

TAPing Debt Markets – Introducing the Database on Transparency, Autonomy and Professionalism in Public Debt Management

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The role of institutions in governing public debt has become of interest to political scientists. This is partly due to high public debt levels accumulated since the global financial crisis, a situation intensified through the COVID-19 pandemic. Recent literature suggests that transparency, autonomy and professionalism of sovereign debt management may moderate public debt outcomes from what they would otherwise be. We identify the ways in which debt-management legal frameworks vary across countries and over time, and correlate such variation with countries' macroeconomic vulnerability, relations with International Financial Institutions (IFI), sovereign risk, democracy and extant measures of transparency. In doing so we contribute a database that would be helpful for scholars of sovereign debt and political economy, with much greater coverage (92 countries, 1950-2018), and based on more exogenous parameters than currently available data.

KEYWORDS: Sovereign Debt; Debt Management Offices; Transparency; Political Economy; Institutions

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Introduction

Governments, even in major democratic market economies, have difficulties in making credible commitments to limit and repay their debts (Eaton & Gersovitz, 1981; Reinhart & Rogoff, 2009; Schultz & Weingast, 2003; Tomz, 2007). Economic costs, domestic politics and state identity concerns may make default a cheaper option than repayment (Gill, 2021). Workers and domestic-oriented economic interests lobby to impose costly defaults on foreign creditors (Connell, 2019; DiGiuseppe & Shea, 2019).

This problem has stimulated vast literature on how governments can win the trust of lenders and maintain access to credit. At the domestic politics level, high collective responsibility, low political polarization (Breen & McMnamin, 2013), a centralized budget process (Hallerberg, 2011; Hallerberg *et al.*, 2009) or appointing technocratic ministers of finance (Alexiadou *et al.*, 2022) may improve the credibility of sovereign commitments. Multilateral commitments can also improve transparency with regard to the stability of the financial system (Arias *et al.*, 2020; Copelovitch *et al.*, 2018) and confer policy credibility (Bølstad & Elhardt, 2018; Goldbach & Fahrholz, 2011; Gray, 2009; Tomashevskiy & Kono, 2015), even if rigid numerical fiscal rules might not (Alt *et al.*, 2014; Baerg & Hallerberg, 2016; McMnamin *et al.*, 2015; though see Amick *et al.*, 2020). Foreign direct investment by global banks may also promote such transparency and credibility (Grittersová, 2020). Bond markets may discipline governments, by raising risk premiums (Afonso & Strauch, 2007; Barta & Johnston, 2018; Biglaiser & Staats, 2012; Hallerberg, 2011), although they might fail to provide timely warnings (Cruces & Trebesch, 2013; Mosley, 2003; Reinhart & Rogoff, 2009; Tomz, 2007), overreact (Ehrmann and Fratzscher, 2005), or judge countries' performance subjectively (Brooks *et al.*, 2015). Indeed, many scholars increasingly focus on sovereign access to credit despite disciplinary expectations in the literature around partisan politics (Cormier, 2022b) currency (Ballard-Rosa *et al.*, 2021) and liquidity (Zeitz, 2021).

These studies relate mostly to the politics of borrowing and default decisions. Less academic attention has been given to the institutional practices through which sovereign debt is planned, issued and managed. This is an important oversight given the role of institutions in political economy. In sovereign debt, state practices and institutional characteristics may affect the cost and volume of debt that a country can accumulate in the first place, as well as the willingness and ability of the government to honor its commitments (on central banks, see Bodea & Hicks, 2015).

Central to sovereign debt management are Debt Management Offices (DMOs). These are the state bodies responsible for managing engagement with investors, and ultimately enhancing public debt sustainability (Cormier, 2021; Sadeh & Porath, 2020; Sadeh & Rubinson, 2018). They aim to ensure government “borrowing needs are met efficiently and that the stock of government debt... [is] managed” in a way that minimizes sovereign debt costs and risk (Wheeler, 2004, p. 4). DMOs are organized around three functions. They negotiate and maintain relationships with various creditors, devise medium and long-term debt sustainability analyses and debt management strategies, and manage the financial accounts of flows into and out of the state. Even if not formally centralized in a single office, these functions are the essence of debt management (Williams, 2013, p. 668). Poorly managed debt would expose the government to excessive cost and risk, and impair its ability to service its debt. As global financial markets develop new instruments, efficient debt management requires an increasing degree of expertise and professionalism. Indeed, since the 2000s, the International Monetary Fund (IMF) and the World Bank have included the need for professional sovereign debt management in the fiscal and governance reforms that they encourage and support.

It is thus striking how relatively little is known about DMOs and sovereign debt management practices across countries, particularly compared to other institutions that participate in

macroeconomic policymaking. The literature on the politics of sovereign debt management did not really pick up until the late 2010s. Some studies focus on the rise in marketable debt issuance in recent decades, driven by rising debt levels, international financial liberalization, and pressure from multilateral institutions. These trends have turned the state into a financial actor, which necessitated the establishment of specialized state agencies to manage risks, issue and trade in financial instruments, as market participant do. Schwan *et al.* (2021) try to measure cross-country variation in state financialization and explain why this process unfolds unevenly across political economies. They offer four indicators of state financialization, trace cross-national and inter-temporal developments in 36 European countries since 1990, and explore how this variation is associated with domestic and international political economic factors. As they note, more attention should be given to the tensions between finance and democracy.

Other studies of debt management emphasized the type of credit that countries tap. Focusing on developing countries, Zeitz (2021) seeks to explain why their governments enter international bond markets, when they can access cheaper finance from international financial institutions. She uses data on the timing of bond issues in Ethiopia, Ghana, and Kenya to demonstrate that choices to issue debt were shaped by global liquidity. Cormier (2022b) argues that left-leaning governments prefer market terms over compliance with official creditors' conditionality that have disproportionately negative effects on working class constituencies.

Some studies focus on transparency of debt management. Ballard-Rosa *et al.*, (2021a) ask more broadly how domestic and global factors shape governments' capacity to issue debt in primary capital markets. They study government bond issues for 131 sovereign issuers 1990-2016, and identify domestic institutional mechanisms, including executive constraints and policy transparency that facilitate debt issuance, consistent with the 'democratic advantage'. Cormier (2022a) disagrees that democracies have more transparent public debt. Transparency can

enhance sovereign creditworthiness, but does not depend on democratic governance. Indeed, transparent debt practices affect creditworthiness more than democracy. Arias, Mosley and Rosendorff (2021) argue that governments that do not wish to be fiscally transparent will prefer borrowing instruments that are less public, such as borrowing from banks rather than bondholders, and borrowing from bilateral rather than multilateral creditors. They use governments' overall level of transparency in developing nations to proxy for their preferences over fiscal policy disclosure

Other studies consider the operational modes of DMOs and their relations with private financial institutions. Some are concerned that such financialized states may cater in their debt management to private financial institutions, and even become captured by them. Fastenrath, Schwan and Trampusch (2017) suggest nine indicators that measure the financialisation of sovereign debt management by the reliance on financial markets as a governance mechanism and the adoption of a framework grounded in financial economics, in 23 OECD countries between 1980 and 2010. Livne and Yonay (2016) use interviews to analyze the financialization of sovereign debts as a process that reconstituted statehood in Israel. They trace the transition in Israel's debt management, from issuance based on negotiations with pension funds, to issuing bonds to financial markets. They emphasize three factors that characterize the transition: the professionalization of sovereign debt management, the utilization of risk management models and the standardization of sovereign bonds.

Following a more nuanced approach, Sadeh and Portah (2020) suggest that in rich countries, DMOs that are autonomous from political decision-makers can manage relational contracts with financial institutions, which are characterized by potentially important information asymmetries. They study issues of government debt in 31 mainly OECD countries during 2004-2012, and code legal texts defining the autonomy of DMOs. Cormier (2021) identifies limits

to the ways in which autonomous DMOs may enhance public debt sustainability in developing countries. Comparing South Africa and Botswana, and using interviews and primary sources, he locates debt management within annual fiscal policymaking processes to argue DMOs are unlikely to significantly affect the link between political interests and debt levels as well as external borrowing choices. He concludes that the relationship between interests, institutions, and policy outcomes should vary by national income level. Some scholars are concerned about insufficient legislative oversight on DMOs. Trampusch and Gross (2021) devise indices to measure parliamentary control over DMOs in 17 OECD countries and find that parliaments' oversight does not impair DMOs' operational flexibility.

These studies highlight the importance of studying the transparency, autonomy and professionalism of sovereign debt management, and how they interact with country size and income, macroeconomic vulnerability, international financial institutions, credibility and democracy. Extant literature also underscores the dearth of consistent measures of transparency, autonomy and professionalism of debt management, over many and diverse countries, and long periods of time. This project aims to fill this gap.

This paper is currently a work in progress, with just over half of the 92 countries in the dataset having fully-updated coding. Below we introduce the logic of focusing on *de jure* aspects of sovereign debt management, and explain how countries and years were selected into our database. The third section introduces the different coding rules and presents basic descriptive statistics. The fourth section probes possible relationships of interest to other aspects of public debt and political economy. The fifth section briefly concludes.

De jure frameworks of sovereign debt management

Our database of legislation relating to sovereign debt management transparency, autonomy and professionalism covers the period 1950-2018. We are interested in coding laws that affect how transparent and professional debt management is, and how autonomous DMOs are. We thus follow the logic of emphasizing *de jure* rather than *de facto* DMO characteristics. In doing so we assume a reasonably strong rule of law and scope our dataset to 92 democracies (as discussed below).

To be sure, *de jure* measures of transparency, autonomy and professionalism have their disadvantages. Laws cannot cover all aspects of the relations between the executive and market agents, or between a state agency and other state bodies. In addition, the practice of such relations may differ from what the law stipulates. However, legal-based measures are useful for comparing cross-sectional data across time, and for assessing the institutional choices that political decision-makers and the legislature make when passing debt management legislation. In contrast, questionnaires that can perhaps be used for *de facto* measures of transparency, agency autonomy or professionalism would suffer from narrow latitudinal and longitudinal coverage, and problematic cross-sectional and inter-temporal comparability. Worse, *de facto* measures are likely to be endogenous to the activity they are supposed to measure. For example, *de facto* measures of state agencies' autonomy may be endogenous to their performance, if not to other variables of interest (Garriga, 2016; Grabel, 2000; Guardiancich & Guidi, 2016).

Of course, any state legislation is made by humans, and as such cannot be fully exogenous to politics. In particular, even where the rule of law is strong, the executive may wield influence over the legislature, such as in parliamentary systems with one-party governments. Nevertheless, the more numerous are the independent veto players involved in the legislation, the less potentially responsive is the legislation to policy actions and market developments, and

the more exogenous the legislation thus becomes. In short, we submit that *de jure* measures of debt management transparency, autonomy and professionalism have the potential to offer better coverage, comparability and exogeneity than *de facto* measures.

To achieve this, we do not consider all documents with legal force, but only those that cannot be unilaterally enacted and/or revoked by the executive. Coding debt management that is only as transparent, autonomous and professional as the executive wishes, is in essence a *de facto* measure. Thus, as a rule we only code constitutional text and secondary legislation enacted by the legislature: we disregard presidential decrees, executive orders, cabinet and ministerial decisions and tertiary legislation, even though they are legally binding, unless they were directly passed by the legislature.

We also restrict our study to independent democracies because under non-democratic regimes the law and its enforcement are malleable to the executive to various degrees, which makes the letter of law less helpful in correctly coding mandates and lines of authority. We consider countries democratic when they score 7 or more in the polity2 index of the Polity V database.¹ We drop country-years with a lower polity score. Nevertheless, we included Iceland and Malta, which Polity V does not code due to their small population. We further drop countries with too few or distant observations to make assumptions about their fit in the regime type rule reliable. 92 countries have thus been selected, with a potential for 3,279 country-year observations. So far we have managed to code 53 countries, and 1,821 country-years. See Appendix 1 for detailed lists of included and excluded country-years. Most of the coded observations relate to the 1990s and 2000s – the median year is 1997. As Table 1 and Table 2 show, most coded

¹ We adopted this rule from the Polity manual, clause 4.13.

country-years are European or Latin-American; most are high-income countries, but a significant number of observations are of middle income countries.

Table 1: Data coverage by region

Region	Coded country- years
East Asia & Pacific	114
Europe & Central Asia	976
Latin America & Caribbean	422
Middle East & North Africa	36
North America	69
South Asia	71
Sub-Saharan Africa	133
Total	1,821

Based on World Bank classification

Table 2: Data coverage by income group

Region	Coded country- years
High income	1,069
Low income	25
Lower middle income	280
Upper middle income	436
Total	1,810

Based on World Bank classification; Kosovo is not classified.

We code three measures of debt management transparency, three measures of DMO autonomy, and three measures of debt management professionalism; all are dummy variables, scoring 1 if the coding question is answered in the affirmative. Transition years (when the constitution or the legislation changed) are coded similar to the previous years (see table of descriptive statistics in the appendix).

Coding formal public debt management transparency, autonomy, and professionalism

Our dataset codes *de jure* sovereign debt management characteristics on three dimensions (transparency, autonomy, professionalism) using three questions for each dimension. These questions and dimensions are summarized in Table 3, then detailed in the remainder of the section.

Table 3: Coding de jure Sovereign Debt Management

Coding #	Question	TAP Dimension
Q1	Does the constitution mention any particular sovereign debt-management agency, or debt-management authority in general?	Transparency
Q2a	Is there any law, other than the constitution, that defines/regulates or at least mentions debt management?	Transparency
Q2b	Is there a law, other than the constitution, that specifically establishes a sovereign-debt management agency and defines/regulates its goals/authority/structure? Is the DMO at least mentioned in in any law?	Transparency
Q3a1	By law, is there a single elected decision maker that can unilaterally dictate the terms of sovereign borrowing & debt?	Autonomy
Q3a2	By law, is there a single elected decision maker that can unilaterally veto the terms of sovereign borrowing & debt?	Autonomy
Q3b	By law, is there an entity that is not subject to the executive arm, nor to the legislature, that can unilaterally dictate sovereign debt terms, veto them, or at least propose debt management parameters to the executive?	Autonomy
Q4	In parliamentary democracies, by law, must the minister of finance be an elected politician (code 0), or can he/she be an appointed professional (code 1)?	Professionalism
Q5	Regardless of the legal basis, is there in effect a designated office that centralizes sovereign debt-management, whatever its place within the executive arm or outside it?	Professionalism
Q6	Is the DMO incorporated?	Professionalism

Measures of debt management transparency:

We submit that countries with laws that formally establish debt management regulations, as well as DMOs as formal-legal entities, have more transparent sovereign debt. We expect this because when DMOs have formal legal standing, they are both incentivized and required to provide information on whether and how they meet their mandate of sustainably managing debt. On incentives, transparent public debt improves creditworthiness, and this means that DMOs responsible for debt sustainability benefit from practices (such as transparency) that reduce sovereign risk. On requirements, *de jure* standing implies DMOs are mandated to produce such information. To be seen to do their work and meet their core mandates, legally-established DMOs must produce information of interest not only to markets, but to other state ministries and political audiences monitoring their work (Livne & Yonay, 2016).

This argument builds on the “state as entrepreneur” literature, which highlights the ways in which states work with financial actors to government bond markets. There are many practices by which a state may act as an entrepreneur in bond markets, particularly impactful in countries where these markets are comparatively under-developed. Examples include, but are not limited to, developing national credit rating agencies and bond pricing agencies. These practices are examples of the state using its agency to build markets that would otherwise not exist or be much smaller (Rethel & Sinclair, 2014). Transparent debt management practices reflect a similar entrepreneurial logic. When transparent, DMOs are using their agency providing information for markets and other audiences, increasing credibility and confidence about what it means to lend to the country and hold its debt. We argue that DMOs gain agency when they have formal-legal standing, and are likely to use this agency to increase sovereign debt transparency.

We thus code the following three transparency-related questions:

Q1 – Does the constitution mention any particular sovereign debt-management agency, or debt-management authority in general? All democracies require the government to pass a budget bill in the legislature, which necessarily relates to the amount of borrowing, if any. However, it is less common for constitutions to refer to the parameters of sovereign debt, beyond amounts. Some constitutions do so explicitly, but others may refer to debt parameters indirectly, by for example, requiring the government to get the legislature’s approval on a loan-by-loan basis.

In answering Q1, we considered any reference in the constitution to individual loans and other credit transactions through which the state borrows, as a reference to the parameters of sovereign debt, and thus to debt management. This is a measure of transparency because the rules governing debt management are clearer and require more transparent debt management practices for purposes of monitoring if they are stated in the constitution than if they are not stated in the constitution, secondary debt management legislation notwithstanding. A total of 580 observations were coded Q1=1. Figure 1 demonstrates that directly or indirectly referencing debt management in the constitution became more frequent starting in the early 1980s, but even in its height in 1997-1998, this occurred in the constitutions of less than one half of our data countries (we do not present actual frequencies, as they would to a large extent reflect the rising of the data’s overall frequency).

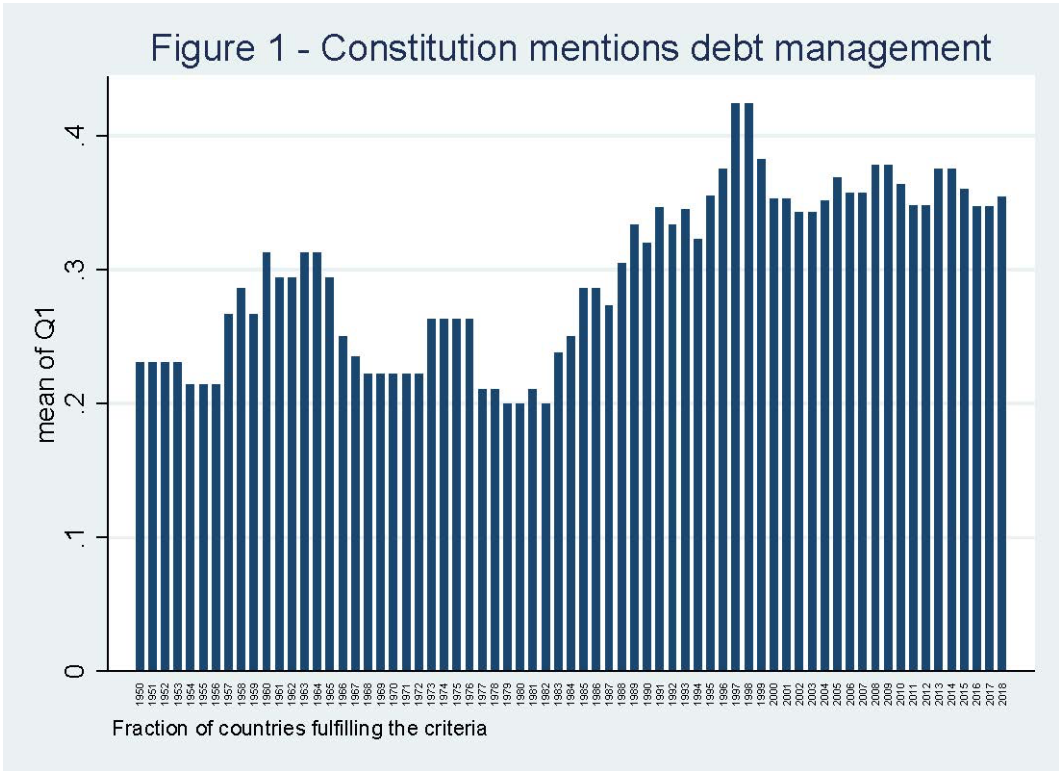


Figure 2 shows that such reference to debt management in the constitution is more typical of poor or small countries (by either population or GDP). *t*-tests show that the difference in means is significant at $p < .05$ (not reported); the same applies to all of the other figures below, unless otherwise stated.

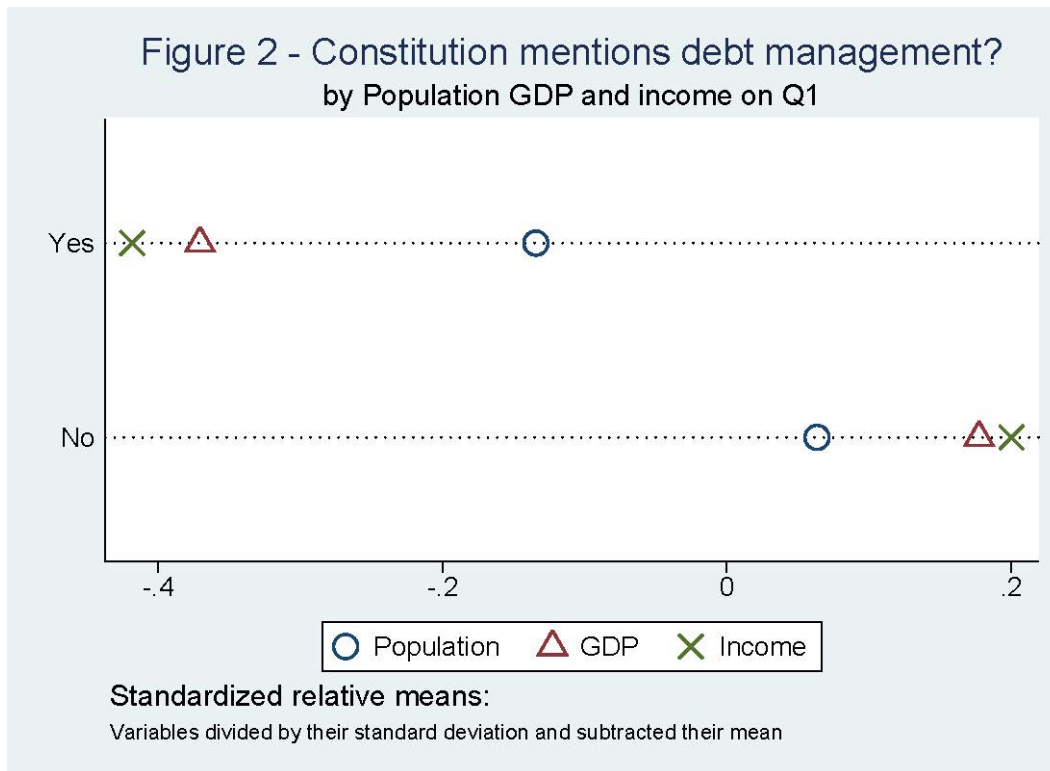


Figure 2 reports the mean of each of these three parameters, by Q1 categories. We take population, and GDP and GDP per capita data in current USD from the World Development Indicators (WDI) database. To reduce price effects, we divided countries' GDP by annual world GDP, and log-transformed GDP per capita. For presentational purposes, we then divide population and the transformations of GDP and GDP per capita, each by its standard deviation, and subtract its average. We followed the same procedures in similar figures below. *t*-tests show that the differences in means reported in Figure 2 are all significant at $p < .05$ (tests not reported); the same applies to similar figures below, unless otherwise stated.

Q2a – Is there any law, other than the constitution, that defines/regulates or at least mentions debt management? A total of 1,121 observations were coded Q2a=1. Figure 3 demonstrates that having a debt management law became steadily more frequent throughout our data years, and as of 2018, 90 percent of our data countries had such a law.

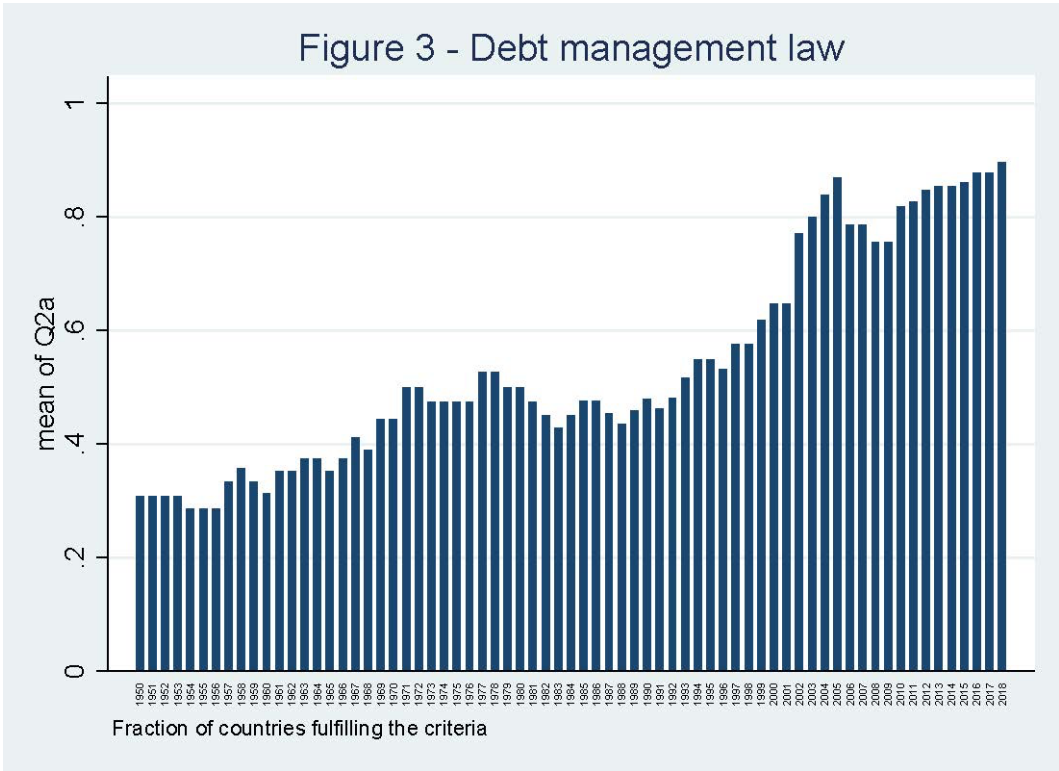
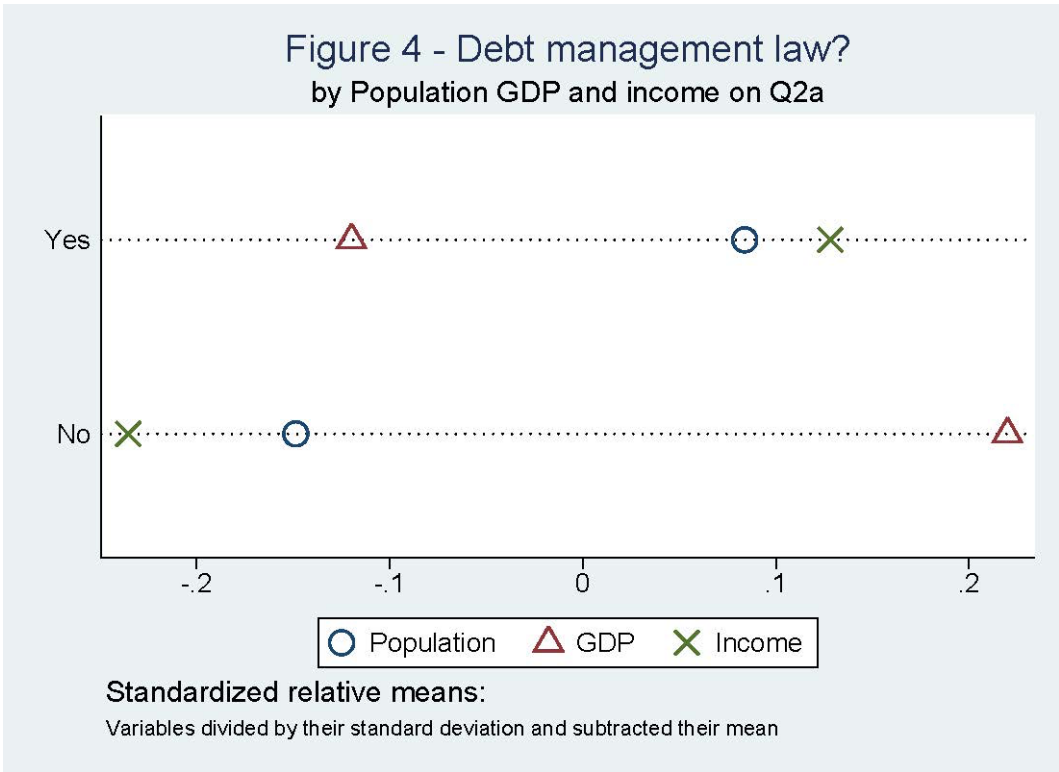


Figure 4 shows that such debt management laws are more typical of rich or populous countries, but less frequent among economically large countries.



Q2b – Is there a law, other than the constitution, that specifically establishes a sovereign-debt management agency and defines/regulates its goals/authority/structure? Is the DMO at least mentioned in in any law? By “agency” we do not necessarily mean a body that is statutory, or external to executive hierarchy; for example, we also coded units within ministries of finance, as long as the unit is mentioned in a law, and sovereign debt management is its main mandate (but often it may also be mandated to manage the government’s cash and possibly some accounting tasks). By “debt management” we mean not merely market transactions on behalf of the government. In many countries the central bank acts as an agent for the government in the securities market. However, we look for the offices that design debt parameters, which are not necessarily the agencies that are authorized to transact on behalf of the government. Examples include Hungary since 1992, Australia and Greece since 1999, Lesotho since 2000, France since 2001, and the Dominican Republic since 2006. In other cases, sovereign debt management is legally delegated to the central bank, but the central bank is not fully independent from the government.² Examples include Iceland since 1990, Botswana during 1997-2005, and Ghana since 2004. A total of 441 observations were coded Q2b=1. Obviously Q2b nests in Q2a. Figure 5 demonstrates that none of our data countries had a DMO law before 1967, and since 1995 there has been a sharp increase in the frequency of such laws, until by 2018 more than half of our data countries had such a law.

² Some of the countries mentioned here and below as examples for our classification decisions are not yet included in the database, as coding work is incomplete.

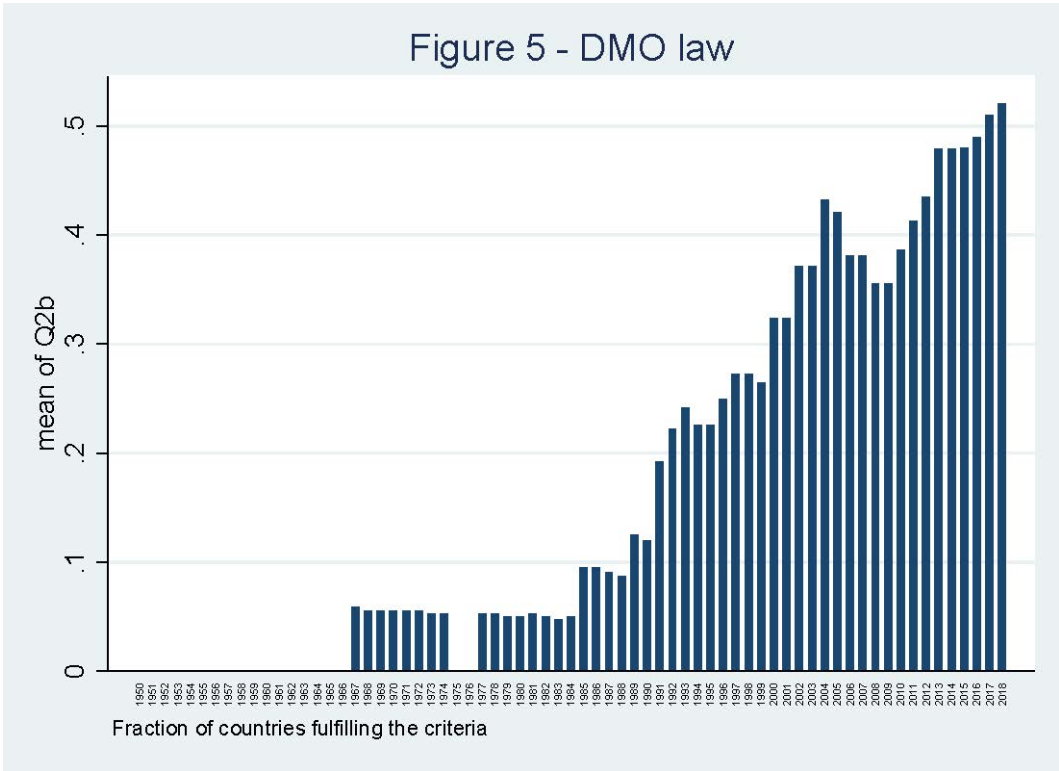
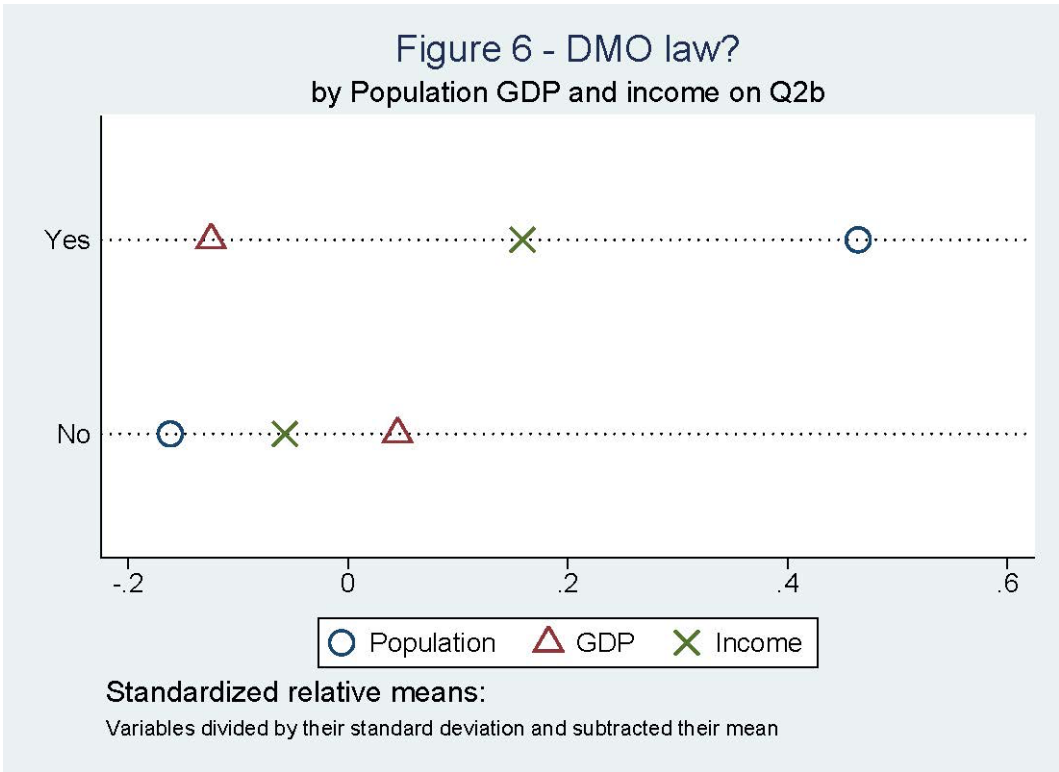


Figure 6 shows that DMO laws are again more typical of rich or populous countries, but less frequent among economically large countries.



To summarize, sovereign debt management is more transparent in economically small countries. Rich or populous countries tend to provide such transparency with secondary legislation, while poor countries, and those with a small population tend to amend the constitutions to this effect.

Measures of DMO autonomy:

While DMO autonomy may affect some areas of public debt (Sadeh & Porath, 2020) but not others (Cormier, 2021), autonomy of DMOs from political decision-makers may be an effective palliative to debt-management professionalism, and formal autonomy a costly signal to investors on the government's resolve to be able to repay its debts. DMO autonomy is palliative to DMO professionalism in four ways. First, DMO autonomy can improve *transparency* of debt management, because it is free of partisan (Ballard-Rosa *et al.*, 2021) or even personal interests of political decision-makers, including allocative implications of the debt, or value judgement. Second, DMO autonomy can improve *predictability* of debt management. As regulation and political economy literatures suggest, independent agencies may resolve problems of time-inconsistent policy preferences that politicians face, especially in democracies when occupied with electoral cycles (Gilardi, 2005; Hanretty & Koop, 2013). Third, autonomy from political decision makers can make it easier for the DMO to independently *recruit* staff based on their financial skills, and train them to manage the debt to maximize the aggregate national good. As Wheeler (2004, p. 72) notes, staff must be granted "sufficient freedom to develop [their] professional capacity" (Cormier, 2021, p. 1172).³

³ Of course this does not necessarily mean that formally non-autonomous DMOs are not professional. DMOs can become highly professional even without formal autonomy; autonomy makes it likelier.

Finally, autonomy from political decision makers can make the DMO more financially *entrepreneurial*. Political control of state agencies puts them under an executive hierarchy that does not easily allow swift response to rapidly evolving financial market conditions. If the government truly wants its debt to be as cheap and low-risk as possible, it must allow the DMO to act as a private sector financial institution (Schwan *et al.*, 2021).

Formalizing DMO autonomy in law is also a costly signal to investors on the government's resolve to prioritize prudent risk management and cost reduction over other political goals, and thus to be able to service and repay its debts on time. Formal DMO autonomy differs from informal autonomy in that it is inscribed in laws that the executive cannot rescind without the support of veto players outside the executive hierarchy (typically the legislature in democracies). Even if formal autonomy is not always a necessary condition for actual autonomy, formal autonomy is an important determinant of actual autonomy (Hanretty & Koop, 2013). Granting autonomy to DMOs introduces agency losses for political decision makers, and under the rule of law formal autonomy compounds these losses by making DMO autonomy harder to revoke. Thus, formalizing DMO autonomy implies a general intent to repay debt, making formal DMO autonomy a sovereign credibility mechanism.

Extant literature has mostly neither defined nor systematically coded DMO transparency, autonomy and professionalism. Sadeh and Porath (2020) code *de jure* DMO autonomy from political decision-makers in OECD countries during 2004-2012, inspired by similar coding of central banks (Garriga, 2016) and industry regulators (Gilardi, 2002). As they note, existing measures cannot be easily adapted to the study of DMOs. Indeed, DMOs are in practice not as formally autonomous of political decision-makers as some central banks and industry regulators are. Even the most autonomous DMOs, such as those of Sweden and Slovakia, which do take strategic decisions on debt management, submit plans for formal ministerial or cabinet

approval. While legally-binding statutes of central banks and industry regulators explicitly determine parameters such as the terms of office of the head of the agency and its board, their hiring and dismissal procedures, and the agency's finance, only a few countries have similarly detailed legislation with regard to the organization and governance of DMOs. Many professional DMOs are established by government decision or ministerial decree, and are not legally-mandated. Even when debt management is in practice centralized, the law often delegates authority in general terms to the finance ministry, which allocates the task to one of its internal departments, without further legislation. Such lack of legal clarity does not allow meaningful coding of DMO autonomy on some parsimonious and continuous scale, only crude classifications.

To minimize misclassification due to missing information, we follow on Sadeh and Porath (2020), and indeed a number of studies of IRAs and classify DMOs into two categories (Gilardi, 2005; Jordana et al., 2011; Koop & Kessler, 2021): DMOs that are at least partly autonomous from direct political control, and those that clearly are not autonomous. For this, we analyze not only legislation directly related to debt management, but also legislation relating to allocation of authority over financial and fiscal affairs, general executive authority, and relations between the executive and the legislature. This includes constitutional arrangements, electoral laws and central bank laws. Even where the law does not mention debt management specifically, it at least defines who is authorized to borrow on behalf of the state (typically the minister of finance), or at least who authorizes spending (which may require borrowing). We communicated with the relevant authorities in each country in order to locate the relevant legislation and to interpret it.

Studies using dichotomous coding of IRAs define an autonomous agency as an institution with a separate organizational identity from a ministry (Jordana et al., 2011) or located outside the

ministerial hierarchy, even if protection from interference is never fully guaranteed (Koop & Kessler, 2021). We classify DMOs as autonomous regardless of their location inside or outside executive hierarchy, if no single political decision-maker can legally dictate or veto the parameters of debt issuance. As Gilardi (2005) notes, a decision-making process with multiple veto players is functionally equivalent to delegation. DMOs that are not subject to a debt management dictator or executive veto player may thus be able to exploit disagreements among other political veto players, and overruling such DMOs could be politically costly. In some countries, the legislature is indeed involved in setting debt parameters (aside from its inevitable democratic role in approving the government's budget). For example, in Argentina, Columbia and Norway, such debt management authority is fully vested with the legislature.⁴

We thus code the following three autonomy-related questions:

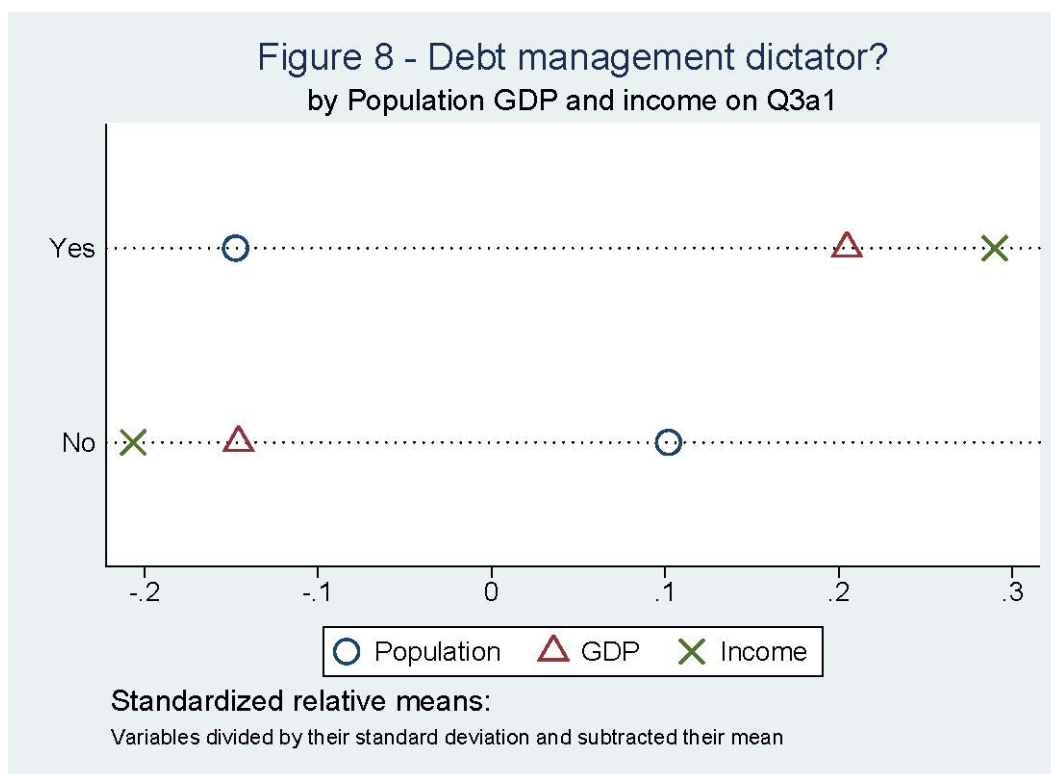
Q3a1 – By law, is there a single elected decision maker that can unilaterally dictate the terms of sovereign borrowing & debt? This may specifically be mandated by a debt management law that delegates full authority to an elected minister of finance (in parliamentary democracies), or perhaps be implied by the constitutional concentration of fiscal authority in the chief executive (typical of presidential systems). Examples include Jamaica, Estonia, the Philippines since 1987, Panama since 1989, Mongolia during 1992-2002, South Africa since 1993, Belgium since 2001, Spain since 1996, and Canada, New Zealand and the United Kingdom since long before 1950. A total of 736 observations were coded Q3a1=1, which stands for **lack**

⁴ Our understanding of political interference is thus different from Wheeler's (2004, pp. 50–51), for whom parliamentary involvement introduces political considerations into debt management. This would only be true if the minister in charge of the DMO is a benevolent aggregate welfare maximizer.

of DMO autonomy. Figure 7 demonstrates no particular trends in delegating exclusive authority over debt management to a single elected office holder, which in most of the years is typical of only a minority of data countries.



Figure 8 shows that a debt management dictator is more typical of rich or economically large countries, but less frequent among populous countries.



Q3a2 – By law, is there a single elected decision maker that can unilaterally veto the terms of sovereign borrowing & debt? Obviously dictators are also veto players, so this is a wider category than the previous one (Q3a1 nests in Q3a2) Examples for countries with a non-dictator, veto-wielding executive office holder, include Israel, Switzerland, the United States, Senegal since 2002, and Indonesia since 2004. In these countries, debt management authority is vested with, or delegated to the minister of finance, but the legislature’s authorization for the debt plan is nevertheless required. In many other countries and periods, the law does not mention the DMO, nor is there any legal basis for the legislature to be involved in debt management, but cabinet bears collectively responsibility for it, so no single elected decision-maker can dictate the terms of debt, but the minister of finance typically can veto such terms. This, for example, is the case in India and Thailand. A total of 983 observations were coded Q3a2=1, which again stands for **lack** of DMO autonomy. This means that in $983-736=247$ county-years a non-dictator veto player s coded. Figure 9 demonstrates a slow but steady increase in the frequency of delegation of veto powers over debt management to a single elected

decision-maker, which given the lack of trend in Figure 7 can be interpreted as a combination of more ministerial delegation together with greater involvement of legislatures in debt management. In the 2010, this was typical of more than 60 percent of our data countries.

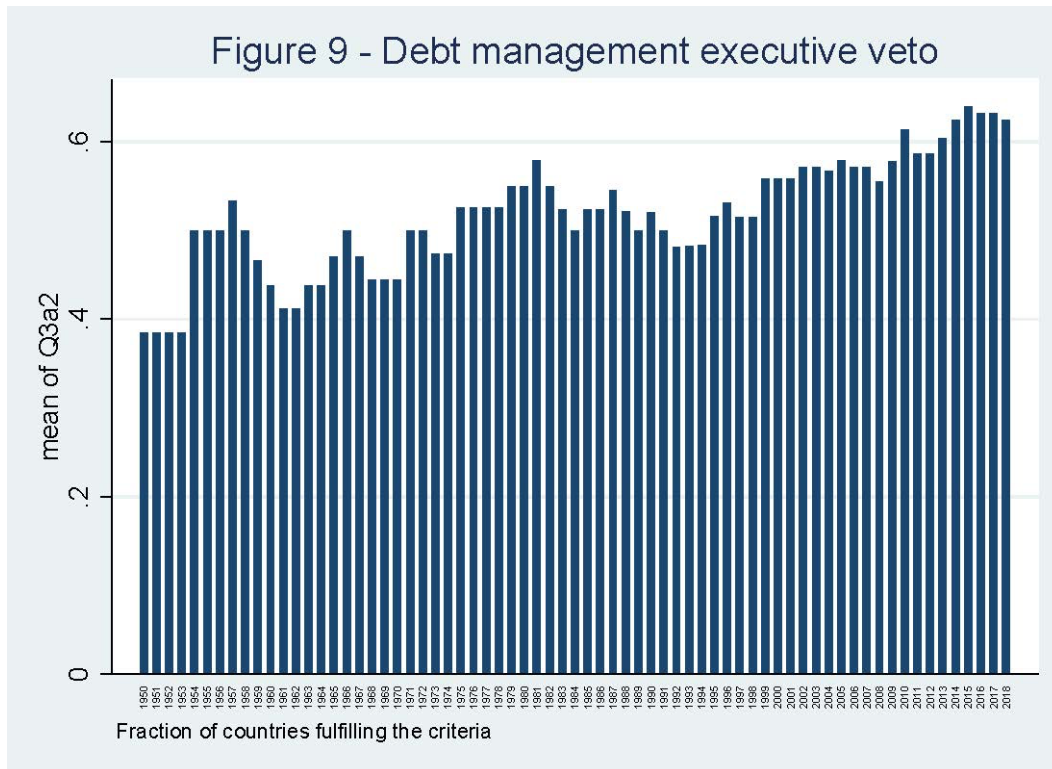
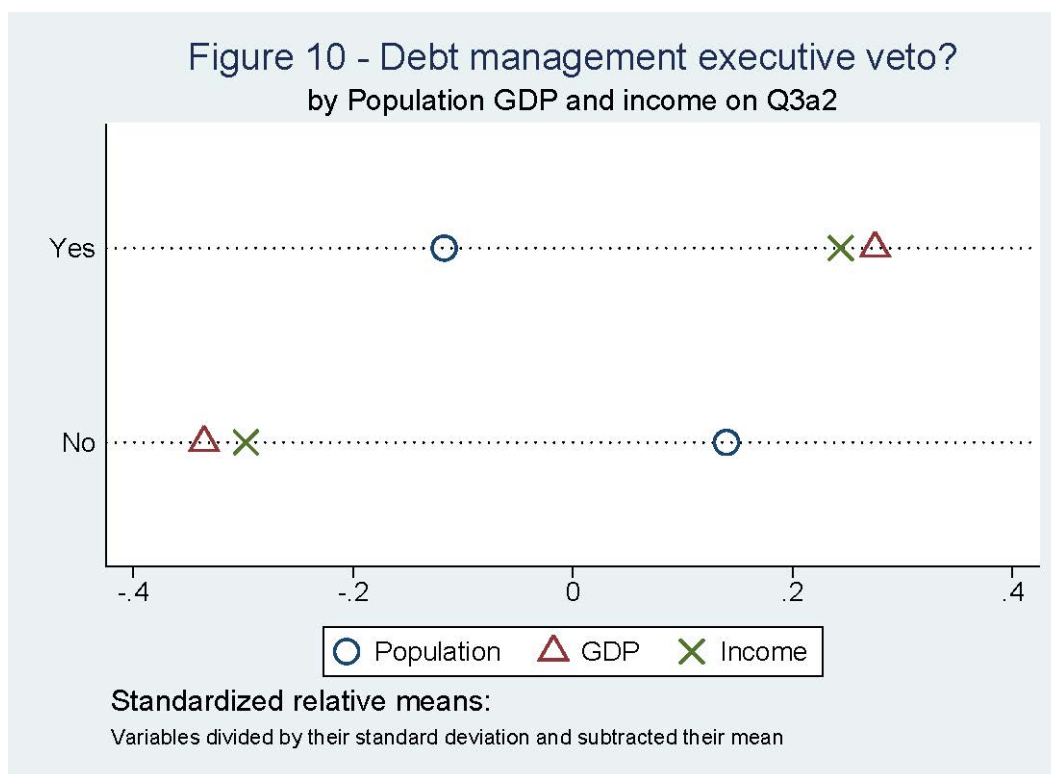


Figure 10 shows that a debt management executive veto is again more typical of rich or economically large countries, but less frequent among populous countries.



Q3b – By law, is there an entity that is not subject to the executive arm, nor to the legislature, that can unilaterally dictate sovereign debt terms, veto them, or at least propose debt management parameters to the executive? This category most prominently includes DMOs that by law have some independent authority in designing the parameters of debt issuance (even if subject to political decision-makers’ formal approval). Examples include Denmark since 1991, where the central bank and the minister of finance jointly decide the debt parameters. In Slovakia since 2003 and in Sweden since the 18th century, statutorily independent agencies design and implement the debt plan, subject to government approval. In Turkey since 1984 debt planning is exclusively delegated to an under-secretary in the treasury. In Moldova during 1996, debt management was the responsibility of the independent central bank. In Austria since 1993 a board of professionals supervises sovereign debt management. Only a total of 69 observations were coded Q3b=1 within our current data country-years, which stands for greater DMO autonomy. Figure 11 demonstrates that such DMOs did not exist before 1992.

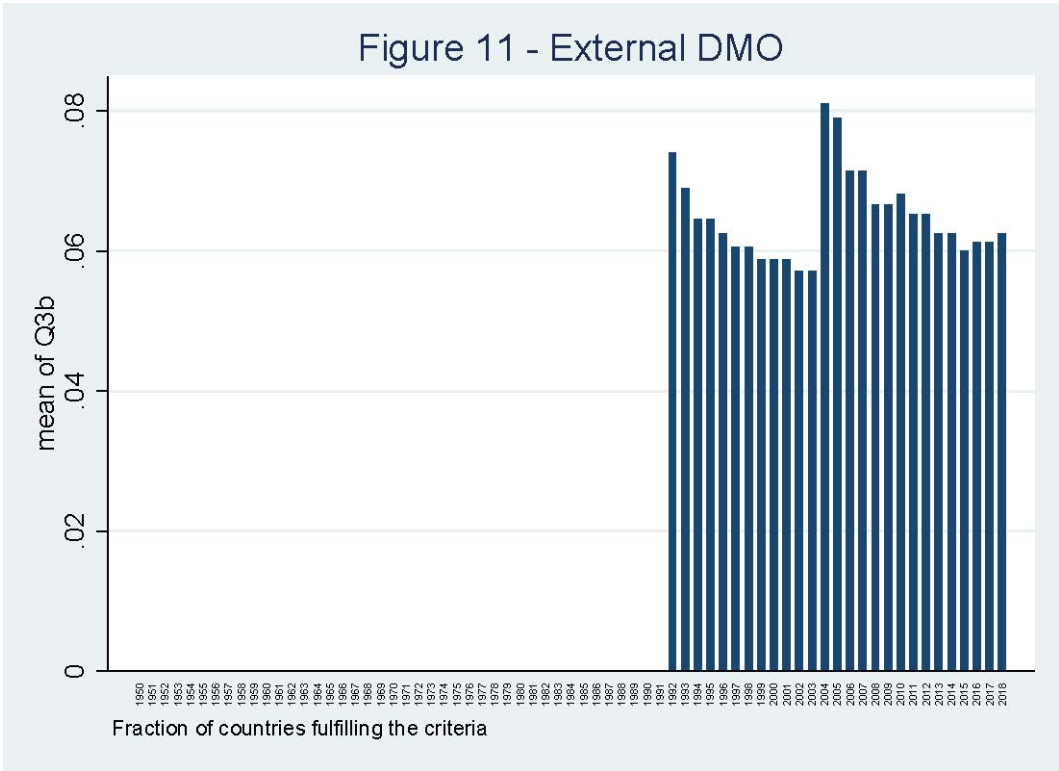
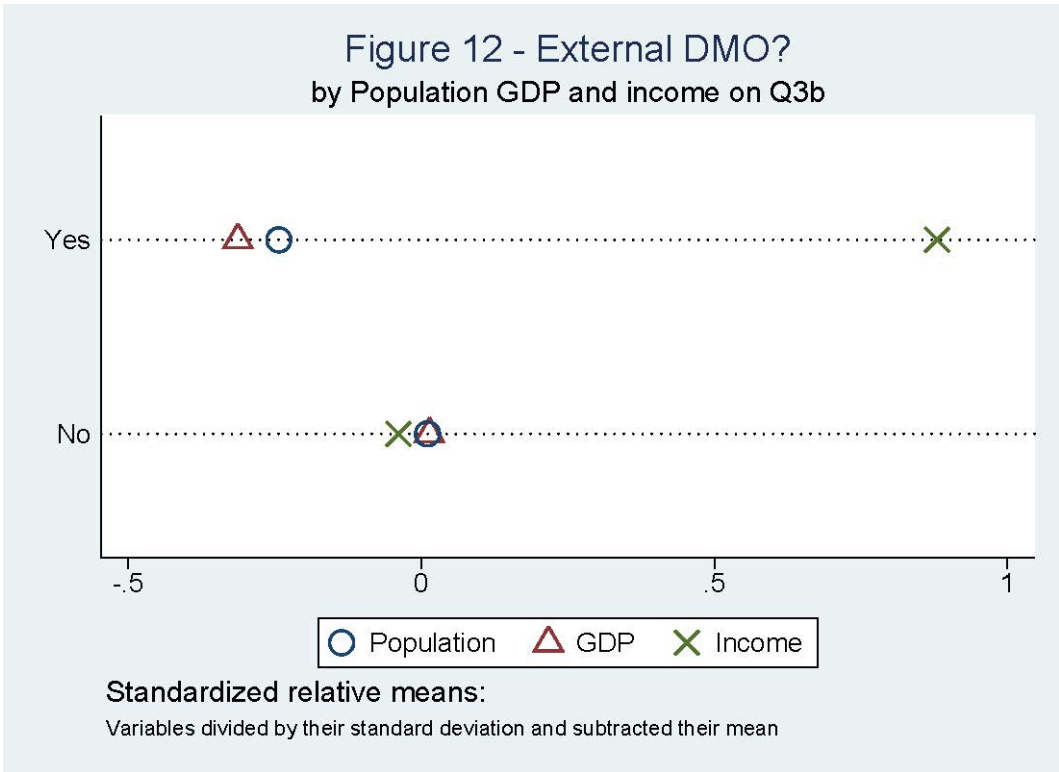


Figure 12 shows that an external DMO is more typical of rich countries, but less frequent among populous or economically large countries.



To summarize, excluding the rather infrequent case of external DMOs, sovereign debt management is more autonomous in poor, economically small countries, or more populous countries.

Measures of debt-management professionalism:

The optimization of debt parameters requires an increasing degree of sovereign debt management expertise and professionalism, as global financial markets develop new instruments (Wheeler, 2004, p. 3). As a matter of principle, when optimizing the debt structure professional DMOs do not involve political considerations, such as allocation implications of the debt, or value judgement. For example, they do not favor any particular financial institution, and do not manage debt separately for different sectors or state agencies. Non-professional DMOs may favor particular banks because they are owned or headed by people affiliated with the executive, assist corrupt practices by state officials, or may not manage all of the sovereign debt. Transparency is central to professional debt management, because it can provide proof of lack of political, or any other non-efficient considerations in selecting the debt parameters. The World Bank and the IMF have encouraged the professionalization of public debt management and reduction in political interference, in order to improve fiscal outcomes, prevent economic crises, and reduce uncertainty for investors (International Monetary Fund, 2014, pp. 5–6).

Professional sovereign debt management is associated with centralized authority in a single office rather than being split among different and sometimes rival agencies, executing a publicized debt management plan, and high-end staff recruitment and training. Concentration allows debt management to focus on cost and risk reduction, rather than other policy goals, increases transparency, helps cultivate expertise, and improves the government's control over spending by its various arms and agencies. Professional debt management plans detail clear objectives, a schedule for issuing debt, and numerical benchmarks regarding market risks (such

as changes in interest rates, exchange rates and commodity prices), rollover risk, liquidity risk, settlement and other risks. Professional DMOs must also attract and maintain staff with both market and public policy skills, minimizing salary gaps with the private sector (International Monetary Fund, 2014, sec. 3.2, 21).

In practice, countries vary in their degree of debt-management professionalism. In developing economies, promoting the rule of law, debt sustainability, staff training and development of local debt markets assume greater priority, and the potential for conflict between debt management and monetary and exchange rate policies is greater. Rollover risk is also a major concern. In contrast, in developed economies those issues are mostly resolved and public debt is managed under a clearly defined and relatively centralized governance structure. While coordinated with fiscal and monetary policies, in developed economies debt management is a distinct responsibility with a distinct policy. Indeed, unlike other countries, almost all OECD countries have national debt management plans, most of them public (Melecky, 2012). Countries also vary in their declared debt management priorities and the extent of DMO centralization, not to mention the political, institutional, market and macroeconomic environments in which they manage their debts.

We thus code the following three professionalism-related questions:

Q4 – In parliamentary democracies, by law, must the minister of finance be an elected politician (code 0), or can he/she be an appointed professional (code 1)? A total of 1,540 observations were coded Q4=1, which means that even many parliamentary democracies do not insist that their ministers be elected to the legislature. Figure 13 demonstrates no particular trends in this.

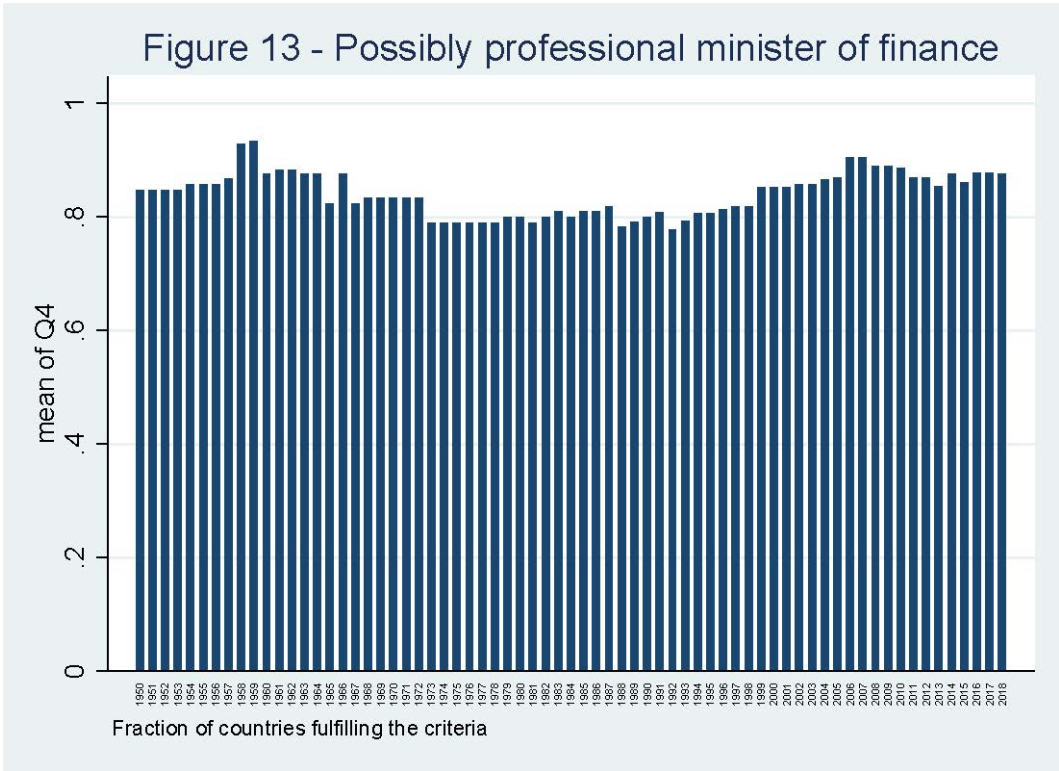
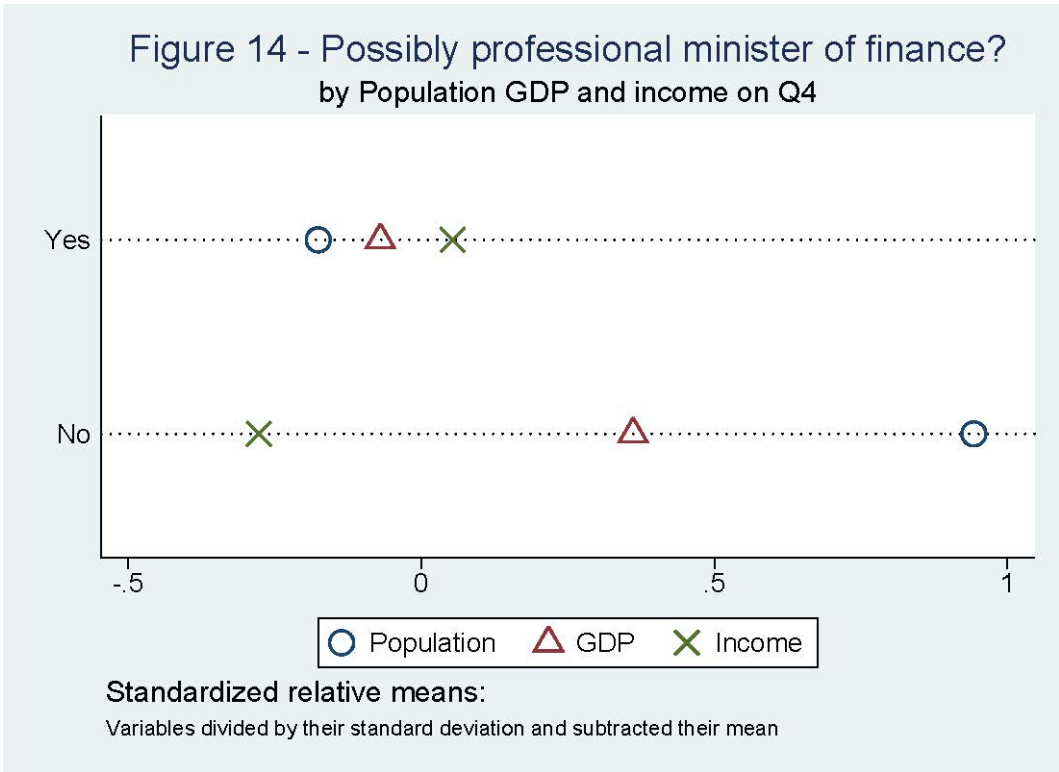


Figure 14 shows that the legal possibility for a professional minister of finance is more typical of rich countries, but less frequent among populous or economically large countries.



Q5 – Regardless of the legal basis, is there in effect a designated office that centralizes sovereign debt-management, whatever its place within the executive arm or outside it? A total of 732 observations were coded Q5=1.⁵ Figure 15 demonstrates a sharp increase in the frequency of such offices since 1995, overlapping the trends in Figure 5, which suggests that many (through certainly not all) of these offices were indeed backed by law.

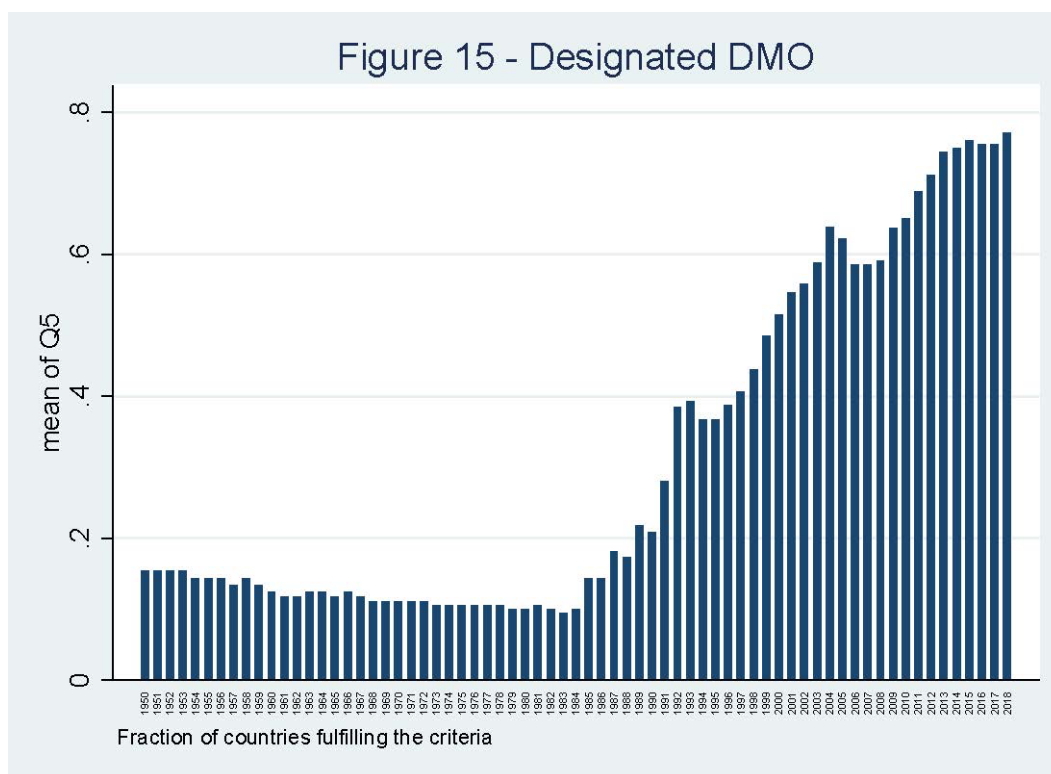
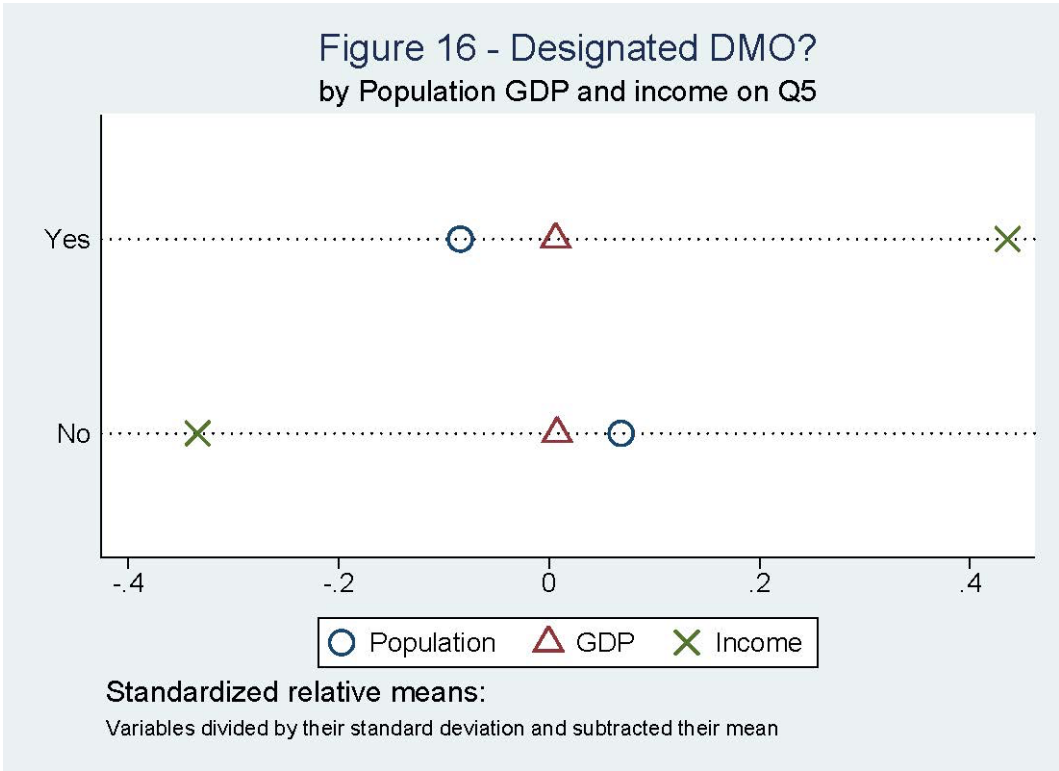


Figure 16 shows that the *de facto* centralized DMOs are more typical of rich countries, but less frequent among populous countries (the difference in means of GDP between the two categories of Q5 is not statistically significant).

⁵ We had difficulty coding Chile prior to 2014⁷ hence 25 missing observations in Q5.



Q6 – Is the DMO incorporated? A few countries have established their DMOs as state-owned corporations, in order to offer higher pay and attract talented staff (Sadeh & Porath, 2020). Examples include Germany, Ireland since 1990, and Portugal since 2012. Only a total of 93 observations were coded Q6=1 within our current data country-years. Note that Q6 nests in Q5. Figure 17 demonstrates that such DMOs did not exist before 1991, but their frequency has been steadily rising.

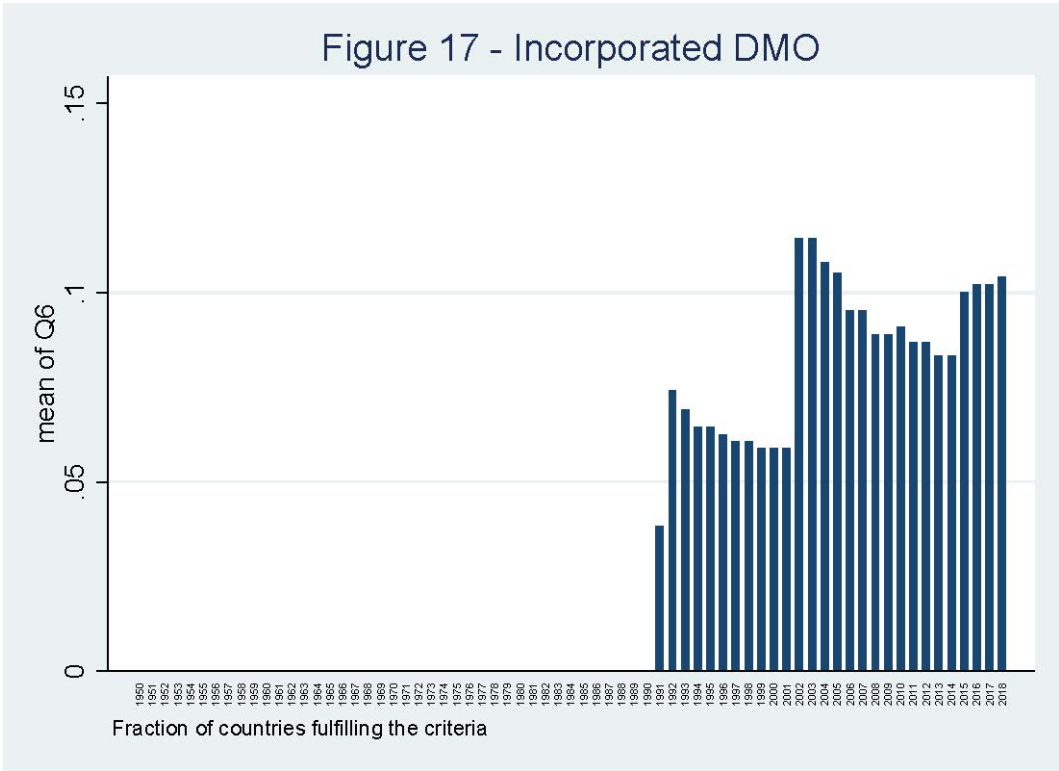


Figure 18 shows that an incorporated DMO is more typical of rich or economically large countries (the difference in means of population between the two categories of Q6 is not statistically significant).

Figure 18 - Incorporated DMO?
by Population GDP and income on Q6



Standardized relative means:
Variables divided by their standard deviation and subtracted their mean

To summarize, sovereign debt management is potentially more professional in rich or small countries.

Correlating debt-management transparency, autonomy and professionalism

In this section we study how our coded variables are associated with other variables of interest, demonstrating the significant relationships between differences in *de jure* debt management and sovereign debt outcomes as well as political-economic characteristics across countries and time. We consider variables that relate to countries' macroeconomic vulnerability, International Financial Institutions, credibility of sovereign debt, democracy, and fiscal transparency (see appendix for variables' definitions). The tables below report the T-test for the hypothesis that the average value of each variable is different for the two categories of each of our nine coded dummies. For brevity, we only report these averages, the number of observations in each category, and the test's level of significance (p – the probability of being wrong when rejecting the null hypothesis that the averages are identical). We also note the direction of the association: + for a higher average for category 1, shaded green; - for a lower average, warm shades. We only shade results that are significant at $p < .10$. Very light green or yellow shades denote $.05 < p < .10$, light green or orange shades denote $.01 < p \leq .05$, and dark green or red shades denote $p \leq .01$. Below we report our main findings in brief. We are not making any hypotheses at this stage regarding expected relationships, and certainly hypotheses-testing requires more sophisticated models and methods. We leave this to the interested scholars. Our intention is only to highlight these associations and suggest how they may be meaningful. Also, it is important to note that this work is in progress, and the findings may change after the coding work is complete. The first and most important finding is that our coded variables are indeed significantly associated with many of the variables of interest.

Vulnerability (Table 4):

Mentioning debt management in the constitution (Q1) is associated with lower public spending and debt, and less private credit, which can suggest a constitutional restraining effect. However,

it is also typical of countries with low trade openness, in default, or shortly after default, perhaps as a credibility mechanism. In contrast, a debt management law (Q2a) has the opposite associations. It is associated with more public spending and debt, more private credit, which perhaps create a need to regulate debt management (such laws are much more elaborate than constitutional references to debt management). It is also associated with high trade openness, and absence of current or recent default, possibly suggesting positive effects to legislation. Establishing DMO by law (Q2b) has similar effects (Q2b nests in Q2a), but is also associated with lower foreign debt and service payments, perhaps as a result of more professional debt management.

Turning to or measures of autonomy, having a debt management dictator (Q3a1) or executive veto player (Q3a2) are associated with less government debt and servicing, but more government spending and greater financial development. It is also associated with lower trade openness, but absence of current or recent default. Having a debt management authority that is not subject to the executive (Q3b) is more consistently associated with public and private spending, trade openness, and current or recent default. This pattern could fit a need for a credibility mechanism, exacerbated by openness.

Finally, regarding our professionalism indicators, the possibility of a professional minister of finance (Q4) is associated with high foreign debt and servicing, trade openness, and current or recent default, again fitting a need for a credibility mechanism. Having a designated DMO (Q5) is associated with greater public and private spending, in open economies, but low foreign debt and servicing. Incorporated DMOs (Q6) have similar associations (Q6 nests in Q5) but are also associated with no current or recent defaults, suggesting even greater professionalism.

Institutions (Table 5):

Interestingly, IMF non-reserve assistance is associated with less transparency (negative tests for Q2a and Q2b) but more DMO autonomy (negative tests for Q3a1 and Q3a2, and positive coefficient for Q3b). World bank assistance seems to have a positive effect on transparency of debt management, but only in its nominal variables, which may perhaps be explained by temporal effects that drive both prices and transparency. When related to GDP, a similar picture emerges to that of the IMF: less transparency, more autonomy. The same goes for ODA per GNI, i.e. bilateral aid. As for professionalism, a more political minister of finance is mostly associated with more aid (mostly negative coefficients for Q4) and a designated DMO is associated with less aid (negative coefficients for Q5). One possible interpretation for these findings is that the institutions do not condition their aid on more transparent and professional debt management, but prefer a political decision making process that engages more than one veto player.

Credibility (Table 6):

Across all three agencies, transparency and autonomy seem to be rewarded with better ratings, but incorporated DMO agencies are not. A somewhat similar picture emerges for FDI inflows. However, the reverse tests for the investment grade dummies suggest perhaps that it is the non-investment grade countries that try harder to be more transparent and make their DMOs more autonomous, presumably to gain credibility. Central bank independence is clearly associated with more transparency and professionalism, but has a mixed relationship with autonomy.

Democracy (Table 7):

Democracy is associated with less transparent debt management. Since these variables range at the top of the democracy scale, this finding suggests perhaps that most democratic countries do not feel it necessary to be very transparent in debt management. Democracy's relationship to DMO autonomy and professionalism is mixed, but external (Q3b) and/or incorporated (Q6) DMOs are typical of the most democratic countries.

Transparency (Table 8):

Importantly for the validation of Q1, Q2a and Q2b, they are all associated with greater transparency by PEFA, OBI, FRT and Copelovitch's index. The latter index is associated also with less DMO autonomy (positive tests for Q3a1 and Q3a2) and DMO professionalism (Q5 and Q6). An external DMO (Q3b) is generally associated with less transparency – perhaps less transparent countries opt for such a DMO for more credibility.

Table 4 - T-tests with vulnerability variables

	Q1			Q2a			Q2b			Q3a1			Q3a2			Q3b			Q4			Q5			Q6					
	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.			
FinancialDepth	0 1	84.0 52.9	85 159	0 1	69.5 62.0	56 188	0 1	68.7 55.5	152 92	0 1	48.1 90.0	153 91	0 1	51.7 71.6	96 148	0 1	65.3 63.7	12 232	0 1	65.5 58.9	110 121	0 1	65.5 58.9	110 121	0 1	65.5 58.9	110 121	0 1	65.5 58.9	110 121
	0.0000	-	244	0.1603	-	244	0.0038	-	244	0.0000	+	244	0.0000	+	244	0.8775	-	244	0.1511	-	231									
ExtDebtStock	0 1	49.9 47.0	300 382	0 1	49.3 47.7	212 470	0 1	52.6 40.6	434 248	0 1	54.0 29.2	522 160	0 1	58.5 32.5	413 269	0 1	48.5 35.4	667 15	0 1	32.2 50.9	97 585	0 1	51.5 44.0	382 300	0 1	48.4 10.7	678 4			
	0.2539	-	682	0.5687	-	682	0.0000	-	682	0.0000	-	682	0.0000	-	682	0.1268	-	682	0.0000	+	682	0.0030	-	682	0.0221	-	682			
PPGdebtService	0 1	3.20 2.77	299 382	0 1	3.08 2.90	212 469	0 1	3.26 2.43	433 248	0 1	3.13 2.39	522 159	0 1	3.52 2.09	413 268	0 1	2.99 1.74	666 15	0 1	1.75 3.16	97 584	0 1	3.19 2.67	381 300	0 1	2.97 0.16	677 4			
	0.0357	-	681	0.4169	-	681	0.0001	-	681	0.0023	-	681	0.0000	-	681	0.0759	-	681	0.0000	+	681	0.0115	-	681	0.0366	-	681			
CtGovDebt_PerGDP	0 1	51.6 39.4	260 93	0 1	31.8 51.6	58 295	0 1	44.6 52.9	192 161	0 1	48.9 47.7	194 159	0 1	53.0 44.7	156 197	0 1	48.2 73.4	350 3	0 1	48.4 48.8	70 283	0 1	47.6 48.8	132 221	0 1	46.0 70.8	319 34			
	0.0029	-	353	0.0000	+	353	0.0235	+	353	0.7561	-	353	0.0234	-	353	0.2024	+	353	0.9967	+	353	0.7440	+	353	0.0000	+	353			
Inflation	0 1	19.6 33.5	1,132 500	0 1	54.1 6.8	589 1,043	0 1	29.9 5.5	1,226 406	0 1	33.0 11.2	949 683	0 1	41.7 9.5	726 906	0 1	24.7 4.5	1,563 69	0 1	6.6 27.2	263 1,369	0 1	38.2 4.6	935 672	0 1	25.1 2.7	1,539 93			
	0.4112	+	1,632	0.0035	-	1,632	0.1763	-	1,632	0.1672	-	1,632	0.0401	-	1,632	0.6012	-	1,632	0.3322	+	1,632	0.0363	-	1,607	0.5051	-	1,632			
DomPrivSectCredit	0 1	59.4 40.7	799 482	0 1	43.2 56.6	403 878	0 1	50.3 56.8	872 409	0 1	50.9 54.5	755 526	0 1	51.1 53.4	575 706	0 1	50.6 87.9	1,221 60	0 1	57.5 51.6	160 1,121	0 1	42.5 63.2	663 593	0 1	50.8 78.8	1,207 74			
	0.0000	-	1,281	0.0000	+	1,281	0.0100	+	1,281	0.1326	+	1,281	0.3365	+	1,281	0.0000	+	1,281	0.1015	-	1,281	0.0000	+	1,256	0.0000	+	1,281			
BudgExpense_PerGDP	0 1	32.5 23.0	809 319	0 1	28.9 30.2	308 820	0 1	30.0 29.4	760 368	0 1	27.0 33.5	640 488	0 1	26.9 31.9	470 658	0 1	29.3 37.4	1,059 69	0 1	31.0 29.6	202 926	0 1	28.7 31.4	522 581	0 1	29.1 38.4	1,039 89			
	0.0000	-	1,128	0.0842	+	1,128	0.4124	-	1,128	0.0000	+	1,128	0.0000	+	1,128	0.0000	+	1,128	0.1049	-	1,128	0.0001	+	1,103	0.0000	+	1,128			
TradeVol_PerGDP	0 1	77.1 61.1	1,034 506	0 1	62.4 76.7	522 1,018	0 1	70.3 75.8	1,108 432	0 1	74.9 67.8	889 651	0 1	74.5 69.9	672 868	0 1	71.2 85.7	1,471 69	0 1	63.2 73.6	249 1,291	0 1	64.9 80.8	837 678	0 1	68.8 118.9	1,447 93			
	0.0000	-	1,540	0.0000	+	1,540	0.0072	+	1,540	0.0001	-	1,540	0.0122	-	1,540	0.0010	+	1,540	0.0000	+	1,540	0.0000	+	1,515	0.0000	+	1,540			
AnyinDefault	0 1	0.34 0.66	468 402	0 1	0.60 0.43	294 576	0 1	0.53 0.39	587 283	0 1	0.57 0.31	579 291	0 1	0.52 0.43	490 380	0 1	0.48 1.00	858 12	0 1	0.14 0.59	198 672	0 1	0.49 0.51	523 322	0 1	0.51 0.07	827 43			
	0.0000	+	870	0.0000	-	870	0.0000	-	870	0.0000	-	870	0.0082	-	870	0.0003	+	870	0.0000	+	870	0.6762	+	845	0.0000	-	870			
YearsSinceAnyDefault	0 1	10.95 2.43	468 402	0 1	4.29 8.40	294 576	0 1	6.11 8.90	587 283	0 1	4.35 12.33	579 291	0 1	5.03 9.58	490 380	0 1	7.11 0.00	858 12	0 1	14.91 4.69	198 672	0 1	6.64 7.32	523 322	0 1	5.98 26.93	827 43			
	0.0000	-	870	0.0000	+	870	0.0010	+	870	0.0000	+	870	0.0000	+	870	0.0372	-	870	0.0000	-	870	0.4178	+	845	0.0000	+	870			

Note: p values are for the test H0: diff = 0 (the probability of being wrong when rejecting H0)

Table 5 - T-tests with IFI variables

	Q1			Q2a			Q2b			Q3a1			Q3a2			Q3b			Q4			Q5			Q6		
	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.
ODAprGNI	0 1 0.1451	2.51 2.96 +	368 406 774	0 1 0.0000	4.01 2.16 -	245 529 774	0 1 0.0000	3.26 1.68 -	523 251 774	0 1 0.0000	3.22 1.36 -	576 198 774	0 1 0.0243	2.96 2.42 +	467 307 774	0 1 0.0002	2.70 5.18 +	759 15 774	0 1 0.0005	1.31 2.98 -	106 668 774	0 1 0.0005	3.28 2.18 -	445 304 749	0 1 0.3406	2.76 0.73 -	770 4 774
IMFnonreserve	0 1 0.0171	8.73E+07 3.87E+08 +	292 373 665	0 1 0.9834	2.53E+08 2.56E+08 +	206 459 665	0 1 0.4350	2.17E+08 3.18E+08 +	414 251 665	0 1 0.9963	2.56E+08 2.55E+08 -	511 154 665	0 1 0.3239	3.07E+08 1.82E+08 -	392 273 665	0 1 0.7099	2.59E+08 1.02E+08 -	650 15 665	0 1 0.9502	2.61E+08 2.55E+08 -	87 578 665	0 1 0.9502	2.59E+08 2.51E+08 -	355 310 665	0 1 0.7505	2.57E+08 0.00E+00 -	661 4 665
IMFnonreserve_Dummy	0 1 0.3530	0.31 0.35 +	292 373 665	0 1 0.0000	0.45 0.28 -	206 459 665	0 1 0.0170	0.36 0.27 -	414 251 665	0 1 0.0000	0.39 0.12 -	511 154 665	0 1 0.0037	0.38 0.27 -	392 273 665	0 1 0.0008	0.32 0.73 +	650 15 665	0 1 0.8487	0.32 0.33 +	87 578 665	0 1 0.3594	0.35 0.31 -	355 310 665	0 1 0.1589	0.33 0.00 -	661 4 665
IMFnonreserveOverGDP	0 1 0.6447	0.0037 0.0030 -	292 362 654	0 1 0.0641	0.0044 0.0030 -	204 450 654	0 1 0.0105	0.0042 0.0023 -	412 242 654	0 1 0.0003	0.0042 0.0012 -	500 154 654	0 1 0.0019	0.0046 0.0019 -	391 263 654	0 1 0.8109	0.0035 0.0029 -	639 15 654	0 1 0.0669	0.0018 0.0037 +	87 567 654	0 1 0.0204	0.0042 0.0026 -	354 300 654	0 1 0.4394	0.0035 0.0000 -	650 4 654
logIMFnonreserve	0 1 0.1893	5.62 6.52 +	292 373 665	0 1 0.0000	8.26 5.17 -	206 459 665	0 1 0.0528	6.64 5.28 -	414 251 665	0 1 0.0000	7.27 2.32 -	511 154 665	0 1 0.0013	7.04 4.82 -	392 273 665	0 1 0.0008	5.95 13.64 +	650 15 665	0 1 0.7532	6.40 6.08 -	87 578 665	0 1 0.3364	6.43 5.78 -	355 310 665	0 1 0.1622	6.16 0.00 -	661 4 665
IBRD	0 1 0.7835	3.51E+08 3.37E+08 -	292 373 665	0 1 0.0013	2.17E+08 4.00E+08 +	206 459 665	0 1 0.0002	2.67E+08 4.68E+08 +	414 251 665	0 1 0.0501	3.15E+08 4.37E+08 +	511 154 665	0 1 0.7130	3.35E+08 3.55E+08 +	392 273 665	0 1 0.0490	3.51E+08 0.00E+00 -	650 15 665	0 1 0.0000	7.69E+08 2.79E+08 -	87 578 665	0 1 0.0256	3.98E+08 2.80E+08 -	355 310 665	0 1 0.5222	3.44E+08 1.25E+08 -	661 4 665
IDA	0 1 0.0000	1.78E+08 5.30E+07 -	292 373 665	0 1 0.0000	2.46E+07 1.45E+08 +	206 459 665	0 1 0.0000	2.79E+07 2.40E+08 +	414 251 665	0 1 0.0015	1.30E+08 3.34E+07 -	511 154 665	0 1 0.0037	1.39E+08 6.32E+07 -	392 273 665	0 1 0.0121	1.03E+08 3.21E+08 +	650 15 665	0 1 0.0000	6.15E+08 3.17E+07 -	87 578 665	0 1 0.6415	1.14E+08 1.02E+08 -	355 310 665	0 1 0.0000	1.02E+08 1.11E+09 +	661 4 665
TotalWB	0 1 0.0347	5.29E+08 3.90E+08 -	292 373 665	0 1 0.0000	2.41E+08 5.45E+08 +	206 459 665	0 1 0.0000	2.95E+08 7.08E+08 +	414 251 665	0 1 0.7398	4.45E+08 4.71E+08 +	511 154 665	0 1 0.4014	4.74E+08 4.18E+08 -	392 273 665	0 1 0.5476	4.54E+08 3.21E+08 -	650 15 665	0 1 0.0000	1.38E+09 3.11E+08 -	87 578 665	0 1 0.0479	5.12E+08 3.81E+08 -	355 310 665	0 1 0.0652	4.46E+08 1.23E+09 +	661 4 665
WBdummy	0 1 0.0000	0.68 0.82 +	292 373 665	0 1 0.0746	0.72 0.78 +	206 459 665	0 1 0.9050	0.76 0.76 +	414 251 665	0 1 0.0245	0.78 0.69 -	511 154 665	0 1 0.0606	0.79 0.73 -	392 273 665	0 1 0.1160	0.76 0.93 +	650 15 665	0 1 0.0039	0.89 0.74 -	87 578 665	0 1 0.0008	0.81 0.70 -	355 310 665	0 1 0.2634	0.76 1.00 +	661 4 665
WBloansOverGDP	0 1 0.3000	0.0059 0.0066 +	292 362 654	0 1 0.0807	0.0071 0.0059 -	206 450 656	0 1 0.0025	0.0070 0.0050 -	412 242 654	0 1 0.0055	0.0067 0.0047 -	500 154 654	0 1 0.0005	0.0072 0.0049 -	391 263 654	0 1 0.0111	0.0061 0.0116 +	650 15 665	0 1 0.2950	0.0054 0.0064 +	87 567 654	0 1 0.0001	0.0074 0.0048 -	354 300 654	0 1 0.4284	0.0063 0.0030 -	650 4 654
logWBloans	0 1 0.0001	13.2 15.7 +	292 373 665	0 1 0.0136	13.4 15.1 +	206 459 665	0 1 0.1586	14.2 15.1 +	414 251 665	0 1 0.1124	14.8 13.6 -	511 154 665	0 1 0.1009	15.0 13.9 -	392 273 665	0 1 0.0799	14.5 18.2 +	650 15 665	0 1 0.0000	18.2 14.0 -	87 578 665	0 1 0.0023	15.5 13.5 -	355 310 665	0 1 0.1279	14.5 20.8 +	661 4 665
IDAOverGDP	0 1 0.0109	0.0020 0.0034 +	292 362 654	0 1 0.0178	0.0037 0.0023 -	206 450 656	0 1 0.0207	0.0032 0.0019 -	412 242 654	0 1 0.0001	0.0033 0.0008 -	500 154 654	0 1 0.0522	0.0032 0.0021 -	391 263 654	0 1 0.0000	0.0025 0.0116 +	639 15 654	0 1 0.9234	0.0027 0.0028 +	87 567 654	0 1 0.0014	0.0035 0.0018 -	354 300 654	0 1 0.9986	0.0027 0.0028 +	650 4 654
logIDA	0 1 0.7777	6.01 5.82 -	292 373 665	0 1 0.0477	4.90 6.35 +	206 459 665	0 1 0.0255	5.31 6.87 +	414 251 665	0 1 0.0000	7.07 2.02 -	511 154 665	0 1 0.0684	6.41 5.16 -	392 273 665	0 1 0.0000	5.61 18.25 +	650 15 665	0 1 0.0000	15.20 4.50 -	87 578 665	0 1 0.0032	6.83 4.84 -	355 310 665	0 1 0.0006	5.81 20.71 +	661 4 665
IBRDOverGDP	0 1 0.1177	0.0039 0.0032 -	292 362 654	0 1 0.7194	0.0034 0.0036 +	204 450 654	0 1 0.1382	0.0038 0.0031 -	412 242 654	0 1 0.4196	0.0034 0.0038 +	500 154 654	0 1 0.0110	0.0040 0.0028 -	391 263 654	0 1 0.0189	0.0036 0.0000 -	639 15 654	0 1 0.1756	0.0027 0.0036 +	87 567 654	0 1 0.0629	0.0039 0.0030 -	354 300 654	0 1 0.2659	0.0035 0.0003 -	650 4 654
logIBRD	0 1 0.5426	10.4 10.9 +	292 373 665	0 1 0.0322	9.5 11.2 +	206 459 665	0 1 0.0180	10.0 11.8 +	414 251 665	0 1 0.0869	10.3 11.8 +	511 154 665	0 1 0.0168	11.4 9.6 -	392 273 665	0 1 0.0000	10.9 0.0 -	650 15 665	0 1 0.0001	14.5 10.1 -	87 578 665	0 1 0.0082	11.6 9.6 -	355 310 665	0 1 0.2428	10.7 5.0 -	661 4 665

Note: p values are for the test H0: diff = 0 (the probability of being wrong when rejecting H0)

Table 6 - T-tests with credibility variables

	Q1			Q2a			Q2b			Q3a1			Q3a2			Q3b			Q4			Q5			Q6		
	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.	Categories & p values	Means & effect direction	Obs.
Fitch_LTOrder	0 1	6.14 11.24	499 263	0 1	7.86 7.91	158 604	0 1	6.84 9.28	431 331	0 1	8.91 6.58	431 331	0 1	9.83 6.61	304 458	0 1	8.23 4.31	697 65	0 1	7.14 8.03	113 649	0 1	8.77 7.54	239 503	0 1	8.42 3.90	674 88
	0.0000	+	762	0.9266	+	762	0.0000	+	762	0.0000	-	762	0.0000	-	762	0.0000	-	762	0.1103	+	762	0.0044	-	742	0.0000	-	762
Moodys_LTOrder	0 1	5.63 10.72	642 306	0 1	6.30 7.55	209 739	0 1	6.46 8.61	590 358	0 1	8.57 5.62	532 416	0 1	9.11 5.95	397 551	0 1	7.59 2.62	888 60	0 1	7.43 7.25	136 812	0 1	7.62 7.06	379 554	0 1	7.64 3.89	855 93
	0.0000	+	948	0.0037	+	948	0.0000	+	948	0.0000	-	948	0.0000	-	948	0.0000	-	948	0.7254	-	948	0.1305	-	933	0.0000	-	948
SandP_LTOrder	0 1	5.96 10.54	622 318	0 1	6.14 7.94	225 715	0 1	6.52 9.31	606 334	0 1	8.69 5.88	545 395	0 1	9.16 6.35	390 550	0 1	7.77 4.25	871 69	0 1	8.01 7.45	108 832	0 1	7.86 7.31	381 537	0 1	7.78 4.40	865 75
	0.0000	+	940	0.0000	+	940	0.0000	+	940	0.0000	-	940	0.0000	-	940	0.0000	-	940	0.3129	-	940	0.1371	-	918	0.0000	-	940
FitchInvestmentGrade	0 1	0.78 0.35	505 263	0 1	0.61 0.63	160 608	0 1	0.71 0.53	437 331	0 1	0.52 0.78	435 333	0 1	0.45 0.75	304 464	0 1	0.62 0.77	703 65	0 1	0.79 0.60	113 655	0 1	0.58 0.64	239 509	0 1	0.59 0.91	680 88
	0.0000	-	768	0.6026	+	768	0.0000	-	768	0.0003	+	768	0.0000	+	768	0.0152	+	768	0.0002	-	768	0.0977	+	748	0.0000	+	768
MoodysInvestmentGrade	0 1	0.81 0.35	642 307	0 1	0.70 0.65	210 739	0 1	0.70 0.61	591 358	0 1	0.52 0.84	533 416	0 1	0.48 0.79	398 551	0 1	0.65 0.90	889 60	0 1	0.74 0.65	136 813	0 1	0.61 0.69	380 554	0 1	0.64 0.87	856 93
	0.0000	-	949	0.2603	-	949	0.0063	-	949	0.0000	+	949	0.0000	+	949	0.0001	+	949	0.0334	-	949	0.0124	+	934	0.0000	+	949
SandPIvestmentGrade	0 1	0.74 0.36	635 318	0 1	0.71 0.58	231 722	0 1	0.67 0.50	616 337	0 1	0.47 0.80	552 401	0 1	0.44 0.73	393 560	0 1	0.60 0.78	884 69	0 1	0.63 0.61	108 845	0 1	0.56 0.63	381 550	0 1	0.59 0.88	878 75
	0.0000	-	953	0.0008	-	953	0.0000	-	953	0.0000	+	953	0.0000	+	953	0.0025	+	953	0.6860	-	953	0.0239	+	931	0.0000	+	953
BestRtg	0 1	5.53 10.35	715 364	0 1	6.55 7.36	278 801	0 1	6.36 8.56	690 389	0 1	8.39 5.48	620 459	0 1	8.91 5.86	457 622	0 1	7.37 4.04	1,010 69	0 1	7.08 7.17	147 932	0 1	7.58 6.88	446 611	0 1	7.49 3.57	986 93
	0.0000	+	1,079	0.0304	+	1,079	0.0000	+	1,079	0.0000	-	1,079	0.0000	-	1,079	0.0000	-	1,079	0.8607	+	1,079	0.0370	-	1,057	0.0000	-	1,079
FDInflows	0 1	4.76 3.73	993 477	0 1	2.34 5.44	481 989	0 1	3.98 5.52	1,042 428	0 1	5.15 3.42	853 617	0 1	5.56 3.55	637 833	0 1	4.49 3.10	1,401 69	0 1	3.26 4.65	239 1,231	0 1	3.71 5.16	765 680	0 1	4.20 7.77	1,377 93
	0.2040	-	1,470	0.0001	+	1,470	0.0648	+	1,470	0.0244	-	1,470	0.0085	-	1,470	0.4368	-	1,470	0.1743	+	1,470	0.0600	+	1,445	0.0214	+	1,470
lvaw_garriga	0 1	0.54 0.57	788 382	0 1	0.52 0.57	451 719	0 1	0.52 0.64	879 291	0 1	0.56 0.54	662 508	0 1	0.52 0.57	512 658	0 1	0.54 0.63	1,119 51	0 1	0.46 0.57	201 969	0 1	0.48 0.63	678 468	0 1	0.53 0.79	1,105 65
	0.0063	+	1,170	0.0006	+	1,170	0.0000	+	1,170	0.0993	-	1,170	0.0002	+	1,170	0.0081	+	1,170	0.0000	+	1,170	0.0000	+	1,146	0.0000	+	1,170
cuk_ceo	0 1	0.55 0.56	788 382	0 1	0.53 0.57	451 719	0 1	0.54 0.58	879 291	0 1	0.52 0.59	662 508	0 1	0.51 0.58	512 658	0 1	0.56 0.35	1,119 51	0 1	0.49 0.57	201 969	0 1	0.54 0.56	678 468	0 1	0.55 0.62	1,105 65
	0.7833	+	1,170	0.0007	+	1,170	0.0112	+	1,170	0.0000	+	1,170	0.0000	+	1,170	0.0000	-	1,170	0.0000	+	1,170	0.0906	+	1,146	0.0038	+	1,170
cuk_obj	0 1	0.52 0.51	788 382	0 1	0.48 0.54	451 719	0 1	0.50 0.58	879 291	0 1	0.54 0.48	662 508	0 1	0.50 0.53	512 658	0 1	0.51 0.60	1,119 51	0 1	0.48 0.52	201 969	0 1	0.46 0.59	678 468	0 1	0.51 0.62	1,105 65
	0.7716	-	1,170	0.0000	+	1,170	0.0000	+	1,170	0.0003	-	1,170	0.0697	+	1,170	0.0258	+	1,170	0.0448	+	1,170	0.0000	+	1,146	0.0014	+	1,170
cuk_pol	0 1	0.48 0.53	788 382	0 1	0.47 0.51	451 719	0 1	0.46 0.62	879 291	0 1	0.52 0.47	662 508	0 1	0.45 0.53	512 658	0 1	0.48 0.77	1,119 51	0 1	0.37 0.52	201 969	0 1	0.39 0.63	678 468	0 1	0.48 0.85	1,105 65
	0.0264	+	1,170	0.0943	+	1,170	0.0000	+	1,170	0.0184	-	1,170	0.0001	+	1,170	0.0000	+	1,170	0.0000	+	1,170	0.0000	+	1,146	0.0000	+	1,170
cuk_limlen	0 1	0.55 0.61	788 382	0 1	0.54 0.59	451 719	0 1	0.53 0.68	879 291	0 1	0.59 0.55	662 508	0 1	0.55 0.59	512 658	0 1	0.57 0.71	1,119 51	0 1	0.47 0.59	201 969	0 1	0.49 0.67	678 468	0 1	0.55 0.88	1,105 65
	0.0009	+	1,170	0.0123	+	1,170	0.0000	+	1,170	0.0272	-	1,170	0.0168	+	1,170	0.0008	+	1,170	0.0000	+	1,170	0.0000	+	1,146	0.0000	+	1,170

Note: p values are for the test $H_0: \text{diff} = 0$ (the probability of being wrong when rejecting H_0)

Table 7 - T-tests with democracy variables

	Q1			Q2a			Q2b			Q3a1			Q3a2			Q3b			Q4			Q5			Q6		
	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.
polity2	0	9.36	1,172	0	9.22	675	0	9.22	1,339	0	9.09	1,054	0	9.17	838	0	9.08	1,683	0	9.03	281	0	9.16	1,023	0	9.06	1,659
	1	8.59	580	1	9.03	1,077	1	8.71	413	1	9.12	667	1	9.04	914	1	9.57	69	1	9.12	1,471	1	9.02	704	1	9.87	93
	0.0000	-	1,752	0.0003	-	1,752	0.0000	-	1,752	0.5210	+	1,721	0.0097	-	1,752	0.0004	+	1,752	0.2206	+	1,752	0.0098	-	1,727	0.0000	+	1,752
durable	0	36.8	1,172	0	28.4	675	0	33.5	1,339	0	30.5	1,085	0	33.3	838	0	34.5	1,683	0	31.0	281	0	33.0	1,023	0	34.3	1,659
	1	31.8	580	1	39.3	1,077	1	40.2	413	1	42.6	667	1	36.8	914	1	48.7	69	1	35.9	1,471	1	39.0	704	1	49.6	93
	0.0036	-	1,752	0.0037	+	1,752	0.0005	+	1,752	0.0000	+	1,752	0.0332	+	1,752	0.0006	+	1,752	0.0262	+	1,752	0.0003	+	1,727	0.0000	+	1,752
xconst	0	6.86	1,171	0	6.75	675	0	6.76	1,338	0	6.76	1,084	0	6.85	837	0	6.73	1,682	0	6.72	281	0	6.75	1,022	0	6.72	1,658
	1	6.48	580	1	6.73	1,076	1	6.64	413	1	6.69	667	1	6.63	914	1	6.78	69	1	6.74	1,470	1	6.70	704	1	6.96	93
	0.0000	-	1,751	0.4259	-	1,751	0.0000	-	1,751	0.0049	-	1,751	0.0000	-	1,751	0.4607	+	1,751	0.6737	+	1,751	0.0645	-	1,726	0.0001	+	1,751
parreg	0	4.00	1,171	0	4.00	675	0	3.85	1,338	0	3.57	1,084	0	3.60	837	0	3.70	1,682	0	3.77	281	0	3.81	1,022	0	3.66	1,658
	1	3.17	580	1	3.55	1,076	1	3.32	413	1	3.97	667	1	3.84	914	1	4.35	69	1	3.72	1,470	1	3.63	704	1	4.91	93
	0.0000	-	1,751	0.0000	-	1,751	0.0000	-	1,751	0.0000	+	1,751	0.0006	+	1,751	0.0003	+	1,751	0.5761	-	1,751	0.0131	-	1,726	0.0000	+	1,751
parcomp	0	4.59	1,171	0	4.56	675	0	4.53	1,338	0	4.40	1,084	0	4.39	837	0	4.45	1,682	0	4.36	281	0	4.48	1,022	0	4.44	1,658
	1	4.22	580	1	4.41	1,076	1	4.25	413	1	4.57	667	1	4.53	914	1	4.78	69	1	4.49	1,470	1	4.45	704	1	4.96	93
	0.0000	-	1,751	0.0000	-	1,751	0.0000	-	1,751	0.0000	+	1,751	0.0000	+	1,751	0.0001	+	1,751	0.0021	+	1,751	0.3235	-	1,726	0.0000	+	1,751
exec	0	7.95	1,171	0	7.93	675	0	7.95	1,338	0	7.97	1,084	0	7.97	837	0	7.94	1,682	0	8.00	281	0	7.96	1,022	0	7.94	1,658
	1	7.93	580	1	7.95	1,076	1	7.92	413	1	7.90	667	1	7.92	914	1	8.00	69	1	7.93	1,470	1	7.92	704	1	8.00	93
	0.0553	-	1,751	0.3705	+	1,751	0.0202	-	1,751	0.0000	-	1,751	0.0000	-	1,751	0.0341	+	1,751	0.0000	-	1,751	0.0007	-	1,726	0.0132	+	1,751
polcomp	0	9.49	1,171	0	9.44	675	0	9.44	1,338	0	9.26	1,084	0	9.23	837	0	9.31	1,682	0	9.09	281	0	9.34	1,022	0	9.30	1,658
	1	9.03	580	1	9.26	1,076	1	9.00	413	1	9.46	667	1	9.42	914	1	9.78	69	1	9.38	1,470	1	9.32	704	1	9.91	93
	0.0000	-	1,751	0.0001	-	1,751	0.0000	-	1,751	0.0000	+	1,751	0.0000	+	1,751	0.0000	+	1,751	0.0000	+	1,751	0.6590	-	1,726	0.0000	+	1,751

Note: p values are for the test H₀: diff = 0 (the probability of being wrong when rejecting H₀)

Table 8 - T-tests with transparency variables

	Q1			Q2a			Q2b			Q3a1			Q3a2			Q3b			Q4			Q5			Q6		
	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.	Categori es & p values	Means & effect direction	Obs.
transparencyindex	0	2.91	499	0	2.39	276	0	2.57	579	0	2.39	447	0	2.51	381	0	2.86	744	0	3.14	152	0	2.36	455	0	2.69	741
	1	2.82	290	1	3.14	513	1	3.71	210	1	3.51	342	1	3.21	408	1	3.15	45	1	2.81	637	1	3.61	312	1	5.64	48
	0.5529	-	789	0.0000	+	789	0.0000	+	789	0.0000	+	789	0.0000	+	789	0.3484	+	789	0.0767	-	789	0.0000	+	767	0.0000	+	789
frt_median	0	0.16	404	0	0.01	124	0	0.31	332	0	0.14	278	0	0.24	205	0	0.34	495	0	-0.05	96	0	0.47	230	0	0.36	470
	1	0.74	135	1	0.39	415	1	0.29	207	1	0.48	261	1	0.34	334	1	-0.14	44	1	0.38	443	1	0.18	309	1	-0.05	69
	0.0000	+	539	0.0001	+	539	0.7933	-	539	0.0000	+	539	0.2003	+	539	0.0010	-	539	0.0001	+	539	0.0003	-	539	0.0008	-	539
DSAFrontfill	0	3.17	133	0	3.85	48	0	3.61	143	0	3.45	211	0	3.41	125	0	3.45	259	0	2.73	26	0	3.51	94			
	1	3.72	139	1	3.36	224	1	3.27	129	1	3.43	61	1	3.48	147	1	3.38	13	1	3.52	246	1	3.42	178			
	0.0000	+	272	0.0008	-	272	0.0026	-	272	0.8317	-	272	0.5075	+	272	0.7996	-	272	0.0000	+	272	0.4234	-	272			
Recording_DebtAndGteesfront	0	3.12	133	0	2.73	49	0	3.10	144	0	3.26	212	0	3.39	126	0	3.27	260	0	3.27	26	0	3.25	95			
	1	3.34	140	1	3.35	224	1	3.39	129	1	3.16	61	1	3.11	147	1	2.65	13	1	3.23	247	1	3.23	178			
	0.0091	+	273	0.0000	+	273	0.0004	+	273	0.3575	-	273	0.0007	-	273	0.0018	-	273	0.7999	-	273	0.7769	-	273			
LoansGteesfrontfill	0	3.21	121	0	2.48	44	0	3.14	130	0	3.28	204	0	3.31	122	0	3.37	243	0	0.16	26	0	3.37	82			
	1	3.42	135	1	3.50	212	1	3.51	126	1	3.46	52	1	3.33	134	1	2.31	13	1	0.05	230	1	3.30	174			
	0.0356	+	256	0.0000	+	256	0.0003	+	256	0.1649	+	256	0.8698	+	256	0.0000	-	256	0.2396	-	256	0.5432	-	256			
PEFAavgfrontfill	0	3.12	133	0	3.06	49	0	3.25	144	0	3.33	212	0	3.37	126	0	3.34	260	0	3.16	26	0	3.33	95			
	1	3.49	140	1	3.36	224	1	3.37	129	1	3.22	61	1	3.26	147	1	2.77	13	1	3.32	247	1	3.30	178			
	0.0000	+	273	0.0020	+	273	0.1202	+	273	0.2165	-	273	0.1183	-	273	0.0011	-	273	0.2005	+	273	0.7225	-	273			
PEFAsumfrontfill	0	9.09	133	0	8.73	49	0	9.40	144	0	9.86	212	0	9.98	126	0	9.80	260	0	9.50	26	0	9.46	95			
	1	10.34	140	1	9.94	224	1	10.09	129	1	9.28	61	1	9.51	147	1	8.35	13	1	9.75	247	1	9.87	178			
	0.0000	+	273	0.0002	+	273	0.0070	+	273	0.0590	-	273	0.0703	-	273	0.0151	-	273	0.5642	+	273	0.1306	+	273			
OBI_Q13	0	62.1	175	0	52.5	40	0	58.6	170	0	57.4	236	0	58.2	141	0	60.9	329	0	65.8	43	0	56.9	105	0	59.9	323
	1	57.9	167	1	61.1	302	1	61.5	172	1	66.1	106	1	61.4	201	1	38.5	13	1	59.2	299	1	62.0	233	1	63.3	19
	0.3042	-	342	0.1779	+	342	0.4902	+	342	0.0482	+	342	0.4408	+	342	0.0359	-	342	0.2847	-	342	0.2505	+	338	0.7049	+	342

Note: p values are for the test H0: diff = 0 (the probability of being wrong when rejecting H0)

Conclusions

This paper is a work-in-progress. Given a lack of knowledge about the role of institutions in sovereign borrowing and public debt management, a primary contribution will be to provide a useful dataset for comparative research purposes. Our aim is to code debt management legislation and DMO characteristics across 92 democratic countries, where rule of law is more reliable and effective. We code *de jure* characteristics about debt management and DMOs. We argue these are representative of the transparency, institutional autonomy, and professionalism of public debt management.

In the process we are identifying a number of relationships between transparency, autonomy, and professionalism in how states are organized around sovereign debt management. We also are identifying numerous relationships between these characteristics and other aspects of domestic political economies, including but not limited to perceptions of sovereign risk.

For example, at this stage, the data points to important secondary points and corollaries to the main argument. Our indicators are strongly associated with measures of economic and fiscal distress. We find that in countries in default, or shortly after default, tend have more transparent and more autonomous debt management, perhaps as a credibility mechanism. The IMF and the world bank assistance is associated with less debt management transparency, more DMO autonomy, but less DMO professionalism. One possible interpretation for these findings is that the institutions do not condition their aid on more transparent and professional debt management, but prefer a political decision making process that engages more than one veto player. We further find that transparency and autonomy are rewarded with better credit ratings, but that non-investment grade countries try harder to be more transparent and make their DMOs more autonomous, presumably to gain credibility. Central bank independence is clearly associated with more transparency and professionalism. The most democratic countries do not

feel it necessary to be very transparent in debt management, but external or incorporated DMOs are typical of the most democratic countries.

This provides further evidence of recent arguments that political transparency and economic transparency are not the same thing and there is more variation in transparency than can be explained by regime type (Cormier, 2022a; Hollyer *et al.*, 2014). Finally, our own transparency indicators are positively associated with existing measures of fiscal and governance transparency.

References

- Afonso, A., & Strauch, R. (2007). Fiscal policy events and interest rate swap spreads: Evidence from the EU. *Journal of International Financial Markets, Institutions and Money*, 17(3), 261–276.
- Alexiadou, D., Spaniel, W., & Gunaydin, H. (2022). When Technocratic Appointments Signal Credibility. *Comparative Political Studies*, 55(3), 386–419. <https://doi.org/10.1177/00104140211024288>
- Alt, J., Lassen, D. D., & Wehner, J. (2014). It Isn't Just about Greece: Domestic Politics, Transparency and Fiscal Gimmickry in Europe. *British Journal of Political Science*, 44(4), 707–716. <https://doi.org/10.1017/S0007123414000064>
- Amick, J., Chapman, T., & Elkins, Z. (2020). On Constitutionalizing a Balanced Budget. *The Journal of Politics*, 82(3), 1078–1096. <https://doi.org/10.1086/707618>
- Arias, E., Mosley, L., & Rosendorff, B. P. (2020, April 23). *Government Choices of Debt Instruments*. MSU Conflict Workshop.
- Baerg, N. R., & Hallerberg, M. (2016). Explaining Instability in the Stability and Growth Pact: The Contribution of Member State Power and Euroskepticism to the Euro Crisis. *Comparative Political Studies*, 49(7), 968–1009. <https://doi.org/10.1177/0010414016633230>

- Ballard-Rosa, C., Mosley, L., & Wellhausen, R. L. (2021). Coming to Terms: The Politics of Sovereign Bond Denomination. *International Organization*, 1–38. <https://doi.org/10.1017/S0020818321000357>
- Barta, Z., & Johnston, A. (2018). Rating Politics? Partisan Discrimination in Credit Ratings in Developed Economies. *Comparative Political Studies*, 51(5), 587–620. <https://doi.org/10.1177/0010414017710263>
- Biglaiser, G., & Staats, J. L. (2012). Finding the “Democratic Advantage” in Sovereign Bond Ratings: The Importance of Strong Courts, Property Rights Protection, and the Rule of Law. *International Organization*, 66(03), 515–535. <https://doi.org/10.1017/S0020818312000185>
- Bodea, C., & Hicks, R. (2015). International Finance and Central Bank Independence: Institutional Diffusion and the Flow and Cost of Capital. *Journal of Politics*, 77(1), 268–284.
- Bølstad, J., & Elhardt, C. (2018). Capacity, Willingness, and Sovereign Default Risk: Reassuring the Market in Times of Crisis. *JCMS: Journal of Common Market Studies*, 56(4), 802–817. <https://doi.org/10.1111/jcms.12620>
- Breen, M., & McMenamin, I. (2013). Political Institutions, Credible Commitment, and Sovereign Debt in Advanced Economies. *International Studies Quarterly*, 57(4), 842–854.
- Connell, B. J. (2019). Electoral Rules, Interest Group Pressures, and the Price of Democratic Default. *International Studies Quarterly*, 63(4), 987–1000. <https://doi.org/10.1093/isq/sqz067>
- Copelovitch, M., Gandrud, C., & Hallerberg, M. (2018). Financial Data Transparency, International Institutions, and Sovereign Borrowing Costs. *International Studies Quarterly*, 62(1), 23–41. <https://doi.org/10.1093/isq/sqx082>
- Cormier, B. (2021). Interests over Institutions: Political-Economic Constraints on Public Debt Management in Developing Countries. *Governance*, 34(4), 1167–1191. <https://onlinelibrary.wiley.com/doi/10.1111/gove.12551>
- Cormier, B. (2022a). Democracy, Public Debt Transparency, and Sovereign Creditworthiness. *Governance*, 1–23. <https://doi.org/10.1111/gove.12668>

- Cormier, B. (2022b). Partisan External Borrowing in Middle-Income Countries. *British Journal of Political Science*, 1–11.
- Cruces, J. J., & Trebesch, C. (2013). Sovereign Defaults: The Price of Haircuts. *American Economic Journal: Macroeconomics*, 5(3), 85–117.
- DiGiuseppe, M., & Shea, P. E. (2019). The Devil’s Haircut: Investor–State Disputes over Debt Restructuring. *Journal of Conflict Resolution*, 63(8), 1889–1922. <https://doi.org/10.1177/0022002718811531>
- Eaton, J., & Gersovitz, M. (1981). Debt with Potential Repudiation: Theoretical and Empirical Analysis. *The Review of Economic Studies*, 48(2), 289–309. <https://doi.org/10.2307/2296886>
- Fastenrath, F., Schwan, M., & Trampusch, C. (2017). Where states and markets meet: The financialisation of sovereign debt management. *New Political Economy*, 22(3), 273–293. <https://doi.org/10.1080/13563467.2017.1232708>
- Garriga, A. C. (2016). Central Bank Independence in the World: A New Data Set. *International Interactions*, 42(5), 849–868.
- Gilardi, F. (2002). Policy credibility and delegation to independent regulatory agencies: A comparative empirical analysis. *Journal of European Public Policy*, 9(6), 873–893. <https://doi.org/10.1080/1350176022000046409>
- Gilardi, F. (2005). The Institutional Foundations of Regulatory Capitalism: The Diffusion of Independent Regulatory Agencies in Western Europe. *The ANNALS of the American Academy of Political and Social Science*, 598(1), 84–101. <https://doi.org/10.1177/0002716204271833>
- Gill, D. J. (2021). Rethinking sovereign default. *Review of International Political Economy*, 0(0), 1–21. <https://doi.org/10.1080/09692290.2021.1913439>
- Goldbach, R., & Fahrholz, C. (2011). The euro area’s common default risk: Evidence on the Commission’s impact on European fiscal affairs. *European Union Politics*, 12(4), 507–528. <https://doi.org/10.1177/1465116511413950>
- Grabel, I. (2000). The political economy of ‘policy credibility’: The new-classical macroeconomics and the remaking of emerging economies. *Cambridge Journal of Economics*, 24(1), 1–19.

- Gray, J. (2009). International Organization as a Seal of Approval: European Union Accession and Investor Risk. *American Journal of Political Science*, 53(4), 931–949. <https://doi.org/10.1111/j.1540-5907.2009.00409.x>
- Grittersová, J. (2020). Foreign banks and sovereign credit ratings: Reputational capital in sovereign debt markets. *European Journal of International Relations*, 26(1), 33–61. <https://doi.org/10.1177/1354066119846267>
- Guardiancich, I., & Guidi, M. (2016). Formal independence of regulatory agencies and Varieties of Capitalism: A case of institutional complementarity? *Regulation & Governance*, 10(3), 211–229. <https://doi.org/10.1111/rego.12080>
- Hallerberg, M. (2011). Fiscal federalism reforms in the European Union and the Greek crisis. *European Union Politics*, 12(1), 127–142. <https://doi.org/10.1177/1465116510387652>
- Hallerberg, M., Strauch, R. R., & von Hagen, J. (2009). *Fiscal Governance in Europe*. Cambridge University Press.
- Hanretty, C., & Koop, C. (2013). Shall the law set them free? The formal and actual independence of regulatory agencies. *Regulation & Governance*, 7(2), 195–214.
- Hollyer, J. R., Rosendorff, B. P., & Vreeland, J. R. (2014). Measuring Transparency. *Political Analysis*, 22(4), 413–434.
- International Monetary Fund. (2014). *Revised Guidelines for Public Debt Management*. IMF. <https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Revised-Guidelines-for-Public-Debt-Management-PP4855>
- Jordana, J., Levi-Faur, D., & i Marín, X. F. (2011). The Global Diffusion of Regulatory Agencies: Channels of Transfer and Stages of Diffusion. *Comparative Political Studies*, 44(10), 1343–1369. <https://doi.org/10.1177/0010414011407466>
- Koop, C., & Kessler, P. (2021). Keeping control of regulation? Domestic constraints on the creation of independent authorities in emerging and developing economies. *Governance*, 34(2), 545–564. <https://doi.org/10.1111/gove.12523>

- Livne, R., & Yonay, Y. P. (2016). Performing neoliberal governmentality: An ethnography of financialized sovereign debt management practices. *Socio-Economic Review*, *14*(2), 339–362. <https://doi.org/10.1093/ser/mwv019>
- McMenamin, I., Breen, M., & Muñoz-Portillo, J. (2015). Austerity and credibility in the Eurozone. *European Union Politics*, *16*(1), 45–66. <https://doi.org/10.1177/1465116514553487>
- Melecky, M. (2012). Formulation of public debt management strategies: An empirical study of possible drivers. *Economic Systems*, *36*(2), 218–234.
- Mosley, L. (2003). *Global Capital and National Governments*. Cambridge University Press.
- Reinhart, C. M., & Rogoff, K. S. (2009). *This Time is Different: Eight Centuries of Financial Folly*. Princeton University Press.
- Rethel, L., & Sinclair, T. (2014). Innovation and the Entrepreneurial State in Asia: Mechanisms of Bond Market Development. *Asian Studies Review*, *38*, 564–581. <https://doi.org/10.1080/10357823.2014.956685>
- Sadeh, T., & Porath, Y. (2020). Autonomous agencies and relational contracts in government bond issues. *Regulation & Governance*, *14*, 741–763. <https://doi.org/10.1111/rego.12257>
- Sadeh, T., & Rubinson, E. (2018, February 8). *Do the IMF and World Bank promote autonomous sovereign debt management?* [Working Paper]. 11th Annual Conference on Political Economy of International Organizations, Madison, WI.
- Schultz, K. A., & Weingast, B. R. (2003). The Democratic Advantage: Institutional Foundations of Financial Power in International Competition. *International Organization*, *57*(1), 3–42.
- Schwan, M., Trampusch, C., & Fastenrath, F. (2021). Financialization of, not by the State. Exploring Changes in the Management of Public Debt and Assets across Europe. *Review of International Political Economy*, *28*(4), 820–842. <https://doi.org/10.1080/09692290.2020.1823452>
- Tomashevskiy, A., & Kono, D. (2015). Extra Credit: Preferential Trade Arrangements and Credit Ratings. *International Studies Quarterly*, *59*(2), 291–302. <https://doi.org/10.1111/isqu.12183>
- Tomz, M. (2007). *Reputation and International Cooperation: Sovereign Debt Across Three Centuries*. Princeton University Press.

Trampusch, C., & Gross, P. (2021). Do parliaments have control over sovereign debt management?

West European Politics, 44(2), 299–326. <https://doi.org/10.1080/01402382.2019.1680513>

Wheeler, G. (2004). *Sound Practice in Government Debt Management*. The World Bank.

Williams, M. (2013). Debt and Cash Management. In R. Allen, R. Hemming, & B. H. Potter (Eds.),

The International Handbook of Public Financial Management (pp. 661–684). Palgrave

Macmillan.

Zeitz, A. O. (2021). Global Capital Cycles and Market Discipline: Perceptions of Developing-Country

Borrowers. *British Journal of Political Science*, 1–10.

<https://doi.org/10.1017/S0007123421000405>

Appendix 1 – Data coverage

Table A1-1: Country years included in the database

Country	Number of coded years	Coded years
Albania	17	2002-2018
Argentina	36	1983-2018
Australia	69	1950-2018
Austria	69	1950-2018
Belgium	69	1950-2018
Benin	13	2006-2018
Bolivia	37	1982-2018
Botswana	32	1987-2018
Brazil	34	1985-2018
Bulgaria	28	1991-2018
Canada	69	1950-2018
Cape Verde	26	1993-2018
Chile	30	1989-2018
Colombia	62	1957-2018
Comoros	12	2006-2017
Costa Rica	69	1950-2018
Croatia	19	2000-2018
Cyprus	53	1961-1962 1968-2018
Czech Republic	26	1993-2018
Denmark	65	1954-2018
Dominican Republic	23	1996-2018

El Salvador	25	1994-2018
Estonia	20	1999-2018
Finland	69	1950-2018
France	62	1950-1957 1965-2018
Georgia	8	2005-2006 2013-2018
Germany	69	1950-2018
Ghana	15	2004-2018
Greece	44	1975-2018
Guatemala	23	1996-2018
Guyana	4	2015-2018
Honduras	20	1999-2018
Hungary	29	1990-2018
Iceland	69	1950-2018
India	50	1967-1974 1977-2018
Indonesia	15	2004-2018
Ireland	69	1950-2018
Israel	31	1950-1980
Italy	69	1950-2018
Jamaica	60	1959-2018
Japan	67	1952-2018
Kenya	17	2002-2018
Korea South	21	1998-2018
Kosovo	11	2008-2018
Kyrgyzstan	8	2011-2018
Latvia	27	1992-2018
Lesotho	17	2002-2018
Lithuania	28	1991-2018
Luxembourg	69	1950-2018
Macedonia	17	2002-2018
Madagascar	17	1992-2008
Mali	7	2005-2011
Malta	54	1965-2018
Mauritius	51	1968-2018
Mexico	19	2000-2018
Moldova	25	1994-2018
Mongolia	27	1992-2018
Montenegro	11	2008-2018
Netherlands	69	1950-2018
New Zealand	69	1950-2018
Nicaragua	21	1995-2015
Nigeria	15	1960-1965

		1979-1983 2015-2018
Norway	69	1950-2018
Pakistan	21	1973-1976 1988-1998 2013-2018
Panama	30	1989-2018
Paraguay	26	1992-1999 2001-2018
Peru	30	1980-1991 2001-2018
Philippines	32	1987-2018
Poland	28	1991-2018
Portugal	43	1976-2018
Romania	23	1996-2018
Senegal	19	2000-2018
Serbia	13	2006-2018
Sierra Leone	12	2007-2018
Slovakia	26	1993-2018
Slovenia	27	1992-2018
Solomon Islands	37	1978-1979 2004-2018
South Africa	26	1993-2018
Spain	41	1978-2018
Sweden	69	1950-2018
Switzerland	69	1950-2018
Taiwan	27	1992-2018
Thailand	17	1992-2005 2011-2013
Timor Leste	13	2006-2018
Trinidad and Tobago	38	1981-2018
Tunisia	5	2014-2018
Turkey	49	1960-1970 1973-1979 1983-2013
Ukraine	10	1994-1999 2006-2009
United Kingdom	69	1950-2018
United States	69	1950-2018
Uruguay	53	1952-1970 1985-2018
Zambia	8	2008-2015

Country-years included if polity2>6.
In Red: coding completed.

Table A1-2: Country-years excluded for legal obscurity during regime transition

Country	Number of years not coded	Non-coded years
Bulgaria	1	1990
Cyprus	1	1960
Latvia	1	1991
Montenegro	2	2006-2007
Slovenia	1	1991

For these years polity2>6, but in the transition to a market economy, or independence in the case of Cyprus, the status of DMO legislation was not clear.

Table A1-3: Years not prioritized for coding in otherwise coded countries

Country	Number of years not coded	Non-coded years
Cape Verde	2	1991-1992
Denmark	4	1950-1953
Pakistan	2	1956-1957
Turkey	4	1950-1953

In these years polity2>6, but a different legal regime may have applied compared with other years for the particular country, and the documentation analysis did not seem worth the small or distant increase in data coverage.

Table A1-4: Countries not prioritized for coding

Country	Number of years not coded	Non-coded years
Armenia	1	2018
Bhutan	1	2018
Belarus	1	1994
Bangladesh	2	1972-1973
Czechoslovakia	3	1990-1992
Ecuador	22	1979-1999 2006
Fiji	1	1999
Gambia	29	1965-1993
Haiti	3	1996-1998
Liberia	1	2018

Malaysia	13	1957-1968 2018
Myanmar	3	2016-2018
Nepal	1	2018
Somalia	9	1960-1968
Sri Lanka	28	1950-1977
Sudan	5	1956-1957 1986-1988
Syria	3	1955-1957
Uganda	4	1962-1965
Venezuela	33	1968-2000
Yugoslavia	3	2000-2002

In these country-years polity₂>6, but we deemed the documentation analysis effort not to be worth the small or distant increase in data coverage. It may be very difficult to obtain documents from distant periods, unless the DMO is long established and has a good archive and forthcoming and long-serving civil servants with good memory; these are less likely after many years of non-democracy.

Table A1-5: Descriptive statistics

<u>Variable</u>	<u>Obs</u>	<u>Mean</u>	<u>Std.</u>	<u>Min</u>	<u>Max</u>
<u>Coded data</u>					
Q1	1821	0.318506	0.466025	0	1
Q2a	1821	0.615596	0.486588	0	1
Q2b	1821	0.242175	0.428517	0	1
Q3a1	1821	0.404174	0.490866	0	1
Q3a2	1821	0.539813	0.498549	0	1
Q3b	1821	0.037891	0.190986	0	1
Q4	1821	0.845689	0.361346	0	1
Q5	1796	0.407572	0.49152	0	1
Q6	1821	0.051071	0.220203	0	1
<u>Country characteristics</u>					
Population	1672	5.15E+07	1.67E+08	175574	1.35E+09
GDP	1625	2.96E+11	5.91E+11	2.48E+08	3.98E+12
logGDPpcap	1625	8.603929	1.427218	4.532174	11.4214
<u>Vulnerability</u>					
FinancialDepth	244	63.75066	34.83555	6.766247	212.8437
ExtDebtStock	682	48.22796	32.922	1.760845	228.1964
PPGdebtService	681	2.957882	2.6848	0.001132	22.37099
CtlGovDebt_PerGD P	353	48.36967	34.0923	0.018378	232.8322

Inflation	1632	23.84936	314.8949	-4.47810	11749.64
DomPrivSectCredit	1281	52.37277	42.64876	1.383941	304.5751
BudgExpense_PerGDP	1128	29.81493	11.46714	8.082454	83.61576
TradeVol_PerGDP	1540	71.87032	35.85766	7.661769	227.4019
AnyinDefault	870	0.485058	0.500064	0	1
YearsSinceAnyDefault	870	7.014943	11.7512	0	52

Institutions

ODAperGNI	774	2.746884	4.23142	-0.64262	29.45802
IMFnonreserve	665	2.55E+08	1.61E+09	0	2.86E+10
IMFnonreserve_Dummy	665	0.330827	0.470865	0	1
IMFnonreserveOverGDP	654	0.003478	0.009015	0	0.080596
logIMFnonreserve	665	6.125882	8.787923	0	24.07748
IBRD	665	3.43E+08	6.83E+08	0	5.81E+09
IDA	665	1.08E+08	3.32E+08	0	3.42E+09
TotalWB	665	4.51E+08	8.48E+08	0	7.14E+09
WBdummy	665	0.762406	0.425929	0	1
WBloansOverGDP	654	0.006252	0.008203	0	0.074725
logWBloans	665	14.55817	8.254994	0	22.68954
IDAOverGDP	654	0.002748	0.006944	0	0.074725
logIDA	665	5.899755	8.702883	0	21.95292
IBRDOverGDP	654	0.003504	0.005851	0	0.041962
logIBRD	665	10.66651	9.712608	0	22.48302

Credibility

Fitch_LTOrder	762	7.896325	5.442908	1	24
Moodys_LTOrder	948	7.273207	5.494188	1	21
SandP_LTOrder	940	7.511702	5.44357	1	22
FitchInvestmentGrade	768	0.630208	0.483063	0	1
MoodysInvestmentGrade	949	0.662803	0.473002	0	1
SandPInvestmentGrade	953	0.611752	0.487607	0	1
BestRtg	1079	7.153846	5.363283	1	20
FDIinflows	1470	4.425192	14.50551	-40.0811	280.1318
lvaw_garriga	1170	0.547979	0.226472	0.1345	0.894
cuk_ceo	1170	0.553081	0.200592	0.06	0.89
cuk_obj	1170	0.517436	0.270576	0	1
cuk_pol	1170	0.496185	0.346291	0	1
cuk_limlen	1170	0.571501	0.297591	0.019231	1

Democracy

polity2	1752	9.10274	1.108996	7	10
durable	1752	35.10845	33.80693	0	170
xconst	1751	6.735009	0.546701	5	7
parreg	1751	3.724158	1.456369	2	5
parcomp	1751	4.467162	0.66154	3	5
exec	1751	7.941176	0.235361	7	8
polcomp	1751	9.332953	0.941394	6	10

Transparency

transparen~x	789	2.873267	2.045609	-0.82963	9.981103
frt_median	539	0.304034	0.940677	-0.51818	5.92987
DSAfrontfill	272	3.448529	0.927798	1	4
Recording_DebtAn dGteesfrontfill	273	3.236264	0.695339	1.5	4
LoansGteesfrontfill	256	3.320313	0.820651	2	4
PEFAavgfrontfill	273	3.309158	0.617357	1.5	4
PEFAsumfrontfill	273	9.727106	2.106031	2	12
OBI_Q13	342	60.06725	37.77062	0	100

Definitions of variables

Vulnerability

FinancialDepth = Domestic credit provided by financial sector, INCLUDING credit to government (% of GDP). Domestic public bond markets potentially accounted for in here.

ExtDebtStock = % GNI

PPGdebtService = DT.TDS.DPPG.GN.ZS All government debt – sum of principal repayments and interest actually paid in currency, goods, or services on long-term obligations of public debtors and long-term private obligations guaranteed by a public entity, in % of GNI.

CtlGovDebt_PerGDP = GC.DOD.TOTL.GD.ZS

Inflation = FP.CPI.TOTL.ZG CPI, annual

DomPrivSectCredit = FD.AST.PRVT.GD.ZS Domestic credit to private sector by banks per GDP. Govt debt is the benchmark for other financial activity, so DMOs may affect banking sector, or be more important in countries with large domestic banking sectors

BudgExpense_PerGDP

TradeVol_PerGDP

AnyinDefault - Dummy

YearsSinceAnyDefault - Years since last default

Institutions

ODAperGNI = DT.ODA.ODAT.GN.ZS aid received per GDP

IMFnonreserve – total amount borrowed from IMF that year in current USD (Non-reserve means conditional – each country has a small amount it can get from the IMF that won't include conditionality. So non-reserve equals conditional borrowings from the IMF)

IMFnonreserve_Dummy – flagging any amount from IMF that year.

IMFnonreserveOverGDP – IMFnonreserve divided by GDP

logIMFnonreserve - IMFnonreserve log-transformed (after replacing zeros with 1 dollar).

IBRD – total amount borrowed that year from IBRD

IDA – total amount borrowed that year from IDA

TotalWB = IBRD+IDA

WBdummy – flagging any amount borrowed that year from WB

WBloansOverGDP – TotalWB divided by GDP

logWBloans - TotalWB log-transformed (after replacing zeros with 1 dollar).

IDAOverGDP – IDA divided by GDP.

logIDA – IDA log-transformed (after replacing zeros with 1 dollar).

IBRDOverGDP – IBRD divided by GDP.

logIBRD – IBRD log-transformed (after replacing zeros with 1 dollar).

Credibility

Fitch_LTOrder; Moodys_LTOrder; SandP_LTOrder – numerically coded

FitchInvestmentGrade; MoodysInvestmentGrade; SandPIInvestmentGrade- Investment grade dummy

BestRtg - Best of (if have at least one rating from one of the three agencies)

FDInflows = BX.KLT.DINV.WD.GD.ZS Percent GDP

lvaw_garriga

cuk_ceo – index (0-1): by law, how independent is the CEO of the CB (based on term of office, terms of appointment and dismissal, and conflicts of interests?)

cuk_obj – index (0-1): by law, how committed is the CB to price stability, relative to other policy goals?

cuk_pol – index (0-1): by law, how autonomous is the CB from the government, in formulating policy?

cuk_limlen – index (0-1): by law, how restricted is the CB from lending to the government?

Democracy

polity2

durable – number of years since the most recent regime change (defined by a three-point change in the POLITY score over a period of three years or less) or the end of transition period.
 xconst – index (1-7) of institutionalized constraints on the decision-making powers of chief executives (high values = highly constrained).
 parreg – index (1-5) of regulation of political participation – ability of non-elites to influence elites (high values = stable and enduring political groups regularly compete for political influence and positions with little use of coercion. No significant groups, issues, or types of conventional political action are regularly excluded from the political process).
 parcomp – index (0-5) of competitiveness of participation; the extent to which alternative preferences for policy and leadership can be pursued in the political arena (high values = relatively stable and enduring, secular political groups which regularly compete for political influence at the national level; ruling groups and coalitions regularly, voluntarily transfer central power to competing groups. Competition among groups seldom involves coercion or disruption. Small parties or political groups may be restricted in the Competitive pattern).
 exrec – index (1-8) of executive recruitment; combination (not sum) of xrreg, xrcomp, and xropen.
 polcomp – index (1-10) of political competition; combination (not sum) of parreg and parcomp.

Transparency

transparencyindex – HRV. Hollyer, Rosendorff, and Vreeland index of government transparency – “the disclosure of policy-relevant information by the government to the public”.
<https://hrvtransparency.org/>
 frt_median – FRT. Copelovitch index of Financial Regulatory Transparency in the private sector “based on how [countries] report basic macro-prudential data to international financial institutions like the International Monetary Fund and World Bank”.
<https://lafollette.wisc.edu/news/copelovitch-introduces-innovative-measure-of-financial-regulatory-transparency-in-new-policy-brief>
 DSAfrontfill. 0-4 scale, quality of the DMO's forward-looking Debt Sustainability Analysis (PI-12, iii); Scores brought forward from last report until next report
 Recording_DebtAndGteesfrontfill. 0-4 scale, the quality of country's debt reporting (PI-17, i.); Scores brought forward from last report until next report
 LoansGteesfrontfill. 0-4 scale, the quality of financial contracting and guarantee-issuance systems (PI-17, iii). Scores brought forward from last report until next report
 PEFAavgfrontfill. Average of the above 3 scores; Scores brought forward from last report until next report
 PEFAsumfrontfill. Sum of the above 3 scores; Scores brought forward from last report until next report
 OBI_Q13 – four notch index (0-100) of budgetary process transparency. Does the Executive's Budget Proposal or any supporting budget documentation present three estimates related to government borrowing and debt: the amount of net new borrowing required during the budget year; the total debt outstanding at the end of the budget year; and interest payments on the debt for the budget year?