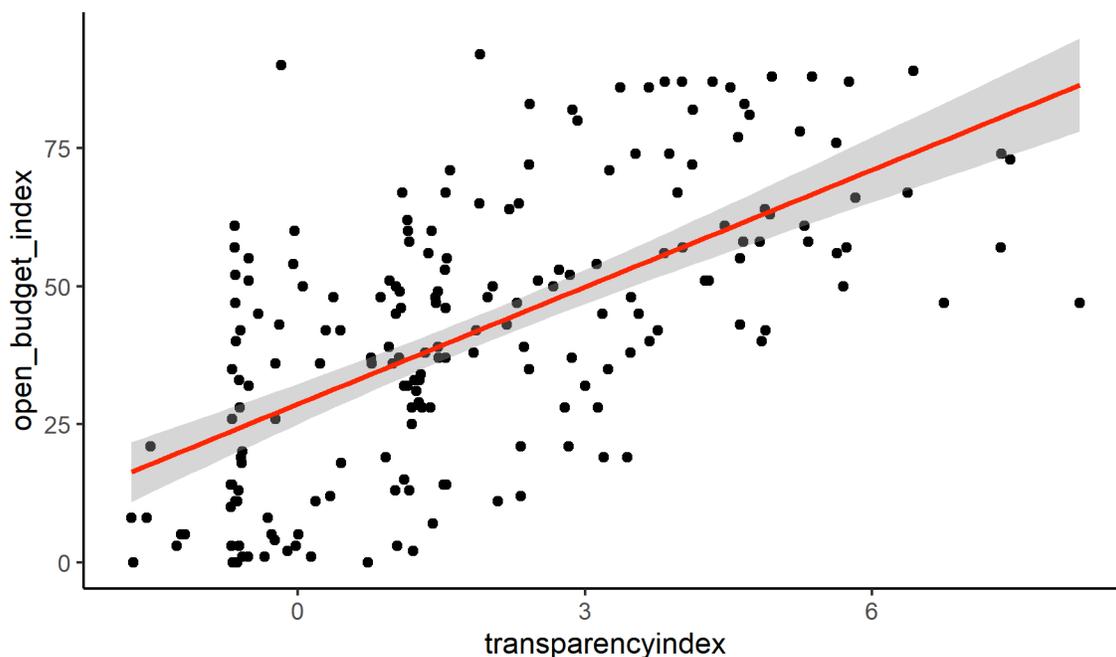
Of course, countries may fail to report data – and thus have a low HRV score – not only because of a deliberate desire to withhold information, but also because of insufficient data

¹⁹We also consider alternative measures of government transparency in the Supplementary Materials.

²⁰The HRV algorithm summarizes the reporting of 240 variables by 125 countries over 31 years (1980-2010) with a country-year transparency score. This is estimated using a system of 240 equations (one for each variable j), where reporting in a given country-year is treated as a function of a latent transparency value, a coefficient on this transparency term, and an intercept coefficient. The measurement model thus adjusts for the fact that some data are easier to collect than others, and for the fact that the reporting of some items is more reflective of a country-year’s general tendency to disclose.

²¹The six item subset relates directly to sovereign debt, including providing information on outstanding debt, new borrowing, interest payments and the terms of new borrowing. The twenty-five item subset includes not only these debt-related items, but also measures of independent oversight, the capacity of governments to use extra-budgetary funds; and the release of broader fiscal information to the public.

Figure 4: HRV Transparency and Open Budget Index Correlation



collection and aggregation capacity. We therefore include measures of technical capacity as covariates to control for this concern. Importantly however, HRV has been shown to correlate with GDP per capita only in democracies; rich democracies disclose much more than autocracies at similar levels of wealth, suggesting that something other than capacity is at work (Hollyer, Rosendorff, and Vreeland 2018, p.84-88).²²

To investigate the structure of sovereign borrowing portfolios, we rely on disbursements of public and publicly guaranteed debt owed by, or guaranteed by, the government from the World Bank's International Debt Statistics (IDS). Two points are worth noting. First, the IDS covers international borrowing; as such, we focus our analysis on borrowing decisions

²²A potential concern from the investor side is that governments elect to disclose information, but they manipulate it (e.g., Martinez 2019). Indeed, standard economic fundamentals that are key to creditors, such as trade (as % of GDP), inflation and GDP have reporting rates of around 95% –and higher in the last couple of decades. At the same time, manipulation in these cases has been relatively easy to detect (e.g., Argentina's inflation under Cristina Fernández, or China's growth numbers in recent years).

over *external* debt.²³ Second, by including publicly guaranteed (vs. purely public) debt, these measures also capture the behavior of the government as it relates to state-owned enterprises (Petrobras in Brazil is a good example).²⁴

We also note that borrowing outcomes and patterns reflect the intersection of supply (creditors) and demand (debtor governments). While borrowers are motivated in part by domestic political survival, lenders' assessments are affected by macroeconomic considerations, the risk of default and their overall willingness to trade risk against return (Beaulieu, Cox, and Saiegh 2012, Tomz 2007). As such, we control for various economic factors in our empirical analyses. We also note the importance of global market conditions. We expect that, when credit markets are tight – as indicated by high global interest rates – governments' set of choices is more constrained: investors of various sorts are less likely to accept higher degrees of risk in exchange for the promise of higher returns. As such, risk aversion decreases investors' willingness to tolerate opaque governments, all else equal. We therefore expect that transparency will affect choice of instruments to a greater extent when risk aversion is low and international liquidity is high.

Baseline Analysis

Consider a simple OLS estimation of the form:

$$\text{TYPE OF BORROWING}_{it+1} = \alpha_i + \delta_t + \beta_1 \text{TRANSPARENCY}_{it} + \mathbf{X}'_{it} \phi + \epsilon_{it} \quad (1)$$

where we define TYPE OF BORROWING for country i in year t in two ways, for private and official borrowing respectively: First, we analyze BONDS CREDIT (AS A SHARE OF TOTAL PRIVATE CREDIT). Second, we examine NON-CONCESSIONAL BILATERAL CREDIT

²³We are aware that domestic borrowing can be important, especially on the private side. We leave this for future research.

²⁴Pooling state-owned enterprise debt with public debt is supported by the literature (Wagner, Jara, and Musacchio 2018)

(AS A SHARE OF TOTAL OFFICIAL CREDIT). Note that these measures are specific to disbursements, not net flows.²⁵

The vector of controls \mathbf{X}_{it} includes standard economic and political variables. We first offer first a simple model without covariate adjustment. We then include population and GDP in logged terms, GDP growth (in %), Trade (as % of GDP) (from the WDI), accounting for key economic fundamentals relevant for creditors. Our measures of country size (population and GDP) also address the possibility that bank-based lending might be more appealing – given that it does not require seeking a sovereign credit rating or engaging in investor relations campaigns – to borrowers with more limited credit needs.

We also present a more saturated model with additional covariates for government resources and political variables. We include net FDI inflows, natural resource rents, and foreign aid. We also include two debt-related covariates, *Debt crisis*, an indicator on whether the country is undergoing a debt crises (from [Laeven and Valencia \(2018\)](#)) and *External debt stocks* (as % of GNI).²⁶ We also control for regime type, using Polity IV’s democracy measure.

We also probe the robustness of our results to additional variables. For instance, might government partisanship matter for choice among creditors, especially on the official side? Left-leaning governments may be particularly inclined to avoid IFIs, pushing them toward bilateral credit instead. Similarly, right-leaning governments may be more willing to seek bond financing – perhaps as a hands-tying mechanism not only for themselves, but also for their successors. Hence, we include a measure of political ideology from the Database of Political Institutions (DPI).

Finally, in all models we include both country (α_i) and year (δ_t) fixed effects. Country

²⁵We provide detailed information on the sources for each variable in the Supplemental Materials.

²⁶Alternative controls related to the level of indebtedness are total credit disbursements (in logged terms) and the share of private credit as a share of total credit, where applicable. Including these does not change our results.

fixed-effects absorb any idiosyncratic characteristics (such as culture, region, and institutions) that are time-invariant. Similarly, year fixed-effects absorb any global-shock – for example, one might be concerned about the overall trend in bond lending, driven by technological and legal innovations.

Table 1: **Transparency and types of borrowing, by creditor category**

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Bonds Credit (share of private credit)			
Transparency (HRV)	0.051** (0.022)	0.049* (0.025)	0.094*** (0.014)
Observations	1,763	1,599	1,472
R^2	0.25	0.27	0.34
Countries	86	83	79
Outcome mean	0.16	0.16	0.16
Outcome std. dev.	0.31	0.32	0.31
Panel B: Bilateral Credit (share of official credit)			
Transparency (HRV)	-0.034*** (0.009)	-0.023** (0.010)	-0.024* (0.013)
Observations	2,554	2,298	2,132
R^2	0.21	0.22	0.21
Countries	88	86	82
Outcome mean	0.10	0.10	0.09
Outcome std. dev.	0.17	0.17	0.16
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 1 shows these results. The positive and statistically significant coefficient of the HRV Transparency Index in Panel A provides robust support for Hypothesis 1. More transparency is associated with a larger share of bond borrowing within the category of private

credit.²⁷ Substantively, a unit increase in the HRV Transparency Index (about half of a standard deviation) corresponds to an increase in bond borrowing of 5 to 9 percentage points, a non-trivial magnitude given that the average bonds share is 16%. In contrast, and in line with Hypothesis 2, Panel B demonstrates that greater transparency is associated with lower share of bilateral borrowing within official credit. A one-unit increase in transparency corresponds to an decrease in bilateral borrowing of about 2 percentage points, which represents an increase of over 20% from the mean.

Robustness

Alternative considerations. Our findings could be confounded by other mechanisms. For instance, borrowing choices could be affected by geostrategic considerations where key creditor countries may be more willing to extend bilateral loans to strategically important governments. This would tilt the balance of official credit in the direction of bilateral, versus multilateral, lenders.

We therefore test the robustness of our findings to the inclusion of three different measures of geopolitical significance. First, using ideal point estimates from UN Voting from [Bailey, Strezhnev, and Voeten \(2017\)](#), we control for the ideal point difference between the given country and the US. This captures the overlap in geopolitical interests between the most important bilateral creditor worldwide and the borrowing country. Second, we include an indicator that takes the value of 1 if the country is a member of the UN Security Council in a given year and 0 otherwise. This addresses the possibility that permanent UNSC members will direct financial resources to rotating members as a means of influencing their voting behavior ([Vreeland and Dreher 2014](#)). Lastly, we control for the presence of US troops in the debtor country. This follows [Aklin and Kern \(2019\)](#) in using military presence as a measure

²⁷Our results are similar if we instead measure the ratio of bond to bank borrowing. These results are available in the Supplemental Materials, Table [SM1](#).

of US commitment to the country’s economic health; this commitment could translate into an implicit bailout guarantee, helping again to explain borrowing profiles. Appendix Table [A2](#) demonstrate that our core results remain unchanged when we account for these various geopolitical variables.²⁸

Estimation Strategy. The dynamic we identify occurs within broad categories of borrowing (for example, within private sector credit), rather than across these categories (private versus official). Indeed, when we model aggregate shares of private versus official borrowing, we find no systematic relationship with transparency (see Table [SM3](#)).

The official versus private distinction, however, does highlight the fact that the choice of within-category instrument (bilateral versus multilateral official credit) may depend as well on the choice of broad credit type (official versus private credit). To address this concern, we implement a series of Seemingly Unrelated Regression (SUR) models. The error terms of the two equation system are permitted to be correlated with each other. Table [2](#) shows the results analogous to Table [1](#). The SUR estimation is more precise, increasing confidence in the strength and robustness of our results.

We also confirm that our results are robust to using a binary dependent variable, measuring whether a given country-year receives any bond credit at all ([Ballard-Rosa, Mosley, and Wellhausen 2019](#)). For official credit, we similarly use “any bilateral credit” as a dichotomous dependent variable (Panels A and B, respectively in Table [A3](#)). Our findings remain robust and precisely estimated. Specifically, a one-point increase in HRV transparency (again, about a half standard deviation) is associated with a nearly 9 percentage point increase (about 30% with respect to the mean) in the likelihood that the sovereign will issue bonds (versus borrowing from commercial banks), and an approximately 3 percentage point decrease (also about 30% with respect to the mean) in the likelihood of contracting

²⁸We also control for region-specific time-trends in Table [SM2](#) in the Supplemental Materials.

Table 2: **Transparency and types of borrowing, by creditor category: SUR model**

	Model 1		Model 2		Model 3	
	Bonds	Bilateral	Bonds	Bilateral	Bonds	Bilateral
Transparency (HRV)	0.051*** (0.007)	-0.030*** (0.004)	0.048*** (0.008)	-0.018*** (0.005)	0.093*** (0.010)	-0.019*** (0.006)
Observations	1748		1584		1461	
R^2	0.50	0.37	0.52	0.39	0.56	0.39
Country FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Econ. fundamentals			✓	✓	✓	✓
Additional covariates					✓	✓

Notes: All specifications are estimated using SUR. Outcome variables: bonds represent the share of bond credit over total private credit; bilateral represents the share of bilateral credit over total official credit. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

any bilateral credit (versus accessing multilateral official credit).

Measurement. We also confirm that our findings are not driven by our particular measure of government transparency. The HRV index is constructed using both economic and non-economic variables, all of which are included in the World Development Indicators. What is even closer to our proposed causal process, though, is the government’s willingness to disclose economic information. We construct an Economic HRV Index, using only economic indicators. This index is highly correlated with the main HRV index (0.93). Given the high degree of overlap, it is unsurprising that our findings are unchanged when we use the new Economic HRV Index instead (Appendix Table A4).

While we believe there are advantages to the HRV approach to measuring transparency, we also consider two additional proxies for governments’ preferences over fiscal disclosure. First, we make use of the Special Data Dissemination Standard (SDDS), part of the IMF’s broader Data Dissemination Initiative to enhance member country provision of economic and financial data. The Standard addresses data quality, methodology and dissemination,

and was designed to improve developing country access to international capital markets. While subscription is voluntary, it implies a commitment to comply with the standards. Past analyses have considered the motivations behind governments' decisions to join the SDDS ([Mosley 2003a](#)), and they have highlighted the possible effect of SDDS participation on sovereign borrowing costs ([Cady and Pellechio 2008](#)).

More than 75 countries have subscribed to the SDDS, of which 39 are part of the 121 developing countries in our full sample. We create a variable SDDS SUBSCRIPTION which takes a value of 1 the year after the date of subscription and 0 otherwise.²⁹ When we use SDDS rather than HRV, we can include a broader set of years (1970-2015) in our analyses. Importantly, our results – which confirm the relationship between transparency and reliance on bonds versus bank loans, as well as use of multilateral versus bilateral credit – are substantially the same when we restrict them to the 1980-2010 period. Table A5 in the Appendix displays the results using the SDDS measure; they are analogous to Table 1.

Second, we use [Williams's \(2015\)](#) Information Transparency Index, which captures not only the amount of information governments provide, but also its quality and ease of acquisition by the public.³⁰ Appendix Table A6 shows our main findings hold when using this alternative transparency measure.

While these results are reassuring in that our results appear not to be driven by a specific measure of transparency, another potential concern is that HRV, Economic HRV, SDDS and –to some degree– Williams' measure are all affected by interactions between governments and official creditors. For instance, the IMF both encourages participation in SDDS and

²⁹We code the country's first year of subscription as the proportion of the year in which the country is under subscription. For example, Argentina subscribed on August 16, 1996; hence SDDS SUBSCRIPTION= 0.62 in 1996. Alternative coding schemes for the first year produce the same substantive results. The correlation between the HRV INDEX and SDDS SUBSCRIPTION is 0.4, perhaps reflecting a limited uptake of the standard, or its limited de facto impact.

³⁰This measure uses 13 separate indicators, six for the quantity of information, four for the processes that generate that information, and three for the infrastructure required to disseminate that information, from 1980-2010. See [Williams \(2015\)](#).

serves as a source of official multilateral credit. And the World Bank, another multilateral creditor, oversees the creation of the World Development Indicators database (on which HRV measures are based). To address this potential confounding dynamic, we establish the robustness of our results to yet another measure of transparency, Freedom of Information (FOI) laws. [Chaitanya Vadlamannati and de Soysa \(2018\)](#) treat the adoption of FOI laws as a government action intended to promote transparency, and [Islam \(2006\)](#) links FOI laws with improved governance. When we use a dichotomous indicator for whether a country has a FOI law in place, our findings continue to hold (although the estimates on bilateral credit are less precise than the ones on bond credit. See Appendix Table [A7.](#))

Transparency and Corruption. If corruption and the related misappropriation of public funds are closely associated with governments' fiscal opacity, one might worry that our results are capturing the effect of corruption, rather than of fiscal disclosure practices, on governments' borrowing profiles. Corrupt sovereign borrowers, intent on pocketing proceeds from external loans, might be more likely to appeal to private banks rather than public bond markets, exactly because they require fewer conditions and disclosures.

At the same time, to the extent that creditors are aware of corruption, creditors will demand lending terms that compensate for the associated political and economic risk. And lenders should have little concern about the degree of disclosure over and above its effects on risk. Moreover, when sovereign credit markets are somewhat competitive and efficient, loan terms will reflect the political risk generated by corruption. Assuming that sovereign credit markets are in equilibrium, a borrowing government with a given degree of corruption will be indifferent across instruments. Hence we expect little systematic association between corruption and the choice of borrowing instruments; any residual relationship between opacity and loan type should be evidence of the effect we postulate – the borrower's (but not the lender's) concerns over disclosure.

Further analyses support this logic. To begin, the in-sample correlation between trans-

parency (HRV) and a measure of corruption (the index created by the International Country Risk Guide) is essentially 0 – more specifically, 0.0077. Additionally, our substantive results are unchanged when we include corruption as an additional covariate (see Appendix Tables [A8-A9](#)).

Transparency, Borrowing & International Liquidity

While we demonstrate that transparency is important to the domestic political economy of sovereign credit, we also expect that the impact of domestic politics on sovereign borrowing outcomes varies with global capital market conditions ([Ballard-Rosa, Mosley, and Wellhausen 2019](#)). When international markets are highly liquid and investors are more risk acceptant, they are willing to extend credit to a wider range of borrowers. In such circumstances, developing country governments have greater choices in accessing capital ([Mosley 2003b](#)). By contrast, when global liquidity is low, investors are more risk averse, and governments – especially those with an inclination toward opacity – have fewer financing options.

We expect therefore that governments are more able to structure their portfolios to match their preferences over instruments when global liquidity is high. On the other hand, when global liquidity is low, supply-side factors should play a greater role in determining financing outcomes. We analyze the extent to which international liquidity, here proxied by the US FEDERAL FUNDS RATE moderates the effects of TRANSPARENCY. The Federal Funds Rate is a primary indicator of US monetary policy and is widely used as a proxy for international liquidity (e.g. [Longstaff et al. 2011](#)). Monetary conditions in the United States influence aggregate risk aversion and capital flows in the international financial system and, therefore, the global search for yield ([Rey 2016](#)).

Although one might worry that, in the post-2008 period, low rates also correspond to post-global financial crisis quantitative easing (and therefore to risk aversion rather than risk acceptance), this would bias against finding support for our expectations regarding the

mediating role of global market conditions. We also address this concern via the inclusion of year fixed-effects, which absorb these common-shocks.

We implement two empirical strategies. First, we estimate a simple interaction model:

$$\begin{aligned} \text{TYPE OF BORROWING}_{it+1} &= \beta_2 \text{TRANSPARENCY}_{it} \\ &+ \gamma_1 (\text{TRANSPARENCY}_{it} \times \text{US FED FUNDS}_t) \\ &+ \mathbf{X}'_{it} \phi + \alpha_i + \delta_t + \epsilon_{it} \end{aligned} \tag{2}$$

Second, we construct a time-invariant indicator of whether a country is TRANSPARENT, if its mean Transparency Index over the sample is greater than the sample average:

$$\text{TYPE OF BORROWING}_{it+1} = \gamma_2 (\text{TRANSPARENT}_i \times \text{US FED FUNDS}_t) + \phi \mathbf{X}_{it} + \alpha_i + \delta_t + \epsilon_{it} \tag{3}$$

The expectation is that the coefficients γ_2 in Equation 3 and γ_1 in Equation 2 have the opposite sign of β_2 in Equation 2. Conceptually, analyzing this effect is akin to a *difference-in-differences* design, in which we compare the effects of international liquidity in transparent countries to countries that are relatively less transparent, in years with greater international liquidity relative to years with lower liquidity.

Table 3 shows these results. Panel A supports our expectation that more transparent countries utilize bonds relatively more than commercial banks for private borrowing, and that they do so at a higher rate when global interest rates are low. Similarly, Panel B reinforces the finding that transparent governments rely less on bilateral credit as a share of total official credit, and they do so even less when global liquidity is high. These results are robust to all the checks mentioned above (changes in the denominator (Table SM4), using a binary dependent variable (Table SM5), the Economic HRV index (Table SM6), the SDDS (Table SM7), Information Transparency (Table SM8) and FOI (Table SM9) measure; these

Table 3: **Transparency, liquidity and types of borrowing, by creditor category**

	Types of Borrowing			
	(1)	(2)	(3)	(4)
Panel A: Bonds Credit (as a share of total private credit)				
Transparency (HRV)	0.080*** (0.023)	0.116*** (0.015)		
Transparency (HRV) \times US Federal Funds Rate	-0.009*** (0.002)	-0.010*** (0.003)		
Transparent \times US Federal Funds Rate			-0.025*** (0.005)	-0.021*** (0.005)
Observations	1,763	1,472	2,598	2,039
R^2	0.27	0.35	0.30	0.33
Countries	86	79	86	80
Outcome mean	0.16	0.16	0.15	0.16
Outcome std. dev.	0.31	0.31	0.31	0.32
Panel B: Bilateral Credit (as a share of total official credit)				
Transparency (HRV)	-0.045*** (0.009)	-0.032*** (0.012)		
Transparency (HRV) \times US Federal Funds Rate	0.003*** (0.001)	0.004*** (0.001)		
Transparent \times US Federal Funds Rate			0.008*** (0.003)	0.007** (0.003)
Observations	2,554	2,132	3,628	2,862
R^2	0.22	0.22	0.20	0.24
Countries	88	82	88	84
Outcome mean	0.10	0.09	0.10	0.10
Outcome std. dev.	0.17	0.16	0.17	0.16
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Covariates		✓		✓

Notes: All specifications are estimated using OLS. Covariates are population, GDP, growth, trade, FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

tables are in the Supplemental Materials.

Within-Country Analysis: Mexican Municipalities

We complement our cross-country analyses with municipality-level evidence from Mexico. Macro-socioeconomic and political factors that affect market access are relatively constant

within a country, providing stronger internal validity. Additionally, by testing our theoretical expectations at the subnational level, we are able to test the generalizability and scope of our argument.

Mexico presents variation in budget composition as well as transparency across its municipalities, making it an appropriate test for our claims. Additionally, the disclosure of political information surrounding municipal finances has been shown to have substantial effects on electoral accountability, even as it has generated resistance from local politicians (Larreguy, Marshall, and Snyder 2019).

Mexican municipalities have the independent ability to borrow. On average, 7% of their expenditure is financed through credit, which comes from the three sources: bonds, commercial banks, and development banks.³¹ Here, following our cross-country analysis, we compare within private borrowing – issuing bonds versus borrowing from commercial banks. Given Hypothesis 1, we expect more transparent municipalities to be more likely to borrow using bonds rather than commercial banks. We restrict our sample to those municipalities which borrowed funds from the private sector during the 2004 to 2013 time period. It therefore includes a total of 408 municipalities (borrowing, on average, about 44% of their private credit from bond sources).

Also important for our purposes, Mexico’s federal government has over the last two decades taken steps to improve government transparency at all levels. For instance, the first law surrounding these topics was passed in 2002 (*Ley Federal de Transparencia y Acceso a la Información Pública Gubernamental*), similar to the Freedom of Information Act in the US. At that time, the federal government also created the *Instituto Federal de Acceso a la Información y Protección de Datos* (IFAI) (currently, *Instituto Nacional de Transparencia,*

³¹Development banks —the *Banca de Desarrollo*— are a group of banks run by the Federal government whose aim is to develop specific sectors, such as fishing enterprises under the *Financiera Nacional de Desarrollo Agropecuario, Rural, Forestal y Pesquero* (FND), and to aid municipal and local development under *Banco Nacional de Obras y Servicios Públicos* (Banobras).

Acceso a la Información y Protección de Datos Personales (INAI)), an autonomous constitutional body charged with guaranteeing the right to access public information as well as the protection of personal data.

Simultaneously, civil society organizations have emerged to advocate for enhanced transparency in government policymaking. For instance, in 2002, a group of non-governmental organizations (NGOs) created CIMTRA (*Colectivo Ciudadanos por Municipios Transparentes*) to both assess and encourage local-level political and financial transparency. Similarly, the *Instituto Mexicano para la Competitividad* (IMCO), an NGO founded in 2003, has worked to promote transparency in public finance. Both NGOs have created their own transparency indices, although their time and geographic coverage are limited.³² Here, we replicate the HRV method (Hollyer, Rosendorff, and Vreeland 2014) and create an original transparency index at the municipal level.³³ On average, the municipalities in our sample had a TRANSPARENCY score of 0.4 (SD of 0.25), where higher values, again, represent more transparent governments.

We test our expectations using an OLS estimation as in Equation (4), analogous to the cross-country estimation in Equation (1):

$$\text{BOND CREDIT (SHARE)}_{it+1} = \alpha_i + \delta_t + \beta_4 \text{TRANSPARENCY}_{it} + \mathbf{X}'_{it} \phi + \epsilon_{it} \quad (4)$$

where we define BOND CREDIT (SHARE) for a given municipality-year as the share of bond credit over total commercial credit. The vector \mathbf{X} represents a series of economic and political controls, namely total municipal debt, fiscal transfers, tax revenue, population, and

³²IMCO's index covers over 400 municipalities, beginning in 2010. CIMTRA's measurement starts in 2008 but it tracks fewer than 20 municipalities over time.

³³We rely on patterns of missingness of data reported by Mexican municipalities to the INEGI. We take advantage of the standard *Banco de Información INEGI* (Information Bank) and their bulk data download — *descarga masiva* — on INEGI's website. Our measure analyzes 221 indicators since 1994, which represent less than a third of the total indicators provided. To conserve computing power, we use those indicators with the greatest variance.

agricultural production. To ensure our findings are not driven by partisan differences or electoral cycles, we control for the identity of the incumbent party as well as gubernatorial and congressional election years.³⁴ We include both municipality and year fixed effects in all models (Table A10 presents descriptive statistics).

Table 4 displays the results. In all model specifications, the results align with our expectations. More transparent municipalities are more likely to borrow via bonds, measured as a share of total commercial credit. Based on the estimates from Column 3, a one standard deviation increase in the Municipal Transparency Index implies an approximately 5 percentage point increase in bond credit as a share of total commercial credit (more than a 10% increase with respect to the mean). Our analysis of subnational borrowing in Mexico therefore provides additional evidence to support our claims regarding transparency and the structure of public sector finance.

Table 4: **Transparency and Commercial Borrowing in Mexican Municipalities**

Bond Credit (as a share of total commercial credit)			
	(1)	(2)	(3)
Transparency	0.108** (0.050)	0.136** (0.065)	0.197** (0.083)
Observations	1,733	762	762
Outcome mean	0.44	0.43	0.43
Outcome std. dev.	0.49	0.49	0.49
Year FE	✓	✓	✓
Municipality FE	✓	✓	✓
Economic fundamentals		✓	✓
Party/Electoral controls			✓

Notes: All specifications are estimated using OLS. Economic fundamentals are municipal debt, fiscal transfers, tax revenue, population and agricultural production. Standard errors clustered by municipality are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

³⁴Data drawn from the Municipal Elections Database compiled by the Centro de Investigación Para el Desarrollo, A.C. (CIDAC). For further discussion of municipal debt policy with respect to parties and elections, see [Benton and Smith \(2017\)](#).

Conclusion

Sovereign finance is central to governments' activities. While much has been written about government choices among taxation regimes (e.g., direct vs. indirect taxes), or the effects of non-tax revenue (natural resource rents, or bilateral and multilateral foreign aid) on governance, we know much less about the political economy of governments' choices regarding sovereign borrowing.

We present a theory, founded in domestic political economy, of how governments prefer to borrow. We ground our explanation in the desire of some governments to obfuscate their fiscal behavior generally and their borrowing behavior specifically. We show that opaque governments tend to borrow via debt instruments that require less disclosure, especially in more liquid or less credit-constrained environments. We find robust support for our argument, for private as well as official credit, across a variety of tests and measures of transparency. Furthermore, we find support for argument at the subnational level, using data on municipal-level borrowing in Mexico.

Further research might pursue some related questions. First, what is the price of opacity? Presumably more opaque governments, associated with greater political instability, and perhaps with higher political and default risk, find the terms of their loans more severe than their transparent counterparts. What does a preference for fiscal opacity cost when it comes to sovereign borrowing? Answering this question requires the collection of commercial bank loan contracts – which both banks and sovereign borrowers have been very reluctant to make public, or even to share with international financial institutions.

Second, government preferences over transparency also may effect sovereigns' use of domestic (versus international) credit, especially in the context of financial repression.³⁵ While much recent research on sovereign borrowing in Global South countries tends to assume

³⁵On government policies towards domestic debt, see [Betz and Pond \(2019\)](#).

that private sector creditors are foreign, some creditors (banks as well as bondholders) are domestic. Lending dynamics, as well as the effects of credit on state-building ([Levi 1989](#), [Queralt forthcoming](#), [Stasavage 2011](#)), are likely different when creditors also are part of the electorate. Further research therefore could explore the domestic political dynamics by which governments choose between domestic and foreign sources of credit.

Third, future research could delve further into creditor composition by considering variation *within* the categories of financing we examine. This may be most obvious in the realm of bilateral official credit, where opacity-inclined governments are even more drawn to credit from non-Paris Club lenders (especially China) than from Paris Club creditors ([Bunte 2019](#)). While the scope of our empirical analyses largely predates the rise of China as a source of official credit, future analyses could test this expectation. We also might imagine that governments vary in their preferences between accessing credit via regional development banks versus Bretton Woods financial institutions.

Finally, the ability of governments to make choices among sources of credit, especially in times of high global capital market liquidity, suggests a pessimistic view for the role of official multilateral lenders, or bondholders, to exert pressure on governments to improve their domestic institutions and practices. To the extent that opaque governments have attract options in the form of similarly opaque lenders ([Gelpern et al. 2021](#)), credit is unlikely to be a motive for reform.

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Appendix: Summary Statistics and Additional Results

Table A1: Cross-country - Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Private Credit (share of total)	0.239	0.295	0	1	4743
Bonds Credit (share of private)	0.148	0.315	0	1	3123
Bonds Credit (share of bonds and banks)	0.208	0.362	0	1	2410
Bilateral Credit (share of official)	0.098	0.177	0	1	4723
Transparency Index (HRV)	0.6	1.932	-10.87	8.345	3162
SDDS subscription	0.08	0.27	0	1	7775
Freedom of Information Law	0.159	0.366	0	1	3630
US Federal Funds Rate	5.489	3.792	0.09	16.39	7452
Population	15.042	2.29	8.778	21.039	7155
GDP	23.024	2.148	16.881	29.818	6374
GDP Growth	3.86	7.053	-64.047	149.973	6451
Trade (% of GDP)	80.374	49.274	0.021	531.737	5501
FDI Inflows	3.718	12.683	-82.892	451.716	5304
Natural Resource Rents	8.525	11.842	0	89.166	5989
Foreign Aid	18.082	2.907	0	23.817	6023
Debt crisis	0.015	0.121	0	1	7775
External debt (% of GNI)	63.372	80.022	0.239	1380.766	4374
Democracy	-0.594	6.886	-10	10	5639
Right Government Ideology	0.119	0.323	0	1	7775
Left Government Ideology	0.214	0.41	0	1	7775

Table A2: **Transparency and types of borrowing, by creditor category: Robustness to Geopolitical Controls**

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Any Bond Credit			
Transparency Index [HRV]	0.062*** (0.022)	0.053* (0.027)	0.092*** (0.016)
Observations	1,685	1,524	1,425
R^2	0.28	0.30	0.36
Countries	82	79	76
Outcome mean	0.15	0.16	0.16
Outcome std. dev.	0.31	0.32	0.32
Panel B: Any Bilateral Credit			
Transparency Index [HRV]	-0.025*** (0.008)	-0.020* (0.011)	-0.024* (0.012)
Observations	2,405	2,160	2,026
R^2	0.24	0.24	0.22
Countries	84	82	79
Outcome mean	0.10	0.10	0.10
Outcome std. dev.	0.17	0.16	0.16
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Geopolitical controls	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Geopolitical controls are: UNSC membership, US Troops, and UN Ideal Point Difference with the US. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A3: **Transparency and types of borrowing, by creditor category: Binary measure**

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Any Bond Credit			
Transparency (HRV)	0.062** (0.025)	0.057* (0.031)	0.088*** (0.020)
Observations	1,763	1,599	1,472
R^2	0.13	0.13	0.15
Countries	86	83	79
Outcome mean	0.27	0.29	0.29
Panel B: Any Bilateral Credit			
Transparency (HRV)	-0.034*** (0.009)	-0.023** (0.010)	-0.024* (0.013)
Observations	2554	2298	2132
R^2	0.21	0.22	0.21
Countries	88	86	82
Outcome mean	0.10	0.10	0.09
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A4: **Economic transparency and type of borrowing, by creditor category**

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Bonds Credit (as share of private)			
Econ. Transparency	0.058*** (0.020)	0.052** (0.021)	0.086*** (0.016)
Observations	1,763	1,599	1,472
R^2	0.25	0.27	0.33
Countries	86	83	79
Outcome mean	0.16	0.16	0.16
Outcome std. dev.	0.31	0.32	0.31
Panel B: Bilateral Credit (as share of official)			
Econ. Transparency	-0.027** (0.011)	-0.022** (0.011)	-0.022 (0.013)
Observations	2,554	2,298	2,132
R^2	0.20	0.22	0.21
Countries	88	86	82
Outcome mean	0.10	0.10	0.09
Outcome std. dev.	0.17	0.17	0.16
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A5: **SDDS and types of borrowing, by creditor category (1970-2015)**

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Bonds Credit (as share of private)			
SDDS subscription	0.248*** (0.048)	0.214*** (0.051)	0.213*** (0.051)
Observations	3,062	2,696	2,213
R^2	0.28	0.29	0.32
Countries	119	114	99
Outcome mean	0.14	0.16	0.16
Outcome std. dev.	0.31	0.32	0.32
Panel B: Bilateral Credit (as share of official)			
SDDS subscription	-0.061** (0.025)	-0.046* (0.026)	-0.044 (0.027)
Observations	4,646	4,017	3,237
R^2	0.14	0.18	0.21
Countries	121	118	105
Outcome mean	0.10	0.10	0.10
Outcome std. dev.	0.18	0.18	0.17
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A6: **Williams's (2015) Transparency and types of borrowing, by creditor category (1980-2010)**

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Bonds Credit (as a share of total private credit)			
Information Transparency [AW]	0.004** (0.002)	0.004* (0.002)	0.006** (0.003)
Observations	2,062	1,848	1,574
R^2	0.21	0.23	0.29
Countries	117	111	96
Outcome mean	0.15	0.16	0.16
Outcome std. dev.	0.31	0.31	0.31
Panel B: Bilateral Credit (as a share of total official credit)			
Information Transparency [AW]	-0.002 (0.001)	-0.002 (0.001)	-0.001 (0.001)
Observations	3,260	2,883	2,388
R^2	0.13	0.16	0.19
Countries	119	115	100
Outcome mean	0.09	0.10	0.10
Outcome std. dev.	0.18	0.18	0.17
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A7: FOI laws and types of borrowing, by creditor category (1980-2013)

	Types of Borrowing		
	(1)	(2)	(3)
Panel A: Bonds Credit (as a share of total private credit)			
Freedom of Information Law	0.109*** (0.041)	0.085* (0.043)	0.121*** (0.044)
Observations	1,933	1,755	1,572
R^2	0.24	0.26	0.29
Countries	87	86	81
Outcome mean	0.17	0.18	0.18
Outcome std. dev.	0.33	0.33	0.33
Panel B: Bilateral Credit (as a share of total official credit)			
Freedom of Information Law	-0.047* (0.026)	-0.017 (0.027)	-0.002 (0.031)
Observations	2,657	2,409	2,181
R^2	0.18	0.22	0.22
Countries	88	88	83
Outcome mean	0.10	0.10	0.10
Outcome std. dev.	0.18	0.18	0.17
Country FE	✓	✓	✓
Year FE	✓	✓	✓
Econ. fundamentals		✓	✓
Additional covariates			✓

Notes: All specifications are estimated using OLS. Economic fundamentals controls are population, GDP, growth, and trade. Additional covariates are FDI inflows, natural resource rents, foreign aid, debt crisis, external debt, democracy, right and left ideology. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A8: **Transparency and Private borrowing, controlling for corruption**

	Bonds Credit (as a share of total private credit)				
	(1)	(2)	(3)	(4)	(5)
Transparency Index [HRV]	0.051** (0.022)		0.054** (0.023)	0.049* (0.025)	0.094*** (0.014)
Corruption Index		0.005 (0.008)	-0.001 (0.012)	0.006 (0.011)	0.003 (0.010)
Population				-0.297 (0.200)	-0.551*** (0.161)
GDP				0.037 (0.064)	-0.074 (0.061)
GDP Growth				-0.001 (0.001)	0.001 (0.001)
Trade (% of GDP)				0.000 (0.001)	0.000 (0.001)
FDI Inflows					0.001 (0.003)
Natural Resource Rents					-0.005*** (0.002)
Foreign Aid					-0.008 (0.005)
Debt crisis					-0.066** (0.028)
External debt (% of GNI)					0.000 (0.000)
Democracy					0.001 (0.004)
Right					0.003 (0.044)
Left					0.003 (0.040)
Observations	1,763	2,826	1,707	1,599	1472
Countries	86	115	85	83	79
Year FE	✓	✓	✓	✓	
Country FE	✓	✓	✓	✓	
Covariates		✓		✓	

Notes: All specifications are estimated using OLS. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table A9: Transparency and Official borrowing, controlling for corruption

	Bilateral Credit (as a share of total official credit)				
	(1)	(2)	(3)	(4)	(5)
Transparency Index [HRV]	-0.034*** (0.009)		-0.038*** (0.010)	-0.023** (0.010)	-0.023* (0.012)
Corruption Index		0.003 (0.005)	0.000 (0.007)	-0.001 (0.008)	-0.001 (0.008)
Population				0.202** (0.091)	0.131 (0.091)
GDP				0.047 (0.043)	0.056 (0.052)
GDP Growth				-0.001 (0.001)	-0.002 (0.001)
Trade (% of GDP)				0.000 (0.000)	0.000 (0.000)
FDI Inflows					-0.000 (0.001)
Natural Resource Rents					-0.000 (0.001)
Foreign Aid					0.003* (0.001)
Debt crisis					0.008 (0.013)
External debt (% of GNI)					0.000 (0.000)
Democracy					0.000 (0.002)
Right					0.000 (0.013)
Left					0.025* (0.014)
Observations	2,554	4,214	2,468	2,298	2132
Countries	88	119	88	86	82
Year FE	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓

Notes: All specifications are estimated using OLS. Standard errors clustered by country are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Mexican Municipalities Analyses

Table A10: Mexican municipalities - Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Bond Credit (share of total commercial credit)	0.381	0.483	0	1	1733
Transparency Index	0.403	0.252	0	0.813	1733
Municipal Debt (Ln)	15.39	2.863	1.504	21.449	1468
Transfers (Ln)	10.733	1.532	5.46	14.738	1211
Tax Revenue (Ln)	15.737	2.54	7.365	20.863	1714
Population (Ln)	11.099	1.576	7.432	14.324	1008
Agricultural Production Value (Ln)	10.635	2.651	0	15.751	1232
PAN Incumbent	0.304	0.46	0	1	1733
PRI Incumbent	0.504	0.5	0	1	1733
PRD Incumbent	0.142	0.349	0	1	1733
PAN-PRD Incumbent	0.003	0.054	0	1	1733
PRI-PRD Incumbent	0.003	0.054	0	1	1733
Congressional Elections	0.407	0.491	0	1	1733
Gov. Election	0.463	0.499	0	1	1733