Sovereign Debt Management Institutions: Introducing a new Database

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This article introduces a new database on Formal (*de jure*) Institutions of Sovereign Debt Management (henceforth FISDM) in 92 democracies. A large body of literature has studied the politics of sovereign debt, in both primary and secondary markets, and how IMF programs affect them. An important shortcoming of this literature is the lack of data on how sovereign debt management institutions work. We are missing a standardized database that can help compare sovereign debt management institutions across multiple countries and over multiple years. Without such data, the literature is restricted to studying the relationship between independent variables such as countries' general political institutions (governments, parties, central banks) or IOs policies, and dependent variables such as the outcomes of debt management (parameters of issuance) or bond markets' reactions. However, this relationship is inevitably mediated by sovereign debt management institutions. What do we know about the effect that state institutions and IO policies have on such institutions? What do we know about the effects that sovereign debt management institutions have on outcomes? With this article we begin to plug this gap.

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

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Introduction

This article introduces a new database on Formal (*de jure*) Institutions of Sovereign Debt Management (henceforth FISDM) in 92 democracies. We begin with a brief review of the literature for which this database can be helpful. We focus in particular on the study of the politics of sovereign bond markets, the politics of sovereign debt management, and the literature on the effectiveness of IMF programs.

A large body of literature has long studied the politics of sovereign debt. Governments grappling with their fiscal commitments must win the trust of lenders to maintain access to credit. Scholars have suggested credibility mechanisms to this effect, at the domestic (Alexiadou *et al*., 2022) and multilateral levels (Arias *et al*., 2020; Bølstad & Elhardt, 2018; Copelovitch *et al*., 2018; Goldbach & Fahrholz, 2011; Gray, 2009; Tomashevskiy & Kono, 2015). Democracy may confer credibility (Biglaiser & Staats, 2012; Schultz & Weingast, 2003; Yoo, 2025). Some scholars have highlighted how foreign direct investment by global banks (Grittersová, 2020) and bond markets can discipline governments, by raising risk premiums (Afonso & Strauch, 2007; Barta & Johnston, 2018; Biglaiser & Staats, 2012; Hallerberg, 2011), but others argue that 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). Credit rating agencies may discriminate against left-wing governments (Barta and Johnston, 2018). Inclusion in sovereign bond benchmark indices relieves governments from some of the markets' disciplining effects (Cormier & Naqvi, 2023).

These studies relate mostly to the politics of secondary bond markets, where outstanding sovereign debt is traded. More recently, growing academic attention has been given to the institutional practices through which sovereign debt is planned, issued and managed in primary

markets, the politics that determine the parameters of newly issued debt. A poorly managed debt would expose the government to excessive cost and risk, and impair its ability to service its debt. Some studies of debt management politics emphasize the type of lenders that countries tap. Conditionality attached to cheap loans from international financial institutions may drive developing countries (Zeitz, 2022) and left-leaning governments (Cormier, 2023c; 2024) to prefer borrowing expensively but freely on international bond markets. Borrowing from geopolitical allies can reduce risk premiums in bond markets (Ferry & Shea, 2025).

Other studies focus on transparency of debt management. Consistent with the 'democratic advantage' argument, Ballard-Rosa *et al*. (2022) find that executive constraints and policy transparency improve sovereign creditworthiness and facilitate debt issuance, but Cormier (2023b) disagrees that debt transparency depends on democratic governance; the former affects creditworthiness more than the latter. Mosley & Rosendorff (2023) argue that governments can avoid fiscal transparency by borrowing from banks rather than bondholders, and from bilateral rather than multilateral creditors. In particular, the role of China as an opaque lender has attracted much scholarly attention (Cormier, 2023a; Ferry & Zeitz, 2024). These studies use datasets on actual bond issues, which include the size, currency and timing of issues, as well as data from various sources on identity of lenders.

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. While secondary bond markets conventionally determine the interest that governments pay on their debt, DMOs set other parameters of the debt (maturity, currency, indexation, tradability, fixed or variable rate, timing of issue). Crucially, DMOs manage the government's delicate and interdependent relations with its lenders over extremely long time horizons, measured in decades (Rommerskirchen & van der Heide, 2023; Sadeh & Rubinson,

2024). They are conventionally mandated to optimize financial costs and risks on behalf of the government, but they must also manage informal relational contracts with financial institutions, which are characterized by potentially important information asymmetries (Sadeh & Porath 2020). DMOs that are removed from the executive arm's hierarchy and are given some degree of managerial and staffing independence to pursue their mandates can confer credibility on sovereign debt (Sadeh & Rubinson, 2024), but there are limits to how they can enhance public debt sustainability in developing countries (Cormier, 2021).

As governments' borrowing needs increase, and global financial markets develop new instruments, efficient debt management requires an increasing degree of expertise and professionalism (Wheeler, 2004), and perhaps autonomy from the executive. In order to reduce political interference and improve fiscal outcomes, the International Monetary Fund (IMF) and the World Bank include the need for professional sovereign debt management in the fiscal and governance reforms that they encourage and support (International Monetary fund and the World Bank, 2001; 2003). These institutions first issued a set of risk-management guidelines in 2001, later amended (International Monetary Fund, 2014). More specifically, the IMF and the World Bank recommend: (1) Centralization of debt management authority in offices or agencies that operate separately from monetary policy-makers, under clearly articulated legal arrangements, consolidating the debt management functions in a single, clearly defined authority (IMF, 2014); (2) Execution of a publicized debt management plan: regularly publishing information on outstanding debt and submitting to external audit, and adopting a debt management strategy and an annual borrowing scheme (IMF, 2014); (3) High-end recruitment, training and retaining of staff with a combination of market and public policy skills. This includes minimizing salary gaps between the public and private sectors, which effectively means recruiting from the same pool of talent on which lenders draw.

The IMF in particular—as the global lender of last resort for countries in economic trouble—is one of the most powerful international organizations. To uphold global financial stability, the IMF conducts regular assessments of the macroeconomic policies of its 190 member states and provides technical assistance on fiscal issues and macroeconomic policies to its lower-income members. However, it is not clear how much the IMF and the World Bank actually insist on sovereign debt management reforms, and what effect they have on debt management and debt sustainability.

A large body of literature is concerned with the effectiveness of IMF interventions, over a broad set of economic, political, social and health goals, and more narrowly the degree to which it accomplishes its mandate by averting financial crises and promoting economic growth (Sadeh *et al*., 2024). With relevance to debt management reforms, studies find that IMF programs encourage current account liberalization (Pinheiro *et al*., 2015), which may make countries more vulnerable to the volatility of transnational financial flows, implying elevated risks for financial crises (Dreher & Walter, 2010). This is especially relevant among borrowers with 'moral hazard' (Lipscy & Lee, 2019), which arises from close ties to powerful IMF shareholders, lessening the incentive to self-insure against crises. IMF programs might also come with unrealistic expectations about 'catalysis' of external resources; they are found to catalyze aid only for budget support and debt relief that relate to IMF activities, especially for the most powerful bilateral donors (Stubbs *et al*., 2016).

IMF programs can also complicate sovereign debt management if they overburden countries with policy conditions. Programs with more binding conditions increase the likelihood of program interruptions (Reinsberg *et al*., 2022b). These program interruptions can trigger a loss in investor confidence, which increases the cost of financing (Chapman *et al*., 2015; Reinsberg *et al*., 2022a). Notwithstanding the adverse effects of interruptions, there is also evidence that

IMF programs can enhance credit ratings due to 'signaling effect' (Gehring & Lang, 2020). This may be especially true for left-wing governments (Cho, 2014), when the legislature approves the program (David *et al*., 2022), or when the recipient government is popular among voters, if investors associate higher government popularity with better implementation of the program (Shim, 2022).

An important empirical shortcoming of the literature reviewed above is the lack of data on how sovereign debt management institutions work. While there have been some national case studies (Cormier, 2021), we are missing a standardized database that can help compare sovereign debt management institutions across multiple countries and over multiple years. Without such data, the literature is restricted to studying the relationship between independent variables such as countries' general political institutions (governments, parties, central banks) or IOs policies, and dependent variables such as the outcomes of debt management (parameters of issuance) or bond markets' reactions. However, this relationship is inevitably mediated by sovereign debt management institutions. What do we know about the effect that state institutions and IO policies have on such institutions? What do we know about the effects that sovereign debt management institutions have on outcomes? As Cormier (2023b) has highlighted, sovereign debt management institutions are more direct, and likely more important drivers of primary and secondary market outcomes. With this article we begin to plug this gap.

The next section introduces the FISDM database, its methodology and coverage. The third section reports on the database content and features, and briefly compares it with existing datasets with relevance to sovereign debt management institutions. The fourth section illustrates the usefulness of this new database by examining the correlation of our debt management institutionalization measures with other relevant measures in sovereign debt research; we also present a first empirical application investigating the correlates of debt

management institutionalization. Our analysis establishes that countries institutionalize debt management (i.e. enact legislation that sets the terms of sovereign debt management) when they are in financial trouble, for example after default on their debt obligations, and a large portion of their debt is owed to private creditors. We conclude by recalling the advantages of using FISDM database in the study of IOs' policies and primary and secondary market outcomes.

De jure **frameworks of sovereign debt management**

Our database of legislation relating to sovereign debt management's 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* institutions rather than *de facto* debt management practices. 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 of sovereign debt management 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, legally-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). Perhaps most importantly, as the literature review above shows, many existing studies rely on *de facto* (outcome-based) data on debt management; what is missing is *de jure* data – this is where we are more likely to add value.

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 independent veto players are 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 follow on Sadeh & Rubinson (2024), and 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 observations (Table A1-3 in Appendix 1) to justify the document collection and analysis effort (which is characterized by a large fixed cost per country), or with a too distant past of democracy and rule of law (Table A1-4).

The coding process involved first obtaining the relevant legal documents. This search was a chronologically-backward process. It was helpful to start with text that is currently available on-line, in the websites of national debt management agencies, ministries of finance, central banks, or legislatures. Laws typically detail amendments made to them in various clauses, and the laws that they replaced. In each such case we thus searched again in the same depositories for the amending and preceding legislation. We next corresponded with debt management staff to ask for scanned copies of legislation that was not available on-line. If a trail has 'gone cold' – preceding legislation could not be obtained – this terminated the process and defined the start year for our coding of the particular country.

Once the documents were obtained, coding was mostly possible by simply reading the legal text. The authors relied on research assistants for initial coding of documents, then reviewed and discussed all relevant documents and the RA's coding, and formulated the rationale for the coding. Each coding was reviewed by at least one RA and at least two authors, and is backed by relevant documents and a written text explaining the logic of the coding. In cases of doubt about interpreting the legislation we consulted national debt management staff, or decided not to code the particular country-years (See Table A1-2 in Appendix 1).

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

92 countries have thus been coded, with 3,276 country-year observations. 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 1998. Table 1 shows that data observations vary in their level of democracy. As Table 2 shows, most coded country-years are of high-income countries, but a significant number of observations are of middle-income countries.

Table 1: Data coverage by level of democracy

	Coded country-years
7	334
8	577
9	492
10	1,749
N/A	124
Total	3,276

Based on Polity2. Country-years with no Polity2 score pertain to Iceland and Malta.

Table 2: Data coverage by income group

	Coded country-years
High income	1,900
Low income	49
Lower middle income	475
Upper middle income	681
N/A	171
Total	3,276

Based on World Bank classification.

Tables 3-6 show that our data cover significant numbers of cases of eligibility to World Bank loans, active loans from either the World Bank or the IMF, default, or non-investment grade credit rating. This makes our database relevant to studies of the politics of debt, especially relating to IO policies.

Table 3: Data coverage by potential lending category at the World Bank

	Coded country-years
Blend	144

IBRD	1,049
IDA	210
No lending	1,702
N/A	171
Total	3,276

Based on World Bank classification, which relates to the potential access for these lending categories, not necessarily the actual existence of loans.

Table 4: Data coverage by active loan arrangements

	Coded country-years with an active World Bank loan	Coded country-years with an active conditional IMF loan
No active loan	241	680
Active loan	793	354
N/A	2,242	2,242
Total	3,276	3,276

Based on World Development Indicators. Observations with missing data should be treated as "No active loan".

Table 5: Data coverage by current debt default status

	Coded country-years
Not in default	764
In some form of default	733
N/A	1,779
Total	3,276

Based on Bank of Canada classification. Observations with missing data should be treated as not in default.

Table 6: Data coverage by investment grade ranking

	Coded country-years by Fitch	Coded country-years by Moody's	Coded country-years by S&P
Non-investment grade	479	501	674
Investment grade	899	1,158	1,069
N/A	1,898	1,659	1,633
Total	3,276	3,276	3,276

Based on the rating agencies ratings.

Table 7 provides descriptive statistics for existing indices that scholars of the politics of sovereign debt commonly use, in country-years that overlap with our database. The table demonstrates that our database does not overlap much in its coverage (see the observations column) with measures such as sovereign credit ratings, Hollyer, Rosendorff and Vreeland (HRV) index of government transparency, Copelovitch's index of Financial Regulatory Transparency in the private sector, Garriga's Central Bank Independence (CBI) index, indices reported by the Public Expenditure and Financial Accountability (PEFA) program, which assesses the strengths and weaknesses of public financial management (https://www.pefa.org/) and the Open Budget Initiative (OBI – https://internationalbudget.org/). This again underscores its usefulness.

Table 7: Descriptive statistics of indices of interest.

	Obs.	Mean	Std. Dev.	Min	Max
Sovereign credit ratings					
Fitch	1,359	7.7	5.1	1	24
Moodys	1,652	7.2	5.2	1	21
S&P	1,626	7.4	5.2	1	22
Best rating of any of the above	1,924	7.1	5.2	1	22
Transparency indices					
HRV's transparency index	1,402	3.02	2.13	-0.95	9.98
Copelovitch's index of Financial Regulatory Transparency in the private sector	983	0.31	0.84	-1.02	5.93
Garriga's Central Bank Independence index	2,068	0.53	0.22	0.11	0.90
PEFA indices					
Quality of forward-looking Debt Sustainability Analysis	420	3.5	0.9	1	4
Quality of debt reporting	433	3.2	0.8	1	4
Quality of financial contracting and guarantee-issuance systems	417	3.3	0.9	1	4
OBI's budgetary process transparency	625	65.5	36.9	0	100

Coding formal sovereign debt management's transparency, autonomy, and professionalism

We code five measures of sovereign Debt Management Transparency (DMT), three measures of sovereign Debt Management Autonomy (DMA), and four measures of sovereign Debt Management Professionalism (DMP); all are dummy variables, scoring 1 if the coding question is answered in the affirmative. The formulation of these questions is based on our judgement of the literature's main interest, and our experience with what can be found in countries' legal texts. Transition years (when the constitution or the legislation changed) are coded similar to the previous years. These questions and dimensions are summarized in Table 8, then detailed in the remainder of the section.

Table 8: Coding *de jure* Sovereign Debt Management Institutions

Coding #	Question	Dimension
Q1	Constitution: Does the constitution mention any particular sovereign debt-management agency, or debt-management authority in general?	Transparency (of the debt management policymaking)
Q2	Debt management law (any law): Is there a law, other than the constitution, that defines/regulates or at least mentions debt management?	Transparency (of the debt management policymaking)
Q3	Debt management law (reporting): By law, is there a requirement that the executive report debt parameters to any entity outside the authority of the executive branch (regardless of the extent of reporting)?	Transparency (of the debt)
Q4	Reporting to the legislature: By law, is there a requirement that the executive report debt parameters to the legislature (regardless of the extent of reporting)?	Transparency (of the debt)
Q5	Reporting to other local public body or audience: By law, is there a requirement that the executive report debt parameters to any entity outside the authority of the executive branch other than the legislature (regardless of the extent of reporting)?	Transparency (of the debt)
Q6	DMO autonomy (no autonomy dictator): By law, is there a single elected decision maker	Autonomy

	that can unilaterally dictate the terms of sovereign borrowing & debt?	
Q7	DMO autonomy (no autonomy veto player): By law, is there a single elected decision maker that can unilaterally veto the terms of sovereign borrowing & debt?	Autonomy
Q8	DMO autonomy (full autonomy): By law, is there an entity that is not subject to the executive arm, nor to the legislature, or that is subject to one of them but the law provides it with independent discretion, that can unilaterally dictate sovereign debt terms, veto them, or at least propose debt management parameters to the executive?	Autonomy
Q9	Professional minister: By law, must the minister of finance be an elected politician (code 0), or can he/she be an appointed professional (code 1)?	Professionalism
Q10	DMO law (agency law): 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?	Professionalism
Q11	DMO incorporated: Is the DMO incorporated?	Professionalism
Q12	DMO goal: By law, must sovereign debt management consider borrowing costs and/or the degree of risk of the national debt?	Professionalism

Measures of Debt Management Transparency (DMT):

Transparency of debt management means selecting lenders and primary dealers based on efficiency criteria, without favoring any particular institution for other reasons. 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 management. We expect this because when sovereign debt managers have formal legal standing, the lines of command and allocation of authority are clear and protected by the rule of law. The debt managers are thus incentivized and pressured to provide information on whether and how they meet their mandate to other state ministries and political audiences monitoring their work. This also improves the

ability of lenders to follow the debt management policymaking and monitor its professionalism, which can reduce sovereign risk. Transparent debt management is distinct from transparent debt, which is about the public availability and accessibility of all data on sovereign debt and its parameters; the two may be related but not necessarily so. Governments may opt to disclose detailed debt statistics while keeping the debt management process opaque. Of course, transparency of the public debt itself improves creditworthiness, and reduces sovereign risk. Publicizing the agreed amount and terms of the debt (Cormier, 2023b) is important for lenders. When making their decisions, they want to know how much the government really owes in total and to whom, which affects the order of seniority in recovering debt in case of default.

This argument builds on the "state as entrepreneur" literature, which highlights the ways in which states work with financial actors in 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 reflects a similar entrepreneurial logic. When transparent, debt managers 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 five transparency-related questions:

Constitution (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 the setting of debt parameters, as well as to decisions about 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. In contrast, phrases such as "debt management" of "management of debt" were ignored if they relate to technicalities rather than setting/designing the parameters of debt. Countries are considered to have a constitution only if there is a single document called a constitution or basic law, rather than a collection of documents. 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.

In our sample, the constitution mentioned a sovereign debt management authority in 1,375 out of 3,276 observations (42.0%). References to debt management in the constitution became gradually more frequent until 1989, but plateaued or even slightly diminished since, as newly independent and democratizing countries were not necessarily keen on this measure (Figure A2-1 in Appendix 2).

Debt management law (any law) (Q2): Is there a law, other than the constitution, that defines/regulates or at least mentions debt management? We identified this for 2,390 observations (73.0%). In the appendix, we demonstrate that having a debt management law became steadily more frequent since the early 1990s, and as of 2018, 90 percent of our data countries had such a law (Figure A2-2).

Debt management law (reporting) (Q3): By law, is there a requirement that the executive report debt parameters to any entity outside the authority of the executive branch (regardless of the extent of reporting)? Subsequent questions track whether reporting is to the legislature (Q4) or another institution outside the executive (Q5). We coded a total of 1,641 observations (50.1%) that fulfilled this criterion. We demonstrate that having a legal requirement to report debt parameters became steadily more frequent since the mid-1970s, and as of 2018, 70 percent of our data countries had such a law (Figure A2-3).

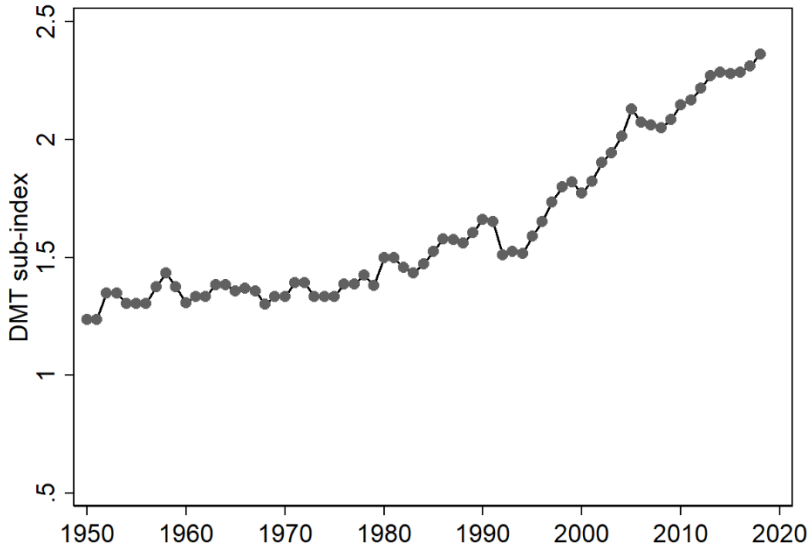
Reporting to the legislature (Q4): By law, is there a requirement that the executive report debt parameters to the legislature (regardless of the extent of reporting)? This question naturally nests in Q3. A total of 1,483 observations (45.3%) were coded Q4=1. Over time, we find a similar time trend as for Q3, although at slightly lower levels, which means that some debt reporting laws do not target the legislature specifically (Figure A2-4).

Reporting to other local public body or audience (Q5): By law, is there a requirement that the executive report debt parameters to any entity outside the authority of the executive branch other than the legislature (regardless of the extent of reporting)? This question naturally nests in Q3 too, but is not mutually exclusive with Q4, as a single country can have more than one relevant law, or a single law targets both the legislature and other entities. A total of 588 observations (18.0%) were coded Q5=1. Over time, the reporting requirement toward non-legislative bodies has been consistently increasing since the mid-1990s, following more tepid increases in the mid-1980s (Figure A2-5).

For ease of presentation, we combine the indicators on transparency into a single sub-index. Formally, the sub-index is defined as the sum of Q1+Q2+Q4+Q5 given that Q3 is redundant once Q4 and Q5 are considered. This DMT index ranges from 0 to 4. Figure 1 shows the

temporal evolution of debt transparency (annual average across data countries), indicating that it has steadily been increasing since the mid-1990s, after a 40-year period of modest growth.

Figure 1: Debt Management Transparency (DMT) index over time



Measures of Debt Management Autonomy (DMA):

This part of the database builds on Sadeh & Rubinson (2024) logic and definitions, but with more disaggregated coding, and greater coverage in countries and years. As governments stand to gain from debt-management expertise and cultivation of long-term relationships with major lenders, especially given the frequent and repetitive nature of the task, principal-agent theory would suggest that they delegate these tasks to an agent-DMO, which inevitably means that they provide it with some level of independence. Following Sadeh & Rubinson (2024), we define an independent DMO as one that makes day-to-day decisions without the interference of politicians (Bersch and Fukuyama, 2023).

DMO autonomy can help improve communication with major lenders, which in turn helps build trust and cultivate long-term relations with them (Sadeh & Rubinson, 2024). This places a premium on the stability of the DMO's institutional design, which is borne by the fact that

the level of DMO independence is fixed for most countries in our data, and changes very infrequently in others. An independent agent DMO is also free of partisan (Ballard-Rosa *et al*., 2022) or personal interests of political decision-makers, impervious to allocative implications of the debt on non-government entities, or value judgment; it may not favor particular financial institutions merely because they are owned or headed by people affiliated with the executive, or otherwise assist corrupt practices by state officials.

DMO autonomy can also improve the credibility of debt management by resolving problems of time-inconsistent policy preferences that politicians face. Specifically, political interference might make it harder for the DMO to follow the debt plan, if politicians develop a preference for borrowing/issuing short-term loans/debt at a low interest rate (assuming a normal yield curve) but at greater rollover risk, over borrowing/issuing longer-term debt, which requires more coordination with lenders but creates a more stable debt structure. Electoral considerations can also drive the government to raise debt earlier in the fiscal year than originally planned, making it costlier and/or riskier. Short-term considerations might favor borrowing/issuing loans/debt in a low-interest foreign currency, which later appreciates, making it harder for the next government to repay the debt (Ballard-Rosa *et al*., 2022). An independent DMO may soothe such concerns and reduce lenders' hesitancy.

Of course, granting independence to DMOs introduces agency losses for political decision makers (Acs, 2018; Ruffing *et al*., 2023). First, losing control over the DMO and its actions may interfere with the executive's policymaking. Second, independent DMOs may cater to lenders (Sadeh and Porath, 2020), or even be captured by them (Dutta, 2020; Fastenrath *et al*., 2017; Livne and Yonay, 2015) i.e. consistently direct value away from the public interest and toward the interest of the lenders, (Rex, 2020; Zupan, 2017). DMOs may come to depend on information provided by lenders and be captured culturally (Carpenter and Moss, 2014). Third,

granting formal independence to DMOs eliminates the political benefits of appointing loyal partisans, such as party discipline, government stability, effective policy communication with voters and political patronage. This is similar to the well-documented agency loss associated with central bank independence, or appointing non-political technocratic ministers of finance (Alexiadou *et al*., 2022). As a result, granting legal autonomy for a state agency is a politically costly and hence credible signal.

Methodologically, we follow Sadeh and Rubinson (2024) and formulate three questions on *de jure* DMO autonomy. To answer these questions, 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).

DMO autonomy (no autonomy dictator) (Q6): By law, is there a single elected decision maker that can unilaterally dictate the terms of sovereign borrowing and 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). For this purpose, in parliamentary democracies all members of cabinet are considered to have been elected to their posts, although in some cases they must resign their parliamentary seats to take cabinet positions, and in some cases they can be appointed to the cabinet even without standing elections to the legislature. If different rules/procedures apply to local and foreign debt, the coding is determined by the rule/procedure that allows for least DMO autonomy. In semi-

presidential systems, where the prime minister needs the support of the majority in the legislature, he/she too is considered an elected decision-maker.

In our sample, a total of 1,150 out of 3,276 observations (35.1%) were coded Q6=1, which stands for **lack** of DMO autonomy. In the appendix, we demonstrate that lack of DMO autonomy by this indicator was more common between the mid-1970s and mid-1990s, present for less than 50 percent of countries; but before and after these periods, debt management dictators were less common (about 30 percent of countries in 2018) (see Figure A2-6 in Appendix 2).

DMO autonomy (no autonomy veto player) (Q7): By law, is there a single elected decision maker that can unilaterally veto the terms of sovereign borrowing and debt? Obviously, dictators are also veto players, so this is a wider category than the previous one (Q6 nests in Q7). Examples for countries with a non-dictator, veto-wielding executive office holder, include Israel, Switzerland, the United Sates, 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.

For this purpose, in parliamentary democracies all members of cabinet are considered to have been elected to their posts, although in some cases they must resign their parliamentary seats to take cabinet positions, and in some cases they can be appointed to the cabinet even without standing elections to the legislature. If different rules/procedures apply to local and foreign debt, the coding is determined by the rule/procedure that allows for least DMO autonomy.

Collective responsibility in the cabinet means no veto player, if no law implies otherwise. In semi-presidential systems, where the prime minister needs the support of the majority in the legislature, he/she too is considered an elected decision-maker.

A total of 2,042 observations (62.2%) were coded Q7=1, which again stands for **lack** of DMO autonomy. Over time, we find 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 recent decline in debt management dictators in Figure 6 can be interpreted as a combination of more ministerial delegation together with greater involvement of legislatures in debt management (Figure A2-7). In 2018, this was typical of roughly 75 percent of our data countries.

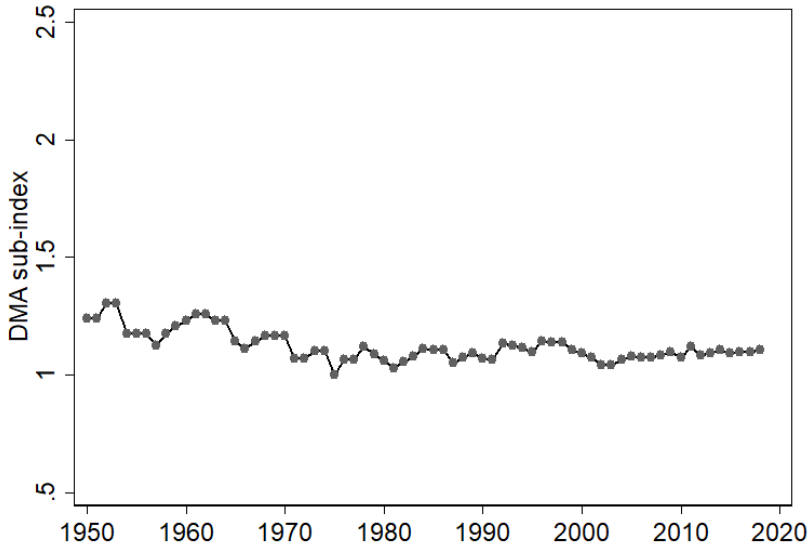
DMO autonomy (full autonomy) (Q8): By law, is there an entity that is not subject to the executive arm, nor to the legislature, or that is subject to one of them but the law provides it with independent discretion, that can unilaterally dictate sovereign debt terms, veto them, or at least propose debt 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). For this purpose, proposing debt management parameters to the executive is coded only if the law mandates that the government seek or receive such proposals.

We find full DMO autonomy to be infrequent: only a total of 267 observations (8.2%) were coded Q8=1 within our country-year data, implying greater DMO autonomy. We demonstrate that such DMOs were rare before 1992, but since the early 2000s have grown in frequency to a bit over 10 percent of countries (Figure A2-8).

Finally, we combine the above indicators of DMO autonomy into a sub-index. Formally, we compute this index as Q8+2-Q6-Q7, which reflects that two indicators are negatively related. The DMA index ranges from 0 to 3; Higher values indicate greater DMO autonomy. Figure 2

shows the DMA index's annual average across data countries, indicating that DMO autonomy has not changed much over time.

Figure 2: Debt Management Autonomy (DMA) index over time



Measures of Debt-Management Professionalism (DMP):

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). 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 (Cormier, 2021; International Monetary Fund, 2014, Tsingou, 2023). Ensuring merit-based recruitment and promotion without political screening of staff (Christiansen, Niklasson and Öhberg, 2016) may involve establishing the DMOs as a state-owned corporation (IMF, 2014, 20, fn 26), as was done in a few OECD countries. This can allow the DMO to act as a private sector financial institution (Schwan *et al*., 2021)

We thus code the following four professionalism-related questions:

Professional minister (Q9): By law, must the minister of finance be an elected politician (code 0), or can he/she be an appointed professional (code 1)? For this purpose, in parliamentary democracies we code 0 even when members of cabinet must resign their parliamentary seats to take cabinet positions, so long as being elected to the legislature first is a precondition for taking a cabinet position.

In our sample, 2,718 out of 3,276 observations (83.0%) fulfilled the criterion of a professional minister (Q9=1), which means that even many parliamentary democracies do not insist that their ministers be elected to the legislature. Considering the evolution of this criterion, we do not identify any clear trend (see Figure A2-9 in appendix 2).

DMO law (agency law) (Q10): 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 any law? For this purpose, an agency is any organizational unit that is explicitly mandated with debt management and is not a whole ministry. 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. 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. In other cases, sovereign debt management is legally delegated to the central bank, but the central bank is not fully independent from the government.

In our sample, we coded 869 observations (26.5%) as having an agency law (Q10=1). We demonstrate a steep rise in such agency laws since the 1980s – almost a half of our data countries had such a law as of 2018 (Figure A2-10).

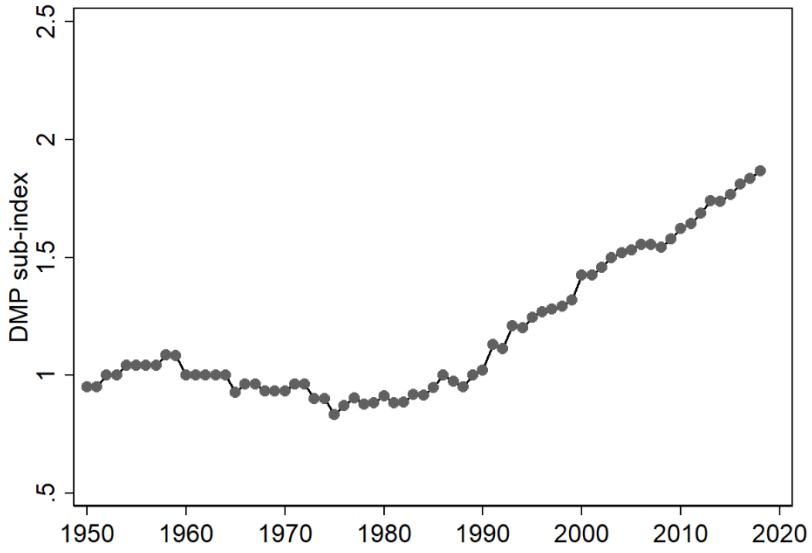
Is the DMO incorporated (Q11)? A few countries have established their DMOs as state-owned corporations, in order to offer higher pay and attract talented staff (Sadeh & Porath, 2020). Examples include Germany, Ireland since 1990, and Portugal since 2012. Only a total of 98 observations (3.0%) were coded Q11=1 within our data country-years. Incorporated DMOs did not exist before 1991, but their frequency has been steadily rising (Figure A2-11).

DMO goal (Q12): By law, must sovereign debt management consider borrowing costs and/or the degree of risk of the national debt? Legal obligation to aim at or consider sound, prudent or efficient management of debt is considered to qualify this criterion; Similar concerns regarding loans or guarantees the state gives to non-state actors are not. A total of 616 observations (18.8%) were coded Q12=1 within our data country-years. We note a visible rise in the frequency of such laws since the mif-1980s, reaching almost one-half of the countries in the data by 2018 (Table A2-12).

To create a sub-index of Debt Management Professionalization, we add up the four indicators on professionalization (Q9+Q10+Q11+Q12). The DMP) index ranges from 0 to 4. Figure 3 shows the DMP index's annual average across data countries, indicating a substantial increase

in debt management professionalization since the 1980s, from about 1 in 1980 to just below 2 in 2018.

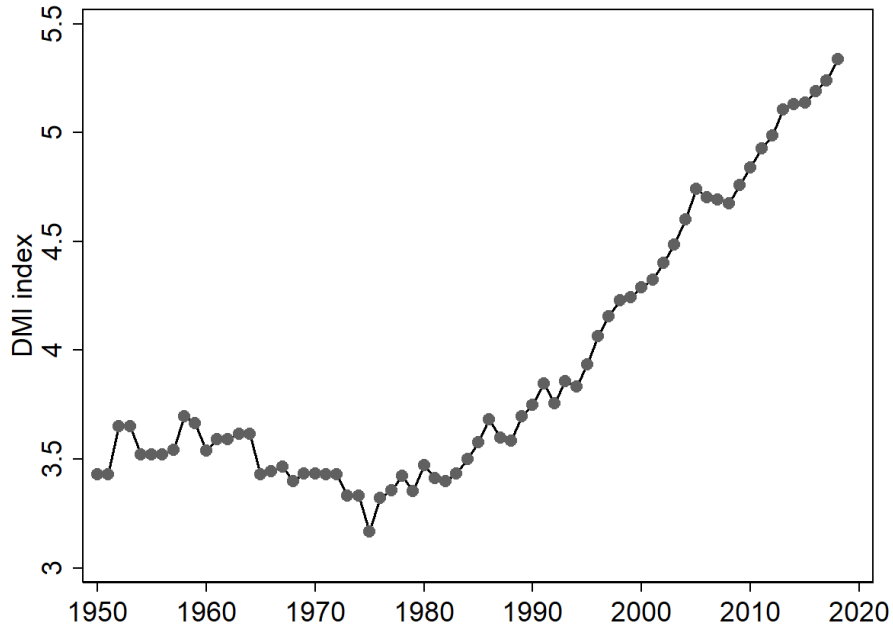
Figure 3: Debt Management Professionalization (DMP) index over time



Debt-Management Institutionalization (DMI):

We conclude this section by summing the three indices of DMT, DMA and DMP into the Debt-Management Institutionalization (DMI) index, which therefore ranges from 0 to 11. Higher values of this index indicate the enactment of more legal reforms that institutionalize the terms of sovereign debt management. Figure 4 shows the DMI index's annual average across data countries, indicating a remarkable and seemingly un-abating proliferation of such reforms since the mid-1970s. While the global average DMI was less than 3.5 in 1975, it was about 5.2 by 2018 (see histogram of the DMI index in Figure A2-13 in Appendix 2).

Figure 4: Evolution of Debt Management Institutionalization (DMI) index



Validation and application of FISDM

To demonstrate the usefulness of our new data, we first validate our measures by correlating them in Table 9 with exiting indices that scholars of the politics of debt and debt management use (these same indices appeared in Table 7 to demonstrate our data's coverage).

Table 9: Correlation between our measures and relevant indices

Correlation with measure:	Obs.	Transparency	Autonomy	Professionalism
Sovereign credit ratings				
Fitch	1,359	0.26***	0.15***	-0.01
Moodys	1,652	0.31***	0.14***	0.02
S&P	1,626	0.28***	0.12***	0.07***
Best rating among the above	1,924	0.28***	0.15***	0.01
Transparency indices				
HRV's transparency index	1,402	0.16***	-0.00	0.41***
Copelovitch's index of Financial Regulatory Transparency in the private sector	983	0.23***	-0.05*	0.03

Garriga's Central Bank Independence index	2,068	0.06***	-0.07***	0.26***
PEFA indices				
Quality of forward-looking Debt Sustainability Analysis	420	-0.00	0.11**	0.03
Quality of debt reporting	433	0.14***	0.03	0.12**
Quality of financial contracting and guarantee-issuance systems	417	0.26***	-0.14***	0.14***
OBI's budgetary process transparency	625	0.09**	-0.03	0.06

Most available indices are significantly correlated with our measure of transparency, but at low magnitude (no more than 0.31). Debt management professionalism seems to be somewhat correlated with HRV's transparency index and with Garriga's central bank independence measure. The three large rating agencies seem more interested in transparency of debt management than in its autonomy or professionalism.

We next provide a first application of our data. A key limitation of the literature is its lack of *de jure* measures of debt management, which obscures the link between macro-political variables and debt outcomes. We address this gap by measuring *de jure* debt management; we also offer a first test of the drivers of debt management institutionalization.

A political-economy theory of DMI institutionalization: We employ a cost-benefit framework to analyze the drivers of Debt Management Institutionalization (DMI). The primary benefit of DMI is enhanced market credibility, which improves creditworthiness and lowers borrowing costs, ultimately supporting development. Conversely, the cost involves a loss of political discretion: formalizing debt laws and granting autonomy to debt management offices prevents governments from leveraging the debt portfolio for political gain beyond the bounds of economic efficiency.

We argue that governments, as rational actors, initiate DMI reforms when external pressures shift the cost-benefit balance of reforms and when private creditors can trust DMI reforms to

be credible. DMI adoption often follows a ‘moment of sin’—such as a default, hyperinflation, or a severe debt crisis. These events shatter investor trust, making the cost of losing political discretion secondary to the benefit of regaining market access. In this context, for example, establishing a legally autonomous Debt Management Office (DMO) serves as a costly signal: it demonstrates a commitment to insulating debt management from short-term populism to reassure private creditors.

The credibility of such signal increases when governments implement DMI reform under IMF supervision. In fact, the IMF can be a powerful catalyst for debt management institutionalization. Initially focused on macro-economic stabilization, its activities have pivoted toward institutional reform under the heyday of the structural adjustment era. Specific measures for the “plumbing” of the financial system include policy reforms to promote central bank independence (Reinsberg, Kern, and Rau-Göhring, 2021), as well as debt management institutionalization. Ghana provides a case in point: Following a severe currency crisis and debt distress, its 2023 IMF program focused heavily on monitoring and professionalization. Structural benchmarks were set for the “rationalization” of the debt portfolio and the regular publication of comprehensive debt bulletins. The program forced a tightening of the Public Financial Management (PFM) laws to include State-Owned Enterprise (SOE) debt in central government reporting. As Ghana had a history of “hidden” energy sector arrears, the IMF institutionalized debt management reform specifically to bring these “off-balance sheet” debts into the sunlight, ensuring they were part of the Debt Sustainability Analysis (IMF, 2025).

While IMF programs aim to restore confidence through structural conditions and fiscal discipline, their success is not guaranteed. Political economy literature emphasizes that the credibility boost of an IMF program depends on its policy design, specifically the extent to which governments must implement structural conditions aimed at establishing monetary

credibility and reducing fiscal deficits (Woo, 2013). At the same time, implementation of binding conditions is crucial, as program interruptions can in fact shatter market confidence (Reinsberg *et al*., 2022a). Hence, we make a simplifying assumption that most government implement the IMF conditions on debt management: By acting as a third-party monitor, the IMF can make the commitment of a government to institutional change more credible than unilateral efforts. Crucially, while an IMF program signals severe underlying structural problems, it simultaneously lowers the political cost of reform by providing a framework for necessary institutional shifts.

This logic applies primarily to countries that tap private capital markets. Unlike official lending from governments, which often relies on political ties, private market interactions are largely anonymous and require institutionalized trust. Consequently, the incentive to adopt DMI—and the urgency to rebuild credibility after a crisis—is significantly higher for countries that depend on private bond markets rather than official debt alone.

Research design: To test our hypothesis, we construct a panel dataset of 91 countries from 1980 to 2018. The start date of our analysis is determined by the availability of IMF program participation data. The sample includes only nominally democratic countries, for which the DMI data is available. We deploy several dependent variables. Our key dependent variable is the additive index of DMI which combines eleven indicators covering all three areas of DMI: transparency, autonomy, and professionalization.

Our key independent variables are twofold. First, we measure whether a country is under an IMF program, based on the IMF Monitor Dataset (Kentikelenis and Stubbs, 2023). Building on our theoretical framework, we posit that IMF programs catalyze DMI reform through structural policy conditions. While an IMF presence often signals severe economic distress, we control for underlying macroeconomic variables to ensure our IMF indicator specifically

captures the effect of institutional reform pressures. Second, we account for debt composition by calculating the share of debt owed to private creditors—including foreign-currency bondholders and commercial banks (World Bank, 2021). Ultimately, we expect the likelihood of DMI reform to peak when a country is concurrently under an IMF program and reliant on private capital. In this scenario, the political costs of reform are at their lowest, while the functional need for market credibility is at its highest. We lag the independent variables to allow for a delay in the adoption of *de jure* reform.

Due to the broad nature of the IMF indicator, it is difficult to isolate the exact mechanism driving DMI reform. To untangle these dynamics, we introduce a binary indicator for private creditor default in our robustness tests. This allows us to differentiate between reform driven by explicit IMF conditionality and reform used as a strategic tool to restore market credibility. If DMI adoption correlates more strongly with a history of default than with IMF participation, it suggests that the need for market credibility—rather than external mandate—is the primary driver, even though defaults often precede IMF intervention. We draw an indicator of debt default to private creditors from the CRAG database (Beers and Mavalwalla, 2018).

We control for the most obvious confounders of DMI reform. First, we include (logged) population and (logged) GDP per capita, capturing economies of scale and state capacity, as well as macroeconomic variables capturing the depth of the economic crisis: (logged) inflation growth, foreign reserves in months of imports, all from the World Development Indicators (World Bank, 2022); we also include a binary indicator of financial crisis (Laeven and Valencia, 2020). The three crisis-specific indicators help us untangle the role of IMF interventions from the underlying economic conditions.

Our remaining sets of controls seek to explicitly capture alternative explanations for DMI. Comparative political economy suggests domestic institutions drive reform; incumbents may

institutionalize debt rules to constrain future rivals, which can be tested using dummies for upcoming elections and especially close-race elections (Hyde and Marniov, 2012). Furthermore, incumbents may use DMOs as a "neutral referee" to manage fragmented coalitions. This can be tested using the Herfindahl-Hirschman index of government fragmentation based on the seat-weighted share of parties in government (Dahlberg *et al*., 2021). Finally, international diffusion posits that reforms spread via policy scripts, as emphasized by constructivists (Simmons *et al*., 2006). Diffusion processes are measurable by analyzing the average DMI levels within a world region from the previous year.

We estimate two-way fixed-effects linear regressions with standard errors clustered on countries. Our choice of estimator thus accounts for time-invariant heterogeneity across countries as well as common (temporal) shocks that may affect DMI reform. Where control variables are included, they are employed with a one-year lag to mirror the temporal structure of our key predictors. We present variable definitions and descriptive statistics for all the variables in Appendix 3 (Table A3-1).

Main results: Table 1 probes the relationship between IMF program participation, private debt exposure, and DMI reform under different sets of control variables. Across all model specifications, we find a statistically significant positive relationship of the interaction term between IMF program and private debt with DMI reform. In other words, governments are most likely to institute debt management reforms when they participate in an IMF program and their debt is owed to private creditors. The estimated effect is economically significant: while IMF program participation under the sample average of private debt exposure does not significantly increase DMI, it significantly increases it when at least four-fifths of all debt is owed to private creditors. The difference of 0.72 index points is statistically significant (95%-CI: 0.01-1.43). We present a marginal-effects graph in Appendix 3 (Figure A3-1). Importantly,

the results seem to suggest that DMI reform is due to genuine IMF pressure, as the IMF coefficient is stable when controlling for the underlying economic conditions. There is also some evidence of global policy diffusion, while domestic politics do not seem to matter.

Table 9: Determinants of DMI

	(1)		(2)		(3)	
DMI index						
Private debt	-0.940	(0.675)	-0.651	(0.607)	-0.327	(0.740)
IMF program	-0.261	(0.161)	-0.294	(0.189)	-0.251	(0.196)
(Interaction)	0.847**	(0.416)	0.860*	(0.498)	0.960*	(0.509)
Population			2.079	(1.688)	-0.320	(1.576)
GDP per capita			0.614	(0.943)	0.523	(0.817)
Inflation growth			-0.001	(0.012)	0.010	(0.012)
Reserves			-0.048	(0.043)	-0.043*	(0.022)
Financial crisis			0.078	(0.100)	0.022	(0.079)
Diffusion					0.819***	(0.273)
Government fragmentation					-0.096	(0.219)
Election					0.023	(0.074)
Close election					-0.106	(0.109)
Observations	988		876		474	
Countries	47		43		35	
Within-R2	0.016		0.051		0.148	

Notes: Two-way fixed-effects linear regression with country-clustered standard errors in parentheses. Significance levels: * p<.1 ** p<.05 *** p<.01

To probe the mechanism further, we replace the IMF dummy with a dummy for debt default to private creditors. Table 10 shows that debt default to private creditors—administered with a three-year time lag—increases the likelihood of DMI reform when most of the debt is owed to private creditors. In Appendix 3, we employ a joint model to examine the conditional effects of IMF participation and prior debt default. Because the interactions for both variables (with the private-debt share) remain statistically significant, we conclude that DMI reform is driven by two distinct but complementary forces: the market-led necessity to restore credibility following a default and the institutional pressure exerted through IMF conditionality (Table A3-2).We also show that it is private debt—rather than official debt vis-à-vis China and the Paris Club countries—that increases the likelihood of DMI reform after default (Table A3-3).

This corroborates the well-known argument that official debt is driven by political considerations, not necessarily debt management institutions.

Table 10: Determinants of DMI – probing default

	(1)		(2)		(3)	
DMI index						
Private debt	-1.043	(0.758)	-0.880	(0.730)	-0.023	(0.910)
Private debt default	-0.395	(0.262)	-0.334	(0.274)	-0.239	(0.255)
(Interaction)	1.228**	(0.586)	1.226*	(0.611)	0.340	(0.765)
Population			1.713	(1.709)	-0.530	(1.614)
GDP per capita			0.660	(0.971)	0.428	(0.846)
Inflation growth			-0.002	(0.012)	0.008	(0.011)
Reserves			-0.050	(0.042)	-0.030	(0.023)
Financial crisis			0.078	(0.096)	0.044	(0.073)
Diffusion					0.785***	(0.271)
Government fragmentation					-0.082	(0.224)
Election					0.027	(0.079)
Close election					-0.125	(0.113)
Observations	973		869		467	
Countries	47		43		34	
Within-R2	0.019		0.055		0.135	

Notes: Two-way fixed-effects linear regression with country-clustered standard errors in parentheses. Because default naturally precedes participation in an IMF program, we lag the default indicator by three years. Coefficients are less precisely estimated with smaller lags. Significance levels: * p<.1 ** p<.05 *** p<.01

In the remainder, we disaggregate the DMI index to understand how governments prioritize different elements of DMI. To that end, we replace our aggregate index with the three sub-indices on transparency, autonomy, and professionalization (Table 11). We obtain significant results for IMF program participation under private debt for debt management professionalization. For the other dimensions, the respective coefficients are positive but not statistically significant. The results suggest that IMF reform pressure focuses on promoting DMO reforms and insulating debt management from day-to-day political pressure. As we further show in Appendix 3, debt default to private creditors appears to trigger a somewhat different dynamic: debt default by countries that owe most of their debt to private creditors is significantly related to increases in debt management autonomy, but not other aspects of DMI (Table A3-4). Future research should unpack these dynamics further.

Table 11: Determinants of sub-components of DMI

	Transparency (1)		*Autonomy* (2)		*Professionalization* (3)	
Private debt	-0.448	(0.377)	-0.251	(0.278)	0.048	(0.290)
IMF program	-0.131	(0.122)	-0.039	(0.073)	-0.124*	(0.068)
(Interaction)	0.169	(0.290)	0.170	(0.173)	0.521**	(0.244)
Population	1.016	(0.875)	0.327	(0.714)	0.735	(0.678)
GDP per capita	0.279	(0.622)	0.236	(0.261)	0.099	(0.415)
Inflation growth	-0.000	(0.006)	0.007	(0.007)	-0.008	(0.006)
Reserves	-0.021	(0.023)	0.006	(0.011)	-0.033*	(0.019)
Financial crisis	0.034	(0.058)	0.111*	(0.055)	-0.067	(0.062)
Observations	876		876		876	
Countries	43		43		43	
Within-R2	0.046		0.018		0.070	

Notes: Two-way fixed-effects linear regression with country-clustered standard errors in parentheses. Significance levels: * p<.1 ** p<.05 *** p<.01

Conclusions

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.

Our database is the first comprehensive study of the laws governing sovereign debt management over a large and diversified group of countries and almost 7 decades. We thus plug an empirical gap in the literature on the politics of sovereign debt and related IO policies, which has so far studied (*de facto*) outcome in markets. We show that our data adds value of existing measures also in terms of its coverage.

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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	22	1997-2018
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	10	2009-2018
Kyrgyzstan	8	2011-2018
Latvia	27	1992-2018
Lesotho	17	2002-2018
Lithuania	27	1992-2018
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	1978-1999 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	53	1950-1953 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.

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
Guatemala	1	1996
Kosovo	1	2008
Latvia	1	1991
Lithuania	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

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.

Appendix 2 – Supplementary figures

Figure A2-1: Constitution mentions debt management (Q1)

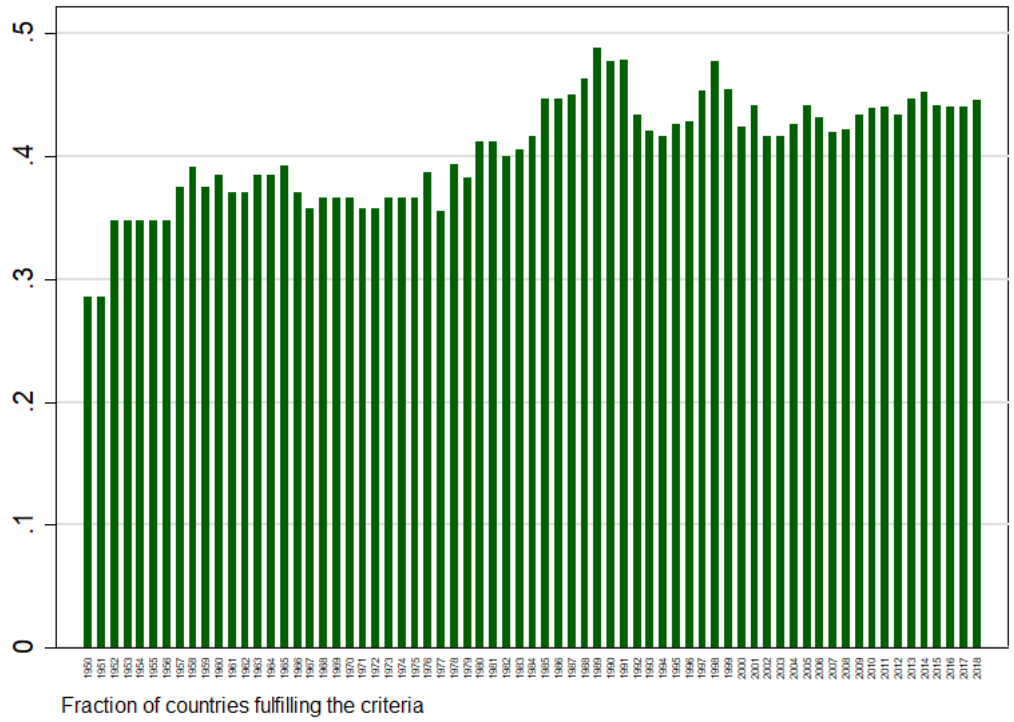


Figure A2-2: Debt management law (Q2)

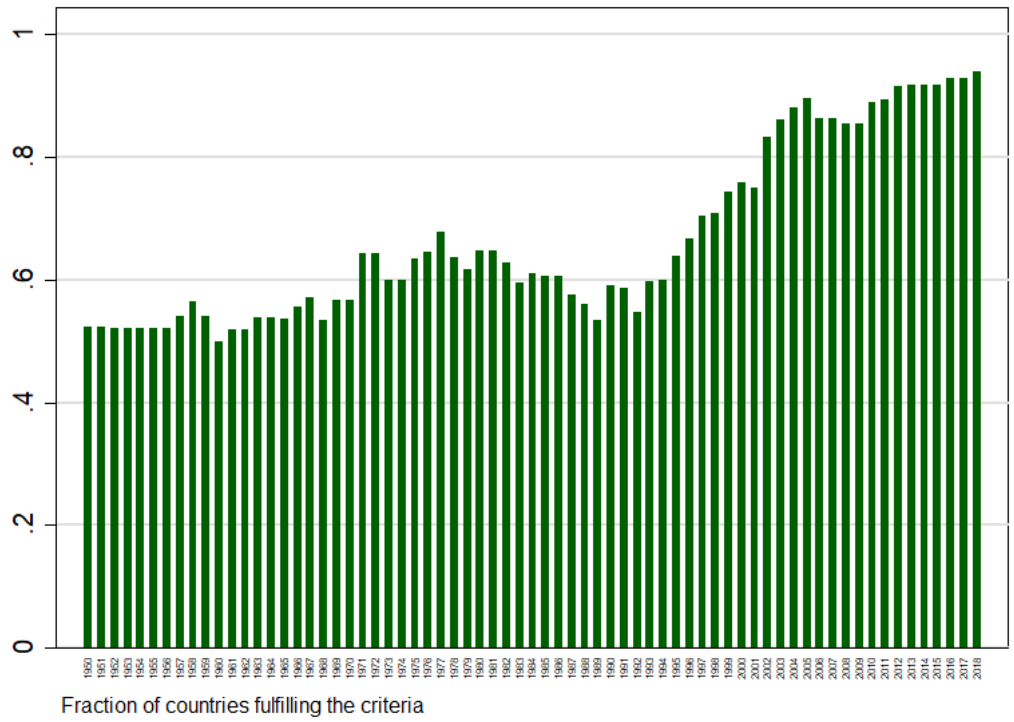


Figure A2-3: Debt management law - reporting (Q3)

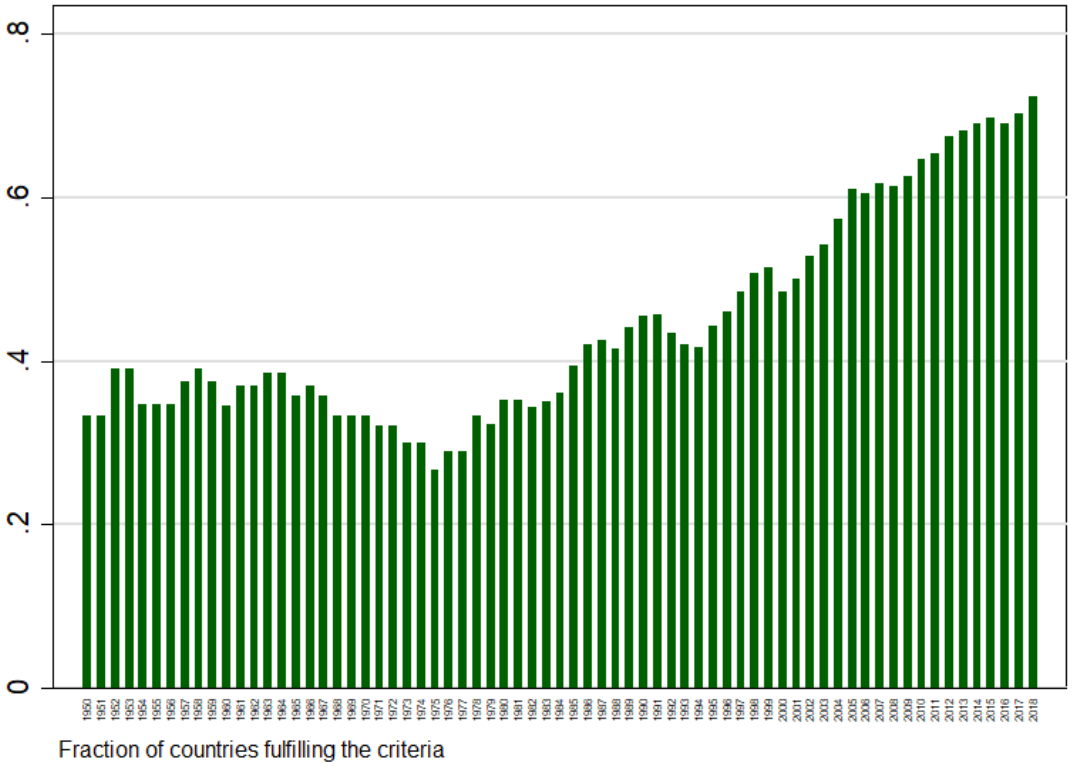


Figure A2-4: Debt management law – reporting to the legislature (Q4)

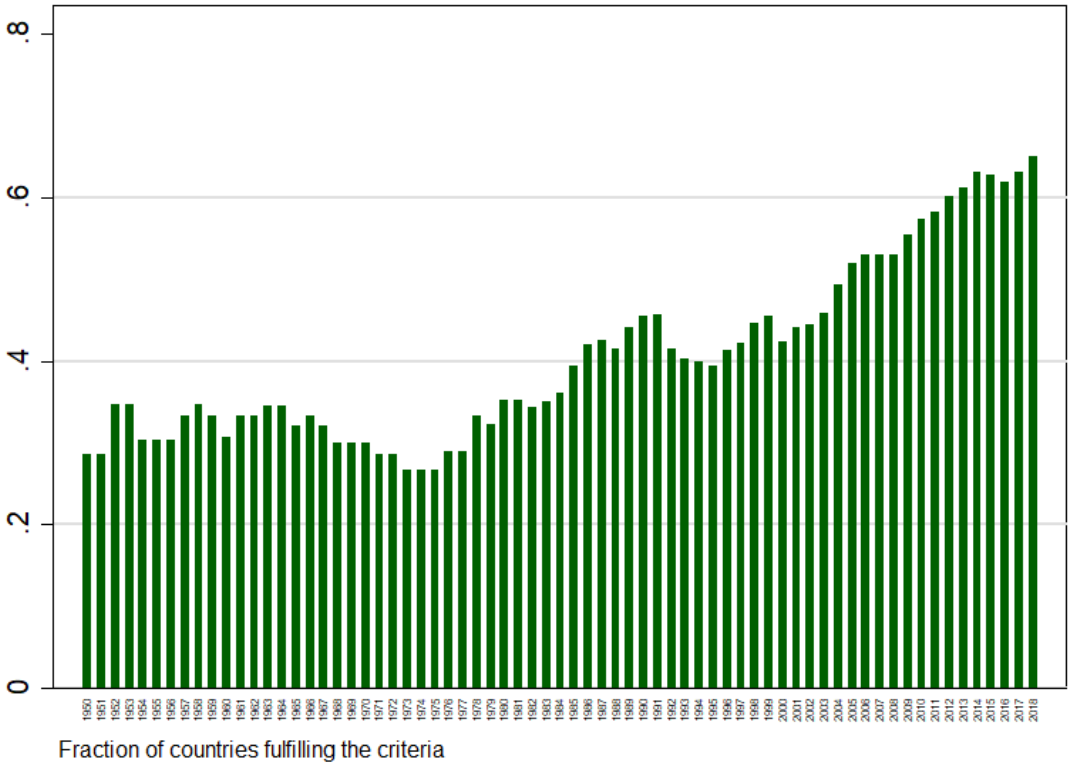


Figure A2-5: Debt management law – reporting to other bodies (Q5)

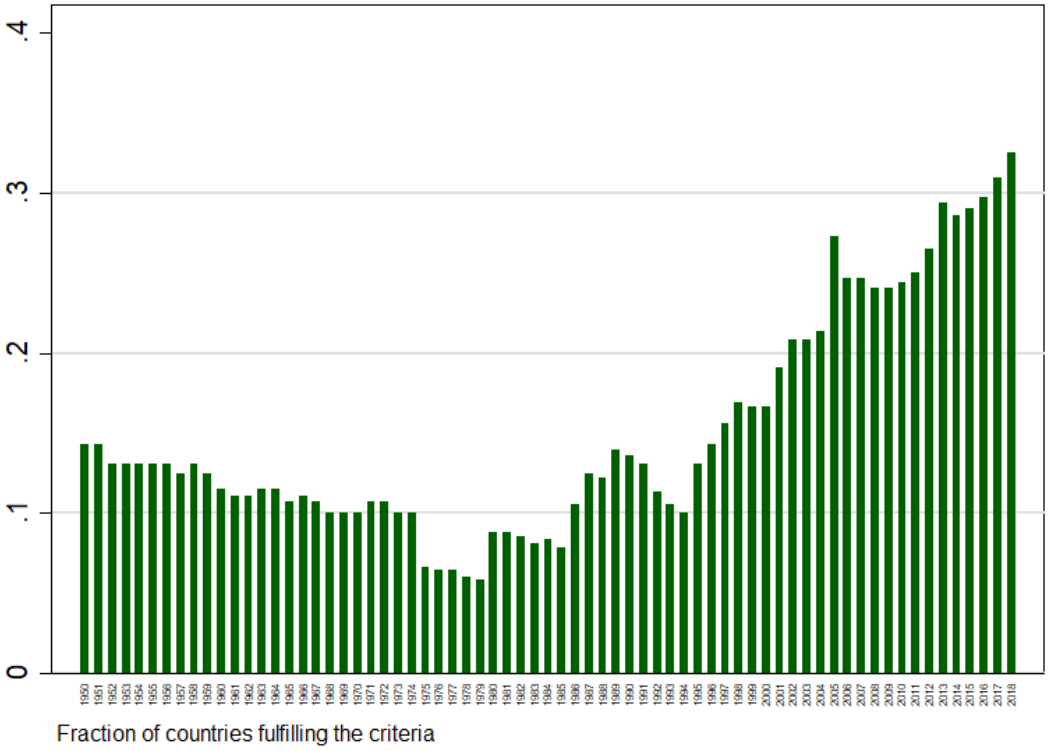


Figure A2-6: DMO autonomy – no autonomy dictator (Q6)

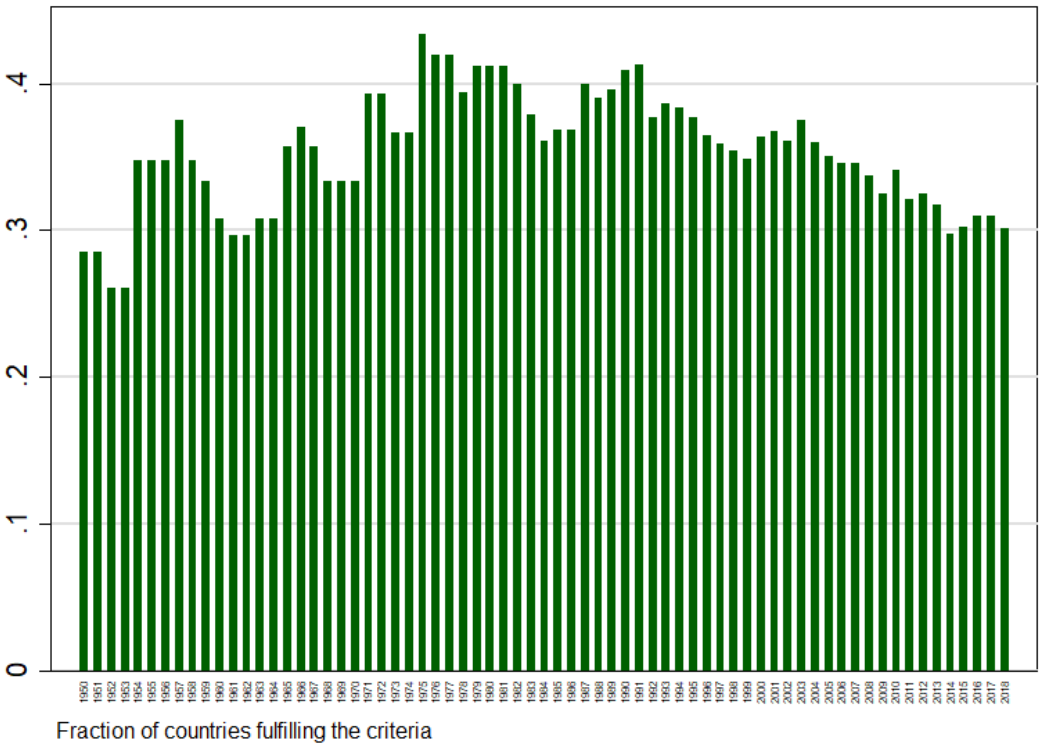


Figure A2-7: DMO autonomy – no autonomy veto player (Q7)

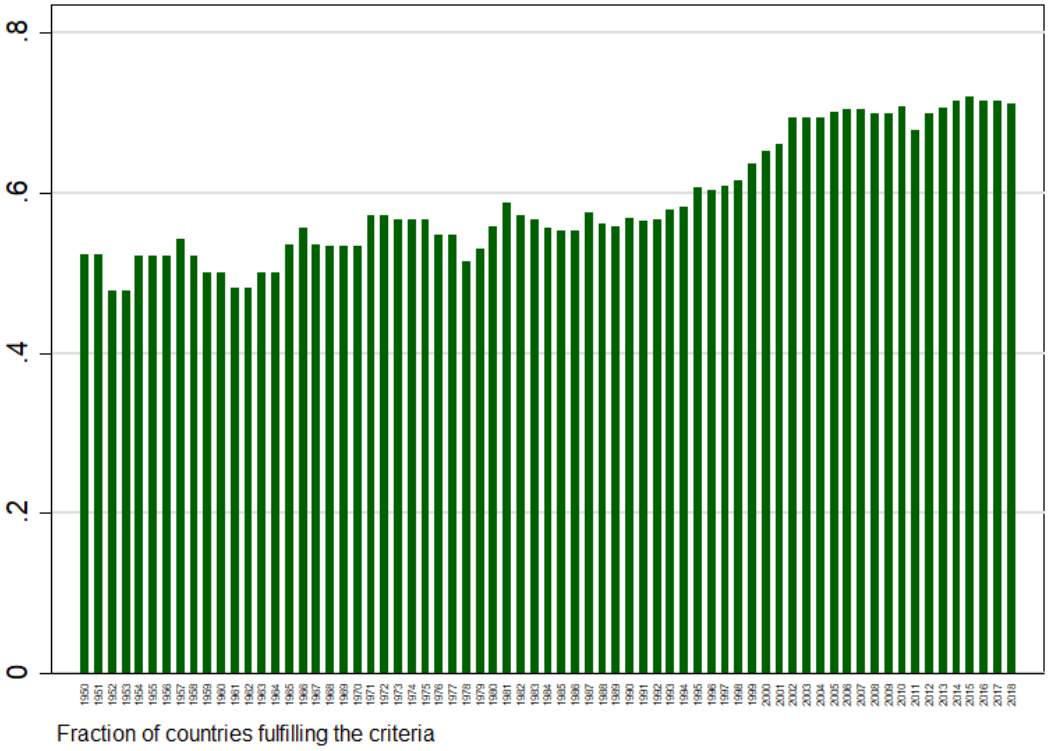


Figure A2-8: DMO autonomy – full autonomy (Q8)

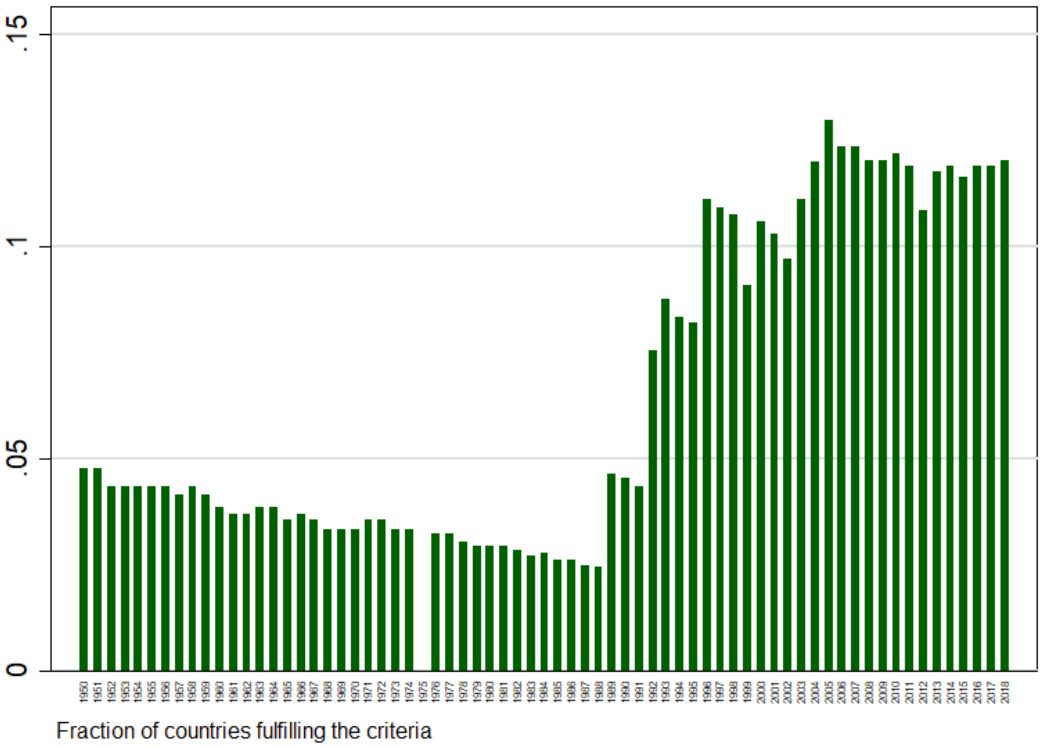


Figure A2-9: Professional minister (Q9)

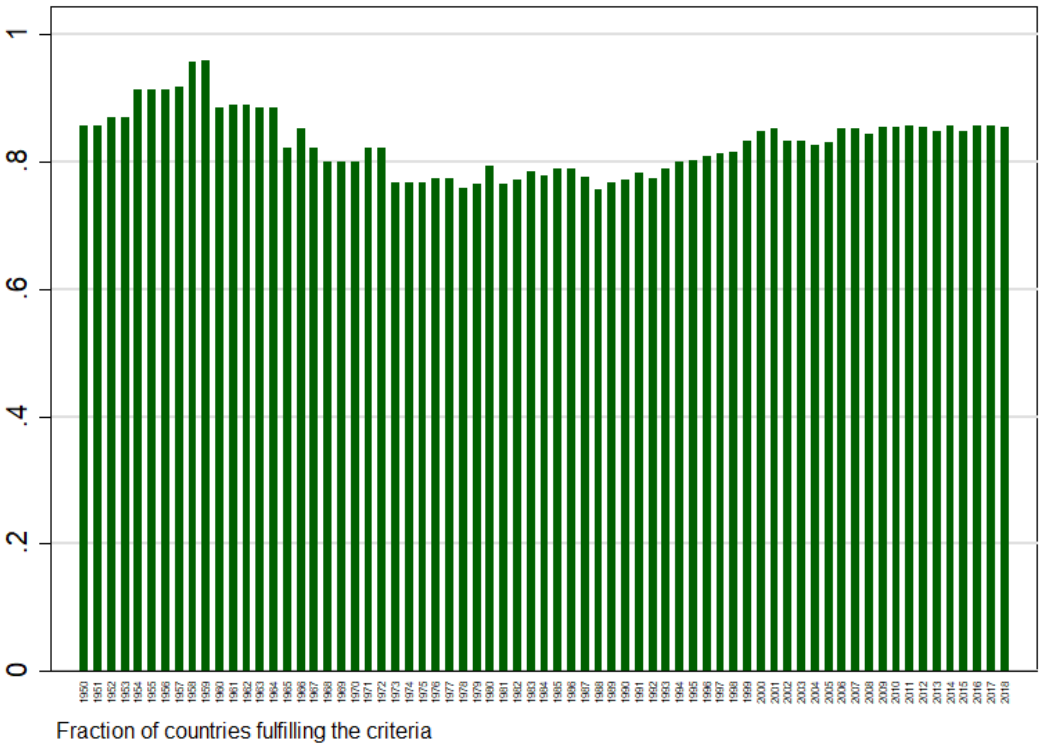


Figure A2-10: Agency law (Q10)

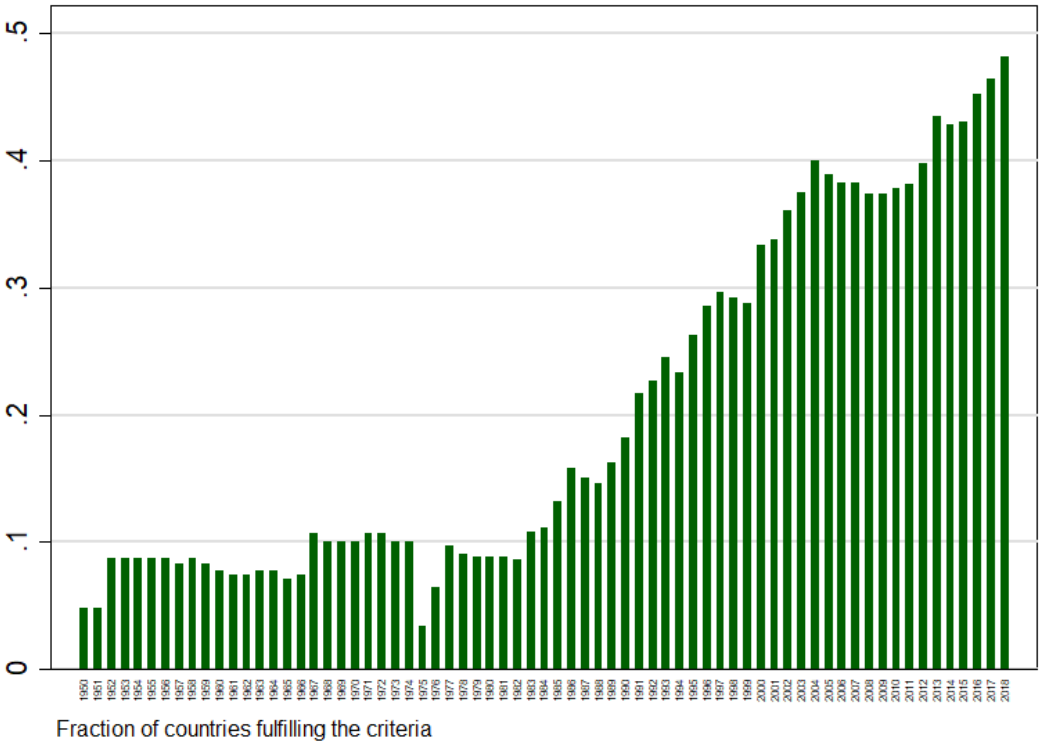


Figure A2-11: DMO incorporated (Q11)

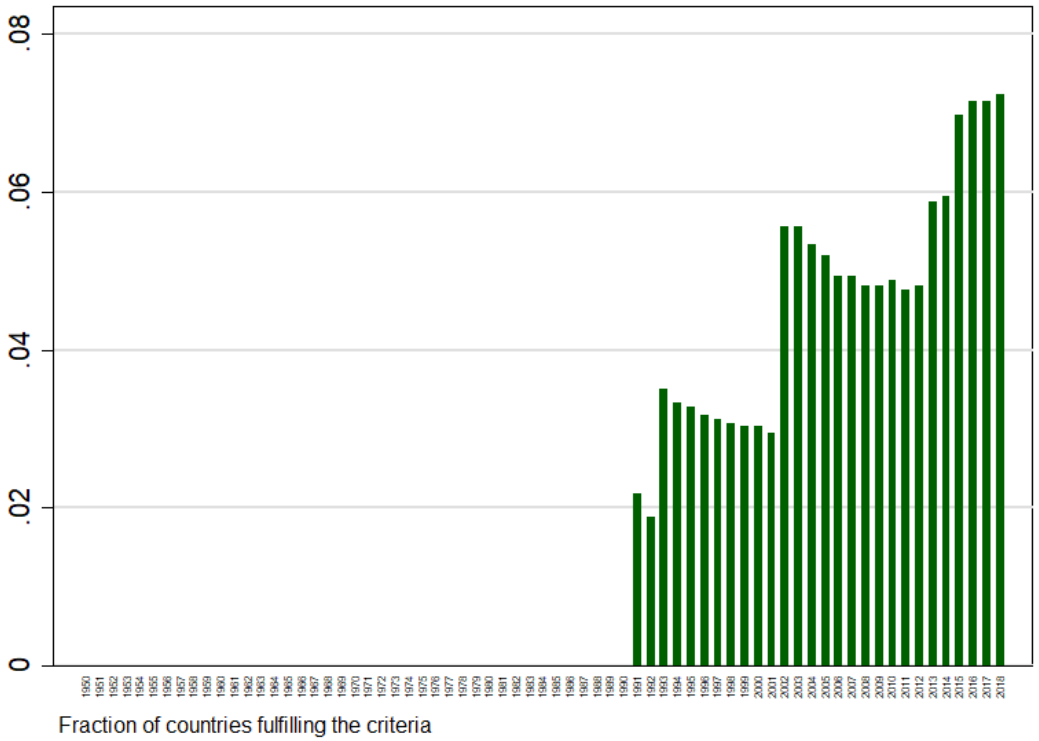


Figure A2-12: DMO goal (Q12)

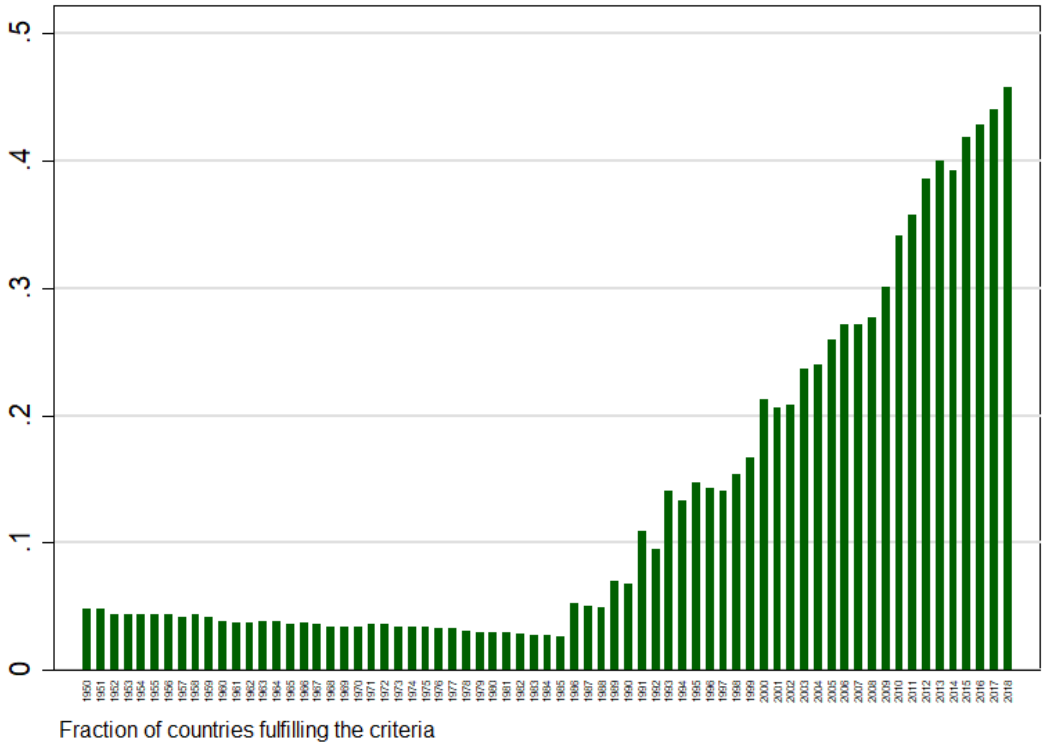
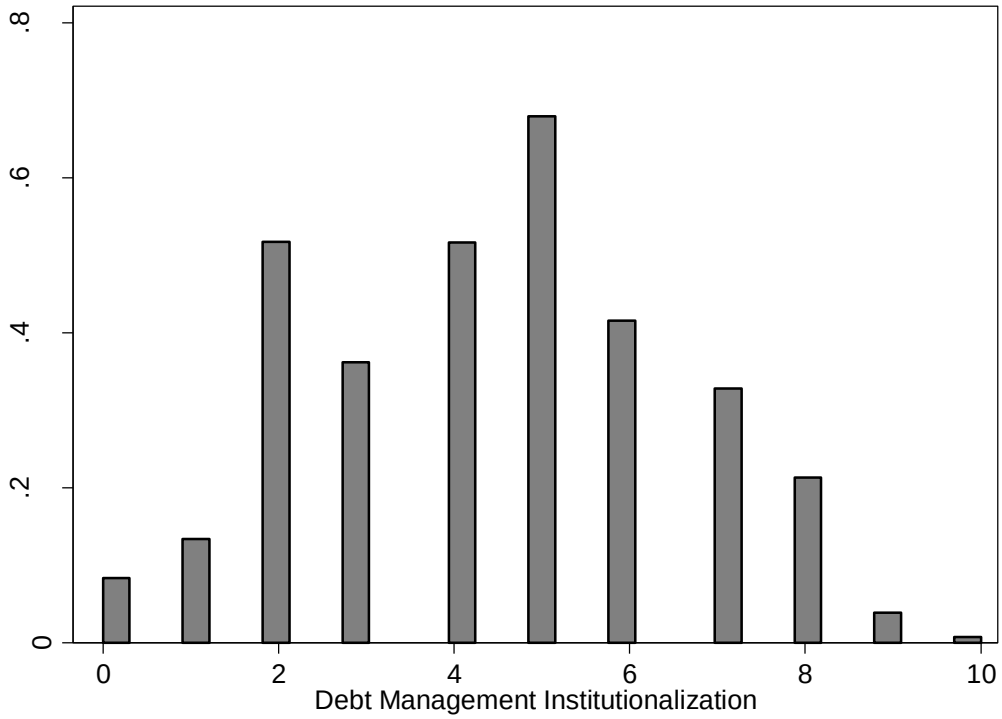
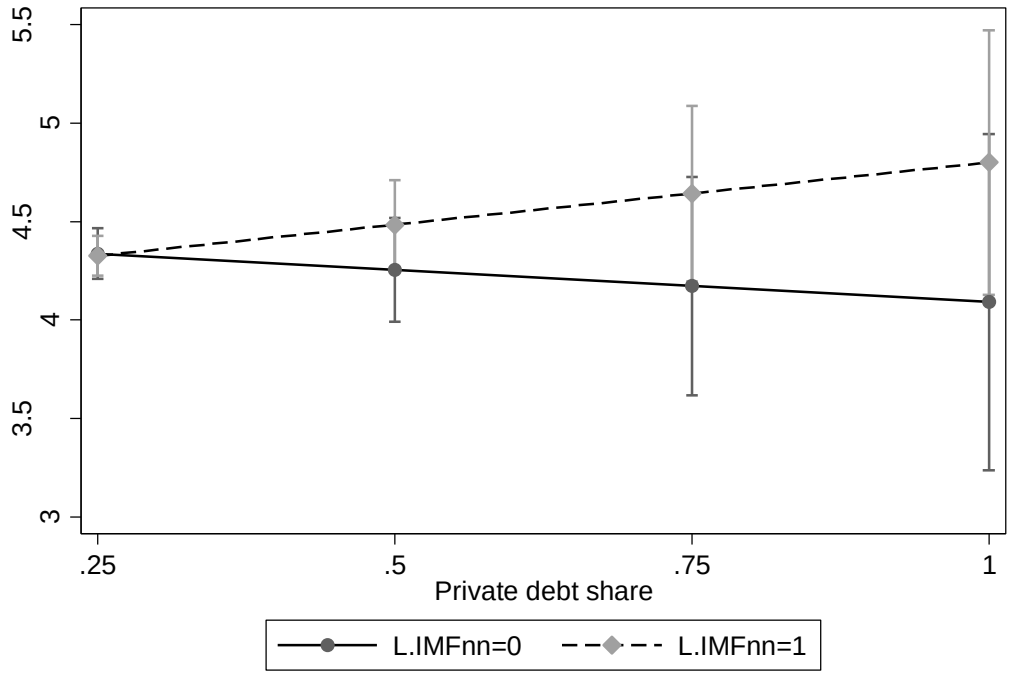


Figure A2-13: Histogram of Debt Management Institutionalization (DMI) index



Appendix 3 – Supplementary regression analysis

Figure A3-1: Predictive margins for main model



Notes: Estimates based on Model 3 in Table 9, with 90%-CI.

Table A3-1: Variable definitions and descriptive statistics

Variable	Definition	Obs	Mean	Sd	Min	Max
DMI index	Debt Management Institutionalization index, calculated as the sum of eleven indicators	2441	4.443	2.084	0	10
Transparency	Sub-index on debt management transparency	2441	1.922	1.136	0	4
Autonomy	Sub-index on debt management autonomy	2441	1.1	0.945	0	3
Professionalization	Sub-index on debt management professionalization	2441	1.422	0.942	0	4
IMF program	Binary indicator for IMF program participation drawn from IMF Monitor (Kentikelenis and Stubbs 2023)	2441	0.266	0.442	0	1
Private debt	Share of private debt as in total debt, drawn from the International Debt Statistics (World Bank 2022)	997	0.326	0.276	0	1
Private debt default	Binary indicator for any amount of debt from foreign currency-denominated bonds, bank loans, or 'other' private creditors classified as in default (Beers and Mavalwalla 2018)	2441	0.693	0.461	0	1
Bilateral debt default	Binary indicator for any amount of debt owed to China or the Paris Club classified as in default (Beers and Mavalwalla 2018)	2441	0.638	0.481	0	1
Population	(Logged) population size from the World Development Indicators (World Bank 2021)	2441	16.05	1.736	12.338	21.025
GDP per capita	(Logged) GDP per capita from the World Development Indicators	2414	9.228	1.308	5.926	11.626
Inflation growth	Growth of inflation, hyperbolically transformed to mitigate outliers, drawn from the World Development Indicators	2343	-0.176	1.77	-10.041	9.949
Reserves	Reserves in months of imports from World Development Indicators	2260	4.191	3.365	0.01	26.729
Financial crisis	Binary indicator for financial crisis (Laeven and Valencia 2020)	2441	0.043	0.203	0	1
Diffusion	Regional average of DMI index (based on our data and World Bank classification of world regions)	2441	4.443	0.879	1	5.833
Government fragmentation	Herfindahl-Hirschman index of government fragmentation computed as one minus the sum of shares controlled by the parties in government, drawn from QoG dataset (Dahlberg et al. 2021)	2111	0.73	0.275	0.112	1
Election	One-year lead of a binary indicator of any election, drawn from NELDA dataset (Hyde and Marinov 2012)	1629	0.181	0.385	0	1
Close election	One-year lead of a binary indicator for a close election from NELDA	1630	0.149	0.356	0	1

Table A3-2: Joint model of DMI determinants

	(1)		(2)		(3)	
DMI index						
Private debt	-1.355*	(0.769)	-1.180	(0.731)	-0.698	(0.924)
IMF program	-0.212	(0.148)	-0.241	(0.180)	-0.269	(0.190)
(Interaction with debt)	0.677*	(0.398)	0.717	(0.502)	1.005*	(0.516)
Private debt default	-0.357	(0.262)	-0.283	(0.272)	-0.272	(0.231)
(Interaction with debt)	1.130*	(0.587)	1.097*	(0.623)	0.417	(0.668)
Population			1.720	(1.723)	-0.426	(1.573)
GDP per capita			0.705	(0.985)	0.440	(0.806)
Inflation growth			-0.004	(0.012)	0.010	(0.011)
Reserves			-0.047	(0.040)	-0.032	(0.025)
Financial crisis			0.068	(0.096)	0.022	(0.079)
Diffusion					0.791***	(0.265)
Government fragmentation					-0.110	(0.222)
Election					0.029	(0.072)
Close election					-0.122	(0.110)
Observations	973		869		467	
Countries	47		43		34	
Within-R2	0.026		0.063		0.154	

Notes: Two-way fixed-effects linear regression with country-clustered standard errors in parentheses. IMF program dummy is lagged one year. Because default naturally precedes participation in an IMF program, we lag the default indicator by three years. Coefficients are less precisely estimated with smaller lags. Significance levels: * p<.1 ** p<.05 *** p<.01

Table A3-3: Model of DMI determinants with different types of defaults

	(1)		(2)		(3)	
DMI index						
Private debt	-1.110	(0.752)	-0.906	(0.738)	0.138	(0.924)
Private debt default	-0.383	(0.262)	-0.334	(0.280)	-0.247	(0.253)
(Interaction with private debt)	1.162*	(0.589)	1.225*	(0.607)	0.423	(0.768)
Bilateral debt default	-0.146	(0.171)	-0.097	(0.222)	0.158	(0.135)
(Interaction with private debt)	0.336	(0.660)	0.027	(0.957)	-0.667	(0.571)
Population			1.732	(1.720)	-0.409	(1.642)
GDP per capita			0.666	(0.958)	0.442	(0.846)
Inflation growth			-0.002	(0.012)	0.007	(0.011)
Reserves			-0.050	(0.041)	-0.035	(0.022)
Financial crisis			0.081	(0.097)	0.055	(0.075)
Diffusion					0.791***	(0.270)
Government fragmentation					-0.082	(0.229)
Election					0.037	(0.079)
Close election					-0.134	(0.116)
Observations	973		869		467	
Countries	47		43		34	
Within-R2	0.020		0.056		0.140	

Notes: Two-way fixed-effects linear regression with country-clustered standard errors in parentheses. Because default naturally precedes participation in an IMF program, we lag the default indicator by three years. Coefficients are less precisely estimated with smaller lags. Significance levels: * p<.1 ** p<.05 *** p<.01

Table A3-4**: Sub-indices of DMI in a model with debt default**

	Transparency (1)		*Autonomy* (2)		*Professionalization* (3)	
Private debt	-0.588	(0.375)	-0.444*	(0.255)	0.152	(0.480)
Private debt default	-0.202	(0.170)	-0.117	(0.099)	-0.015	(0.134)
(Interaction)	0.464	(0.387)	0.461*	(0.272)	0.301	(0.349)
Population	0.847	(0.919)	0.180	(0.727)	0.685	(0.681)
GDP per capita	0.342	(0.633)	0.226	(0.246)	0.091	(0.430)
Inflation growth	-0.001	(0.005)	0.006	(0.007)	-0.008	(0.007)
Reserves	-0.019	(0.022)	0.006	(0.011)	-0.036*	(0.019)
Financial crisis	0.022	(0.062)	0.108*	(0.055)	-0.052	(0.046)
Observations	869		869		869	
Countries	43		43		43	
Within-R2	0.048		0.027		0.057	

Notes: Two-way fixed-effects linear regression with country-clustered standard errors in parentheses. Because default naturally precedes participation in an IMF program, we lag the default indicator by three years. Coefficients are less precisely estimated with smaller lags. Significance levels: * p<.1 ** p<.05 *** p<.01