FISCAL DISCIPLINE AND PRIVATE FINANCE MOBILIZATION: CAN MDBS HELP?

Soumya Bhadury, Selim Elbadri*

Abstract

The current annual development financing gap of USD4.2 trillion underscores the importance of orchestrated efforts between governments, multilateral development banks (MDBs) and the private sector to raise the capital needed to achieve the United Nations Sustainable Development Goals. In this paper, we estimate the elasticity of private capital mobilization (PCM) with respect to official development assistance (ODA) between 2012 and 2021 in low- and middle-income countries. The baseline regressions reveal that a 1% increase in bilateral and multilateral ODA increases bilateral and multilateral PCM by 0.8-0.9% and 0.5-0.6%, respectively, with evidence pointing to cross-country heterogeneity in elasticities. Motivated by the recent uptick in debt across the developing world, induced by the coronavirus disease (COVID-19) pandemic, we study the explanatory power that debt may have over the PCM elasticities. We find that the elasticity of PCM with respect to ODA falls in both magnitude and statistical significance in high-debt countries vis-a-vis low- and medium-debt countries, particularly in the bilateral regressions. In contrast, the elasticity in the multilateral regressions maintains both economic and statistical significance in high-debt countries. The results highlight the importance of (i) fiscal discipline for development finance and (ii) the catalytic role that MDBs can have in narrowing the development finance gap.

Keywords: Private capital mobilization, Official development assistance; Debt

JEL Classification: C54, H12, H63

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1. Introduction

The United Nations (UN) 2024 Financing for Sustainable Development Report estimates an annual development financing gap of USD4.2 trillion. The sheer size of this gap highlights the need for orchestrated efforts between governments, multilateral development banks (MDBs) and the private sector to raise the required capital to achieve the UN Sustainable Development Goals. According to the Organisation for Economic Co-operation and Development (OECD), official development assistance (ODA) encompasses the total bilateral and multilateral commitments made by Development Assistance Committee countries (and MDBs) to recipient countries. Linked to ODA is private capital mobilization (PCM), which refers to private finance made available for development that is causally connected to these official interventions.[1]

OECD methodology establishes a causal linkage between official intervention and private flow by instrument.[2] From 2012 to 2020, nearly USD300 billion in private capital was mobilized through official development finance interventions, primarily through direct investments in companies, special purpose vehicles and guarantees. However, these modest levels of mobilized private finance underscore the challenges in leveraging official support to engage private capital in development finance. Providers and private stakeholders attribute this to several challenges they face when investing in developing countries, including (i) perceived high risks; (ii) low returns on investment portfolios; (iii) a lack of project pipelines and bankable, sizable investment opportunities in relatively thin markets; and (iv) insufficient financial innovation within institutions' portfolios.

The challenges in mobilizing private finance are not only reflected in the limited quantum of mobilized capital but also in its skewed distribution across income groups. During the period of 2018 to 2020, middle-income countries (MICs) benefited from 87% of the available country-allocated mobilized private finance. On average, MICs received USD35.2 billion per year, with USD18.2 billion (45%) allocated to upper MICs and USD17.1 billion (42%) to lower MICs. Overall, mobilized private finance primarily targeted developing countries with lower-risk profiles, particularly MICs. In contrast, only 12% of the mobilized private finance during this period benefited projects in low-income countries (LICs). Results from our baseline model specification indicate considerable heterogeneity among countries in terms of bilateral PCM generated for every dollar of bilateral and multilateral ODA. In terms of sector distribution, mobilized private finance was mainly focused on economic infrastructure and services, accounting for 82% of total mobilization, while 7% was directed toward social infrastructure and services.

What drives the heterogeneity in PCM elasticity across different income groups? Our analysis shows that mobilizing private capital is especially difficult in countries facing existing debt stress or showing signs of potential debt trouble. This challenge has become even more pronounced in the wake of the coronavirus disease (COVID-19) pandemic, which has

[1] The causal effect from ODA to PCM is by construction. The OECD method proceeds by instrument, and for each instrument, a causal link is established. This assumption allows us to use the term "elasticity" as reported in the data.

[2] OECD tracks PCM by instruments, including guarantees, syndicated loans, shares in collective investment vehicles, direct investment in companies, credit lines, co-financing arrangements and project finance schemes. We provide a summary of private finance mobilization data (by instruments) for bilateral/MDB interventions in the Appendix (A: Mobilization by Instruments).

highlighted the adverse influence of debt on private capital flows (Kose et al. 2021). High levels of debt can severely hinder a country's capacity to attract private investment. A robust debt management strategy helps to reduce borrowing costs and financial risks. This, in turn, positively influences investors' perceptions of country risk and promotes overall flow in private capital (Missale 1999, Montiel 2005, Das et al. 2010, Melecky 2012). Ultimately, successful PCM hinges on sound macroeconomic policies and strong institutional quality (Agénor 2003, Alfaro et al. 2007, Mercado and Park 2011).

Previous studies have extensively explored non-linear relationships between debt and economic growth, with the Maastricht Treaty establishing a benchmark debt-to-gross domestic product (GDP) threshold of 60%. In this context, Cecchetti et al. (2011) find a higher threshold of 85%, suggesting that debt levels beyond this point can negatively impact growth. Furthermore, Eberhardt and Presbitero (2015) highlight that different countries have distinct debt thresholds, underscoring the variability in how debt influences growth across diverse economic contexts. Our research takes a different approach by focusing on the non-linear effects of debt on PCM elasticities, specifically bilateral PCM generated from every dollar of bilateral ODA — examining how these elasticities evolve beyond certain debt thresholds. Our findings indicate that PCM elasticity declines noticeably in high-debt countries with an average debt-to-GDP ratio exceeding 80%, highlighting a critical point at which higher debt levels can significantly hinder PCM.

MDBs can significantly ease concerns about debt sustainability, particularly by leveraging private capital in countries with high debt levels. When we look at multilateral PCM elasticity—essentially how much private capital is mobilized from each dollar of MDB assistance—we notice that it doesn’t hit the same threshold limits seen with bilateral ODA when a country's debt-to-GDP ratio rises. Several potential reasons explain this difference. In a high-debt environment, where the need for flexible financing options is critical, multilateral channels are often seen as more adaptable to local conditions. A recent OECD survey suggests that aid recipients overwhelmingly prefer multilateral channels due to their perceived flexibility, responsiveness and alignment with country systems (Andreopoulos et al. 2011, Murphy 2008, Murphy 2007, Davies and Pickering 2015). Unlike bilateral donors, who may impose stringent conditions tied to their political interests (Verdier 2008), multilateral institutions are often more focused on responding to the specific needs of the country, which is especially important in debt-laden contexts where efficient resource mobilization is necessary.

Overall, multilateral channels are seen as less politicized, demand-driven and more effective in delivering global public goods (Gulrajani 2016). These advantages arise from MDBs' ability to pool resources from diverse financial sources and offer technical support. As a result, they are often more efficient than bilateral donors, benefiting from lower overhead costs, economies of scale and better coordination (Lumsdaine 1993, Milner and Tingley 2013), which helps attract private capital, even in high-debt contexts. Finally, MDBs can improve market perceptions, making countries seem more credible and ready for investment, even when facing high debt. Their flexible financial instruments allow them to customize assistance based on the specific needs of each country. Altogether, these elements empower MDBs to effectively mobilize private capital where bilateral ODA might struggle.

The rest of the paper is structured as follows: after this introduction, related literature is discussed in Section II, data and empirical framework are discussed in Section III, results are discussed in Section IV and Section V concludes the paper.

2. Literature Review

In this section, we frame our work in terms of recent advances in related literature. Our work is related to three strands of broad literature: (i) the effects of aid on growth and development, (ii) the relationship between debt and growth and (iii) the benefits of interventions from MDBs.

The primary strand of literature that we address in this paper relates ODA with growth and development outcomes in developing economies. Early literature on this topic can be traced back to the late 1950s (Friedman 1958) and has, since then, generated plenty of debate among policymakers and academics alike in recent decades. The literature in this field is large and, as such, our goal is to draw out an overview of the major trends in this literature rather than offer a comprehensive and detailed literature review in this field.

The empirical aid-growth literature is subject to a great deal of debate among policymakers and academics. It may be tempting for one to conclude that, based on the meta-analyses produced by Doucouliagos and Paldam (2011), the effect of aid on growth is non-existent (non-positive and non-negative). Indeed, this is a result reinforced by some (e.g., Rajan and Subramanian 2008). Some studies go even further to argue that aid inflows are counterproductive to growth (Kourtellos et al. 2007, Malik 2008). Such a conclusion would nevertheless discount a large volume of empirical evidence in favor of the argument that aid positively influences growth (e.g., Arndt et al. 2015, Karras 2006, Hansen and Tarp 2000). This debate suggests that a consensus is yet to be formed, inviting further research on this question.

Within this literature is a subset of papers that explore different potential channels through which aid may positively influence development. Some mechanisms through which aid can benefit growth are physical investment (Gomanee et al. 2005, Hansen and Tarp 2001), human capital (Arndt et al. 2015), firm sales (Chauvet and Ehrhart 2018) and foreign direct investment (Asiedu et al. 2009). Contrary to these papers, however, our approach puts development finance at center stage: we focus primarily on exploring whether aid can stimulate private finance for development given the growing financing needs to achieve the Sustainable Development Goals.

Additionally, we follow a growing number of papers that have recognized the heterogeneous effects of aid on development. Key among these is the contribution by Burnside and Dollar (2000) who, in their influential study, find that aid (does not) positively affects growth in developing countries that (do not) have sound fiscal, monetary and trade policies. Their results are robust to different specifications. While one may worry about endogeneity in that good policies are themselves a potential influencing factor of where aid is allocated, they overcome these concerns through their use of instruments.

Findings from Burnside and Dollar (2000) paved the way for several important works studying the heterogeneous effects of aid on growth and development. Some recent work has found that aid positively affects growth outcomes in countries with higher levels of human capital (Kosack and Tobin 2006), poorer climatic environment (Guillaumont and Chauvet 2019) and less prevalent corruption (Djankov et al. 2009). Aid is also more effective when it is not associated with short-term political motivations (Dreher et al. 2018). Indeed, these findings suggest that the standard cross-country aid-growth regressions may not be capturing these heterogeneous effects if not properly controlling for these sources of heterogeneity.

We complement this set of findings by exploring another source of cross-country heterogeneity in the aid-growth relationship: debt. Our motivation, in part, reflects the resurfacing of renewed pressures on debt sustainability in developing countries resulting from the COVID-19 pandemic (Kose et al. 2021). Our work is, therefore, related to a second strand of literature– one that examines the effects of debt on growth. As with the aid-growth relationship, the debt-growth relationship is one that has attracted much debate. Nevertheless, recent evidence points to an emerging consensus that debt does indeed hamper growth after certain thresholds (Reinhart and Rogoff 2010, Checherita-Westphal and Rother 2012, Pescatori et al. 2014, Caner et al. 2010, Furceri and Zdzienicka 2012, Eberhardt and Presbitero 2015).[3]

Our work offers some insights into how debt can slow down the development process. Indeed, we show that after certain thresholds, the effect of bilateral aid flows in mobilizing private capital for development starts to disappear. This is in line with some other channels through which debt can hamper growth, such as by increasing long-run borrowing costs (Laubach 2009) and reducing international trade (Rose 2005).

A final strand of literature that we relate to is the literature on the (potential) role of MDBs in supporting PCM. The seminal paper in this literature dates to Rodrik (1995), who argues that MDBs have multiple advantages vis-à-vis bilateral lenders, which could explain the potential catalytic role that MDBs can have for private investment–MDBs' ability to monitor government policies and to impose conditionality. Rodrik then regresses net private capital flows on net transfers from MDBs to empirically test the hypothesis that MDBs play a catalytic role in ushering in private investments. Crucially, his empirical results suggest that this is not the case. More recent work on this topic shows that using granular loan-level data, the presence of MDBs can play a positive role for mobilizing private capital (Gurara et al. 2020, Broccolini et al. 2021). Relative to these papers, however, we focus exclusively on the extent to which aid from MDBs stimulates private finance for development as opposed to loans.

3. Data and Empirical Specification

3.1 Data Sources

To perform our analysis, we compile a panel dataset consisting of data on PCM, ODA and the debt share of GDP. We obtain data on PCM from the OECD (2024b), which offers a dataset containing private finance mobilized for development,[4] where mobilization is defined as a causal link between a specific official intervention and private finance made available for a project. Since the data begin in 2012 and end in 2022 (and that this is crucially the dependent variable of our analysis), we must restrict our attention to this time period. Despite this, the dataset is rich in multiple respects that will prove useful for our analysis. For starters, it contains PCM for all developing countries in the world regardless of size and income status. We are, therefore, able to focus on all low- and middle-income countries.[5] Crucially, we can also

[3] Our literature review is far from exhaustive. For a more comprehensive literature review on the topic of debt and growth, see Salmon and Rugy (2020).
[4] For the remainder of this paper, we use the terms private finance mobilized and private capital mobilized interchangeably.
[5] We drop all high-income countries in our sample given our interest in developing countries. This amounts to a total of 10 country-year observations that could have featured in the subsequent regressions.

distinguish between private finance that is mobilized by bilateral[6] and multilateral development cooperation providers. Finally, while we can also observe the sector and leveraging mechanisms, we leave this for future work.

Our second variable of interest is ODA disbursements. We obtain this data from the OECD International Development Statistics (OECD 2024a), which contains time-series ODA disbursements to all developing countries as well. We focus here on gross ODA flows. This database contains these flows from all donors–both multilateral and bilateral. Both ODA and PCM data are measured in current US dollars. Merging these two databases together yields a panel dataset of developing countries' country-year observations of PCM mobilized by interventions from multilateral and bilateral donors as well as gross ODA flows from both multilateral and bilateral donors–the key variables of interest for our baseline specification.

Our third variable of interest is the general government gross debt share of GDP, which we obtain from the April 2024 World Economic Outlook database of the International Monetary Fund (2024). We merge this data with the panel database constructed above, giving us all the variables needed for our empirical work. In subsequent empirical analysis stratifying countries into low- and middle-income countries, we proceed with the World Bank's income classification system where the latter will contain upper- and lower-middle-income countries. We remove any observations from countries that are classified as high-income.

3.2 Descriptive Statistics

Table 1 presents some descriptive statistics on the three main variables that inform the analysis in this paper. These simple statistics are calculated from the panel data that consist of country-year observations. Perhaps the most striking observation is the level of PCM raised by official interventions from bilateral donors is almost three times as large in MICs than in LICs. This is striking given that the level of ODA given to LICs is almost twice as large as that provided to MICs. This, in turn, hints at potential structural factors that serve as barriers to PCM in LICs. A second observation is that while the debt ratio is similar between both groups, we do, in fact, observe a greater variance in LICs than in MICs, suggesting that some of these structural barriers can be explained by greater debt ratios in LICs.

Table 1: Descriptive Statistics

[6] For bilateral PCM, we refer to interventions from the Development Assistance Community (DAC) as many non-DAC countries are not present in this database. All empirical analysis using bilateral data hereafter will refer to the sum of interventions from DAC countries only.

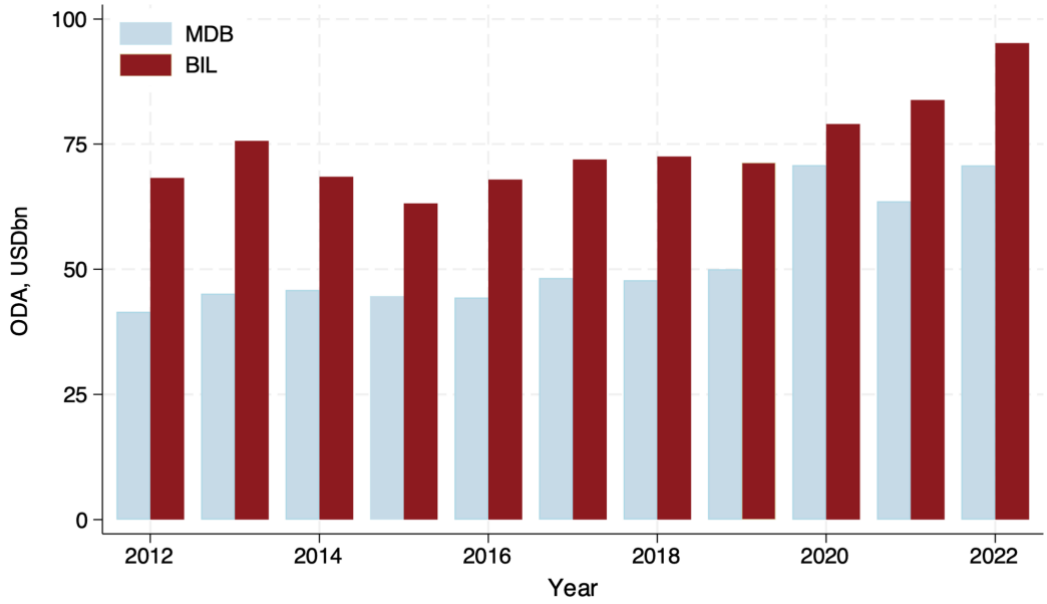
			LIC	MIC	All
PCM	BIL	*Mean*	32.9	89.9	75.7
		SD	122.1	183.4	171.9
	MDB	*Mean*	86.0	285.7	242.0
		SD	613.6	549.0	569.4
ODA	BIL	*Mean*	785.9	475.3	546.5
		SD	871.2	662.8	727.4
	MDB	*Mean*	593.4	317.8	381.0
		SD	511.1	509.4	522.6
Debt, % GDP		***Mean***	50.7	52.1	51.8
		SD	43.9	30.3	33.8
	Countries		35	101	136

BIL = bilateral, GDP = gross domestic product, LIC = low-income country, MDB = multilateral development bank, MIC = middle-income country, ODA = official development assistance, PCM = private capital mobilization, SD = standard deviation.

Note: All figures are in USD million unless otherwise specified.

Figure 1 plots the evolution of all ODA between 2012 and 2022 by multilateral versus bilateral donors. Several key trends stand out. First, total ODA disbursements from both sets of donors combined do not exceed USD170 billion in any year, underscoring the importance of the private sector as a source of development finance.

Figure 1: ODA by Donor



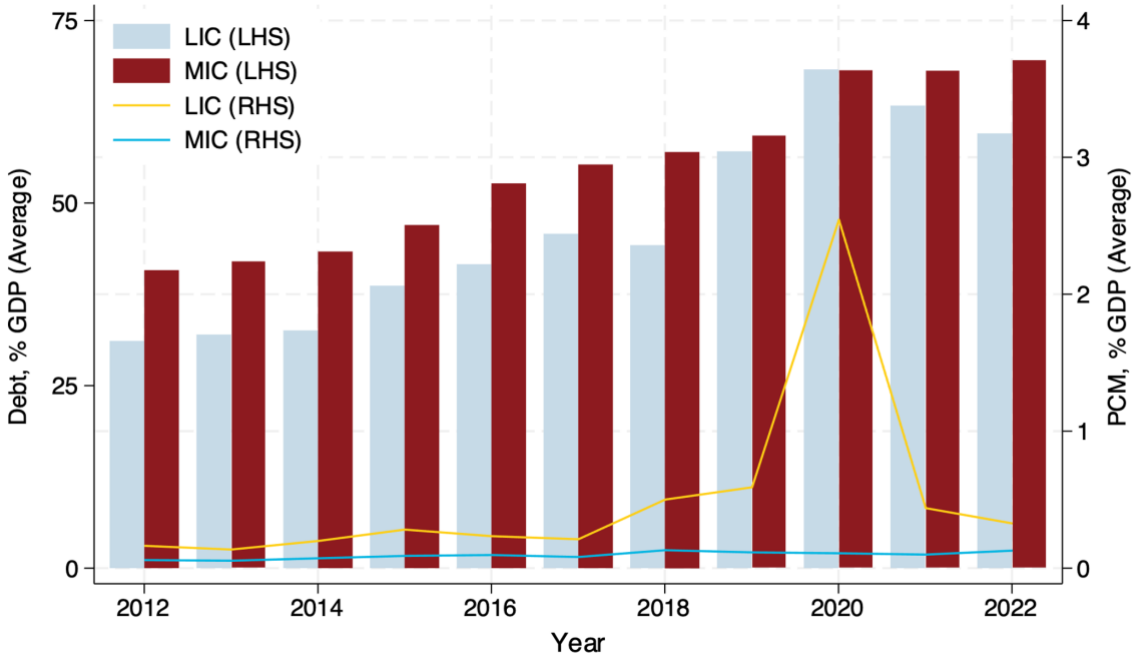
BIL = bilateral, MDB = multilateral development bank, ODA = official development assistance.

Another trend that stands out from Figure 1 is that the value of ODA disbursements from MDB providers appears to have converged to bilateral providers in the last few years, with the

former averaging a 10.2% increase in disbursements between 2020 and 2022. This is likely in response to greater financing needs resulting from the pandemic.

Figure 2 plots the average debt and PCM share of GDP by income group. The plot shows that LICs appear to be mobilizing more private capital for development *relative* to their income. Importantly however, the PCM share of GDP on average falls below 1% in both income groups, with little increase over time.[7] Figure 2 therefore highlights the importance of a better understanding of barriers to PCM.

Figure 2: Nominal GDP-Weighted Average Debt and PCM Share of GDP by Income Group



GDP = gross domestic product, LHS = left-hand side, LIC = low-income country, MDB = multilateral development bank, PCM = private capital mobilization, RHS = right-hand side.

Turning to the debt share of GDP, we can see that the debt share of GDP has been consistently rising–a trend that was accelerated by the COVID-19 pandemic in both LICs and MICs. We note that broadly speaking, this does not appear to induce a decline in the GDP share of private capital mobilized. While at face value, this may discredit our interest in debt, we note that these values are aggregations across different countries in both income groups, thereby potentially masking a large degree of heterogeneity.

[7] The spike in the LIC PCM share of GDP in 2020 results in Mozambique's PCM value, which came at almost 69% of GDP in that year, a jump from 2% in the previous year. Over 98% of this capital was mobilized in the industry, mining and construction sector.

3.3 Empirical Specification

Panel Data with Pooled Estimation

The model is specified below with the usual assumptions for the cross-sectional analysis

$$\ln(PCM_{it}) = \alpha + \beta \ln(ODA_{it}) + \varepsilon_{it};\ i = 1, \cdots, N, t = 1, \cdots, T \quad (1)$$

where ODA is official development assistance provided to recipient country *i* in year *t*, measured in current US dollars, and PCM is private capital mobilization that causally results from such an intervention. The panel consists of annual observations from 2012 to 2022 across a sizeable pool of developing countries, including low-income, upper-middle-income, and lower-middle-income countries.

A pooled estimation is employed using ordinary least squares (OLS) with a sample of NT observations to measure the elasticity of PCM with respect to ODA. Specifically, the analysis examines the percentage change (β) in PCM resulting from a 1% increase in ODA. A standard OLS approach assumes no correlation between country $i's$ observations in different periods or between different units in the same period. However, an alternative specification is used to account for clustered standard errors that are robust to correlation between error terms of the same unit, as well as heteroskedasticity over time, i.e., $cov(\varepsilon_{it}, \varepsilon_{is}) = \varphi_{ts}$; $var(\varepsilon_{it}) = \varphi_{tt}$.

For robustness, elasticities are measured using an alternative specification. Equation (2) incorporates the lagged value of ODA, as private resources mobilized through ODA may take time to translate into performance due to the implementation period required for capacity building.

$$ln(PCM_{it}) = \alpha + \beta ln(ODA_{it-1}) + \varepsilon_{it} \quad (2)$$

Fixed-Effect Model

In our earlier specifications, we assumed that there are no drivers of cross-country heterogeneity. The key question is whether the country-specific effects are correlated with the regressors. If they are, a fixed-effect model is more suitable. For example, debt vulnerabilities in LICs may be linked to institutional characteristics such as weak fiscal frameworks, poorly developed financial systems or low efficiency of public expenditures and investment management.[8] One significant consequence of high indebtedness is its detrimental impact on low-income economies' ability to mobilize private financing, which has largely dried up in recent years.[9]

The fixed-effects model allows individual-specific effects to be correlated with regressors, which are included as intercepts (α_i) along with a year fixed effect (δ_t). Under the fixed-effect specification, each country has a different intercept term but shares the same slope parameters (β). The fixed-effect counterpart for specification (1) is represented below:

$$\ln(PCM_{it}) = \alpha_i + \beta \ln(ODA_{it}) + \delta_t + \varepsilon_{it};\ i = 1, \cdots, N, t = 1, \cdots, T \quad (5)$$

[8] LIC government debt rose by nine percentage points of GDP on average— the largest annual increase in more than two decades—to 72% of GDP. Nearly half of LICs—twice the number in 2015—are either in debt stress or at high risk of it. Not one of them is at low risk. Partly because of elevated interest payments on debt, government spending has shifted away from crucial longer-term priorities, such as health and education.
[9] ODA as a share of GDP fell to a 21-year low of 7% in 2022, the latest year for which data are available.

The individual-specific effects represent the variation in the dependent variable that cannot be explained by the regressors, while (β) represents a common effect across countries controlling for country and time heterogeneity. We run a fixed-effects estimation across two specifications (equation [1] to equation [2]) and compare the (β) elasticities between pooled estimation and fixed-effects estimation. Any potential divergence in (β) elasticities between pooled and fixed-effects estimation, in terms of loss of economic and statistical significance, points to drivers of cross-country heterogeneity, specifically debt vulnerability.

In the next section, we assess how indebtedness—proxied by the debt-to-GDP ratio—can impede the ability of ODA to mobilize private finance using pooled OLS specification. Our research aims to provide evidence on (i) the existence of non-linearities in *(β)* elasticities at higher levels of debt-to-GDP ratio and (ii) the sources of assistance: bilateral ODA versus multilateral ODA. For (i), we stratify the country sample based on the average debt-to-GDP ratio over the estimation period (2012-2022) and use debt-to-GDP cutoff values starting at 40% and increasing by 5%, along with the associated reported elasticity. Next, we compare this exercise (i) across the bilateral PCM and the multilateral PCM, mobilized through their corresponding bilateral and multilateral ODA counterparts. The empirical strategy aims to measure the presence (or absence) of debt threshold effects on mobilization elasticity, and to determine if such threshold effects are contingent upon the sources of assistance – bilateral versus multilateral (MDB) assistance.

4. Results

4.1 Cross-Country Heterogeneity in Elasticities

Table 2 presents the first set of results of this paper. Columns (1) and (2) regress the log of bilateral PCM on our variable of interest (which is the log of bilateral ODA). In Column (1), the variable of interest is a contemporaneous log of bilateral ODA, while in Column (2), the variable of interest is the one-year lagged log of bilateral ODA. Since we follow a log-log specification, we interpret the beta coefficient as the elasticity of bilateral PCM with respect to bilateral ODA. Striking across both specifications from (1)-(2) is that the computed elasticities are statistically significant at the 1% level. The results imply that a 1% increase in bilateral ODA is generally met with an increase in bilateral PCM by between 0.8-0.9% depending on the specification.

Table 2: Dependent Variable – Log Bilateral PCM

	(1)	(2)	(3)	(4)
Log BIL ODA$_t$	0.888***		0.012	
	(0.077)		(0.229)	
Log BIL ODA$_{t-1}$		0.892***		0.137
		(0.082)		(0.210)
Country FE	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R-squared	0.166	0.164	0.036	0.031
N	1033	937	1033	937

BIL = bilateral, FE = fixed effect, ODA = official development assistance, PCM = private capital mobilization.

Note: Heteroskedasticity-robust standard errors in parenthesis; *** 10% level significance, ** 5% level significance, * 1% level significance.

We find, however, that these results are not robust once we control for time-invariant cross-country characteristics. Indeed, columns (3)-(4) add country fixed effects to columns (1)-(2). We find that across the board, both economic and statistical significance disappear. The fall in the magnitude of the mobilization effects of ODA once we control for these time-invariant cross-country characteristics is suggestive that much of the variation in elasticities initially picked up in columns (1)-(2) is generated by cross-country differences in elasticities, as opposed to within-country changes over time; that is to say, on average, some countries have high elasticities and others have comparably lower elasticities, with no major changes in elasticity within countries and over time. We therefore interpret that these results are evidence for cross-country heterogeneity in PCM elasticities with respect to ODA.

Table 3: Dependent Variable – Log Multilateral PCM

	(1)	(2)	(3)	(4)
Log MDB ODA$_t$	0.528***		0.050	
	(0.063)		(0.172)	
Log MDB ODA$_{t-1}$		0.564***		-0.162
		(0.067)		(0.210)
Country FE	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R-squared	0.095	0.100	0.045	0.046
N	929	871	929	871

FE = fixed effect, MDB = multilateral development bank, ODA = official development assistance, PCM = private capital mobilization.

Note: Heteroskedasticity-robust standard errors in parenthesis; *** 10% level significance, ** 5% level significance, * 1% level significance.

We run the same set of regressions using data on PCM mobilized by MDB interventions and MDB ODA disbursements. The interpretation above appears to be equally relevant here. Columns (1)-(2) do not include country-fixed effects, and again we see that the computed elasticities are both statistically significant at the 1% level and economically significant with elasticities ranging from 0.5% to 0.6%. Crucially, however, once we add country-fixed effects (columns [3]-[4]), we find that statistical significance disappears, and the magnitude of economic significance falls compared to the case without country-fixed effects. These results are indeed indicative that much of the variation is driven by differences in elasticities across countries rather than within countries and across time.

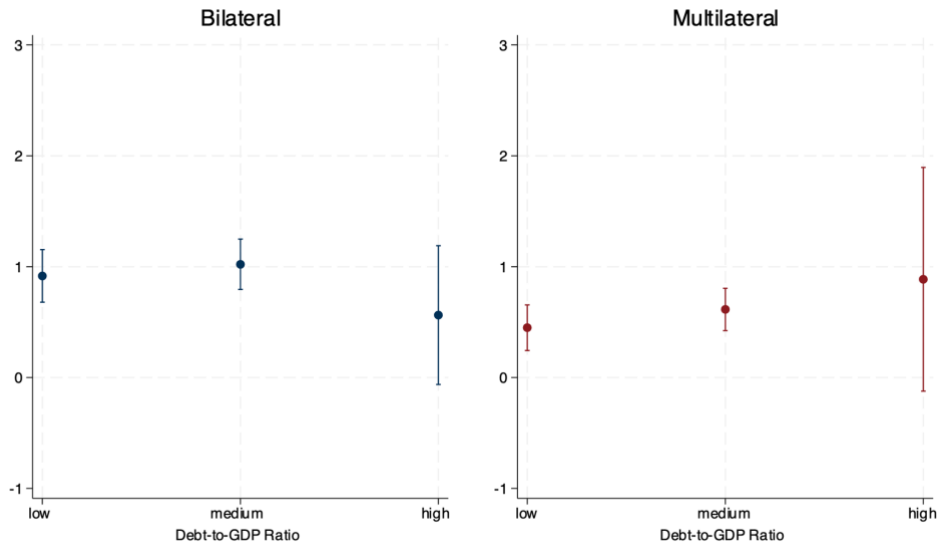
4.2 Drivers of Cross-Country Heterogeneity: Debt

Motivated by both the recent build-up in debt resulting from the pandemic (Kose et al. 2021) and the large literature on the negative effects of debt on growth and development, we examine the potential effects of indebtedness on the elasticity of PCM with respect to ODA in

both the bilateral and multilateral case. The main exercise in this section involves computing the average debt-to-GDP ratio for all countries in our sample and then stratifying the countries into high-, medium- and low-debt countries based on this average. We define high-debt countries as those with an average debt ratio exceeding 90%, medium-debt countries between 45-90% and low-debt countries below 45%. A country can, therefore, have its debt ratio varying from medium to high debt from year to year, but its sample average ratio will place it firmly in only one of the two categories. We proceed by computing the elasticity of PCM with respect to ODA for these different groups.

Figure 3 presents the main results. The y-axis is the elasticity measure (as per Section III.C), while the x-axis is the country group based on the debt ratio. The left-hand side (LHS) presents the computations in the bilateral case, while the right-hand side (RHS) presents the computations in the multilateral case. Focusing on the LHS first, we see that when the debt share is below 90%, PCM responds positively to ODA with an elasticity of between 0.8% and 1.0%. This result is statistically significant. It is not until we consider countries with a debt ratio above 90% that we observe debt negatively affecting the elasticity: the elasticity for high-debt countries falls to roughly 0.6% and loses statistical significance. The results suggest that as we zoom into countries that are more indebted in the cross-country indebtedness distribution, we start to see the elasticity fall and statistical significance weaken. This, in turn, suggests that some of the cross-country heterogeneity in elasticity uncovered in Section IV.A can be attributed to different levels of indebtedness.

Figure 3: Elasticity of Indebted Countries



GDP = gross domestic product.

Note: Confidence intervals are computed using heteroskedasticity-robust standard errors in parenthesis.

Turning to the multilateral case, we find that these results do not hold. Indeed, the RHS shows that the elasticity does not exhibit a downward trend as we consider more-indebted countries. In fact, we find that the elasticity ticks up as we consider high-debt countries (0.9%) relative to low- (0.4%) and middle-debt countries (0.5%). While statistical significance appears to fall, we

attribute this to a falling sample size that reduces the precision of the estimates with no meaningful economic interpretation. This, in turn, indicates that the mobilization effects of ODA interventions from MDBs are not as sensitive to a country's indebtedness as the mobilization effects of ODA from bilateral partners. We perform a robustness check in the Appendix, where we instead consider continuous cutoffs for debt as opposed to simply splitting countries into high-, middle- and low-debt economies.[10] In general, MDB-backed projects are perceived as less risky due to risk-sharing mechanisms like loan guarantees and co-financing arrangements, which lower the risk for private investors. High-debt countries may also receive preferential treatment from MDBs, such as access to lower-interest loans and extended repayment terms. Additionally, MDB participation adds credibility to projects by signaling thorough project evaluation. These factors together make MDB-backed projects appear safer and more likely to be repaid, especially in high-debt economies.

4.3 Policy Implications and Discussion

The focus of our analysis thus far has been to understand the relationship between bilateral ODA and PCM across countries. The results show a statistically significant positive relationship, with a 1% increase in ODA corresponding to a 0.8-0.9% increase in PCM.[11] These findings suggest that ODA has a positive impact on PCM. However, when we control for country-specific time-invariant factors, both the economic and statistical significance of ODA on PCM disappears. The drop in the magnitude of the mobilization effects of ODA after controlling for these time-invariant cross-country characteristics is suggestive of the cross-country differences in elasticities as opposed to within-country changes over time. We then explore how a country's indebtedness may affect this relationship. Given the rising debt levels globally, especially during the pandemic, we classify countries into high-, medium-, and low-debt categories based on their debt-to-GDP ratio. Our analysis reveals that in more indebted countries, the elasticity of PCM with respect to ODA decreases, and statistical significance weakens. This implies that cross-country differences in the elasticity of PCM can be linked to the varying levels of indebtedness. Put differently, some of the cross-country heterogeneity in elasticity uncovered in Section IV.A can be attributed to different levels of indebtedness.

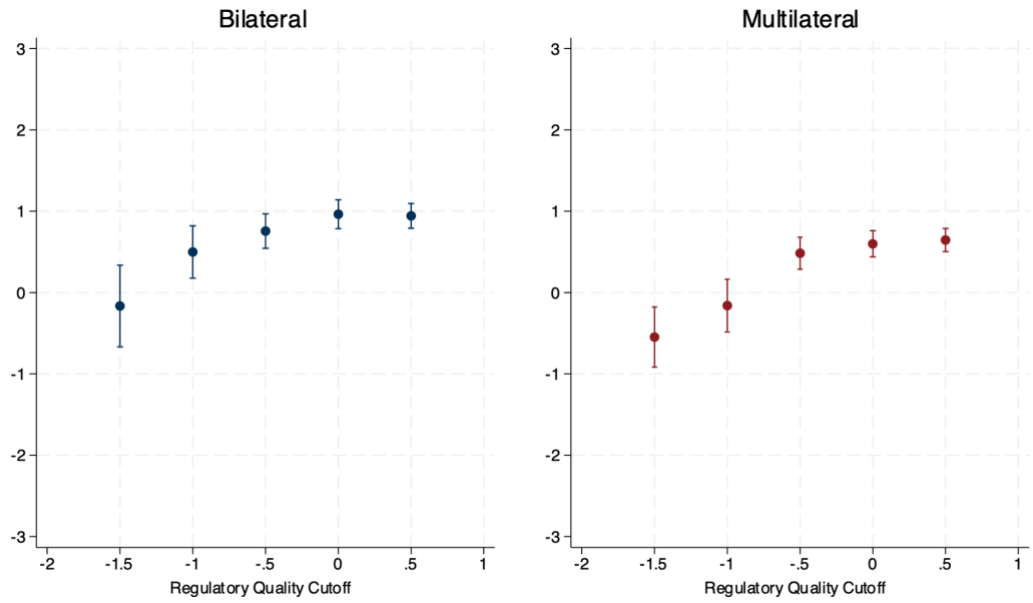
While debt-to-GDP ratios are central to understanding variation in countries' ability to mobilize private capital, institutional quality affects how effectively countries manage their debt and fiscal policies. Strong institutions foster better policies, which, in turn, enable governments to manage public finances effectively, avoid fiscal crises and ensure sustainable growth (Acemoglu, Johnson and Robinson 2005a; Acemoglu, Johnson and Robinson 2005b). The impact of ODA on PCM elasticity varies – depending on a country's debt-to-GDP ratio – and institutional quality could be a potential intermediary factor driving this heterogeneity. Following Cooray and Oznem (2024), our analysis uses regulatory quality obtained from the World Bank World Governance Indicators (Kaufmann and Kray 2024) as a measure of institutional strength and reveals that there is a significant negative correlation between government debt and regulatory quality.[12] More generally, strong regulatory frameworks enable governments to manage fiscal policies effectively, reducing competition with the private sector and help in

[10] The x-axis in the robustness checks in the Appendix (B: Robustness For Main Results) are the cutoffs for which we consider a country highly indebted. Put differently, a highly indebted country is considered a country with an average debt ratio above the x-axis value. The result show the same patterns holding as in the main analysis presented here.
[11] The coefficients are statistically significant at the 1% level.
[12] Refer to the Appendix (C: Regulatory Quality and Debt-to-GDP ratio).

keeping the interest rates low (Yared 2019). In other words, institutional quality influences the effectiveness of debt sustainability, potentially explaining the variations in mobilization elasticity outcomes observed across countries.

Figure 4 highlights that improvements in regulatory quality positively influence the elasticity of private capital mobilized by ODA. Through continuous cutoffs for regulatory quality, we observe that countries with improved regulatory quality experience greater success in mobilizing private investment through both bilateral and multilateral aid channels. This is somewhat consistent with the pattern seen in countries with lower debt-to-GDP ratios, where the effectiveness of bilateral ODA in generating private capital is significantly higher. Strong regulatory quality facilitates better debt management. This insight is important for designing more effective aid strategies tailored to the institutional and fiscal contexts of different countries.

Figure 4: Regulatory Quality and PCM Elasticity



PCM = private capital mobilization.

Note: Confidence intervals are computed using heteroskedasticity-robust standard errors in parenthesis.

The second key policy-relevant implication generated from our analysis is that MDBs can catalyze PCM for development in LICs. This view is reinforced by the finding that the decline in elasticity observed in the bilateral case as we narrow down our sample to more indebted countries is not mimicked in the multilateral case. On the contrary, we see that the elasticity remains mostly unchanged as we do so. Consequently, our findings make a case for the role of MDBs in supporting the development process in low- and middle-income countries.

While further analysis is required to pinpoint the exact advantages that MDB involvement may have, we suspect that this result may operate through a credibility signal that accompanies MDBs' engagement in lending activities to developing countries. The differences in the effectiveness of ODA in mobilizing private capital across high-, medium- and low-debt

countries can be explained by the nature of the aid channels. Multilateral institutions are often preferred by aid recipients because they are typically more attuned to the specific needs of the country, especially in debt-laden contexts where efficient resource mobilization is important (Andreopoulos et al. 2011). In contrast, bilateral channels tend to be more politicized, driven by the geopolitical and domestic political interests of donor countries, which may influence the focus and effectiveness of the aid they provide (Verdier 2008, Nunnenkamp and Thiele 2006). Additionally, multilateral channels are found to be more efficient than bilateral ones, benefiting from lower overhead costs, economies of scale and better coordination, which improves their ability to mobilize private capital effectively. This efficiency is critical in high-debt environments, where maximizing the impact of every dollar is essential to avoid further financial strain (Lumsdaine 1993, Milner and Tingley 2013).

Beyond the policy implications, the analysis presented offers some insights for the broader strands of literature discussed in Section II. For starters, the statistical significance of our initial baseline results with no country-fixed effects is indicative of a new channel through which ODA assists with the development process. Our baseline regressions show that the coefficient on log ODA is indeed statistically significant and that a 1% increase in ODA can increase private capital mobilized in the bilateral case by up to 0.9 percentage points.

We also see that this is especially the case in countries with relatively lower debt shares. We therefore add debt sustainability as another potential factor – like institutions (Burnside and Dollar 2000), human capital (Kosack and Tobin 2006) and corruption (Guillaumont and Chauvet 2019), among others – that can explain the heterogeneous effects of aid. By the same token, our results can be interpreted as another channel through which debt slows down the development process. After surpassing certain thresholds – generally 75% – debt can lower the returns to ODA. This complements other channels highlighted in the literature such as long-run borrowing costs (Laubach 2009) and international trade (Rose 2005) – or potentially complex interactions between two or more of these channels.

Finally, our results resonate with the findings of the broader literature on the mobilization effects of MDBs (e.g., Broccolini et al. 2021, Gurara et al. 2020). In addition to the mobilization effects on lending, we find that the elasticity in the multilateral case is less sensitive to debt, meaning that MDBs can indeed play a catalytic role in ushering in private investments to support growth and development. We invite further research to better understand the channels through which these advantages and benefits MDBs operate.

5. Conclusion

The purpose of this paper was to contribute to the understanding of how low- and middle-income countries can achieve greater PCM for development. In doing so, we computed the elasticity of PCM with respect to ODA. This exercise revealed large variations across countries: the elasticities declined noticeably, and statistical significance was either reduced or disappeared entirely as soon as country-fixed effects were added. Proceeding with debt as a potential explanation for these cross-country variations in elasticity, we found that, indeed, ODA received by highly indebted countries from bilateral partners tends to be less effective in mobilizing private capital than that received by less-indebted countries. However, this trend appeared to be less evident in the multilateral case where the elasticity was left unchanged after restricting the sample to highly indebted countries. The analysis seems to suggest that multilateral channels are better suited for PCM in high-debt environments due to their lower

political interference, greater alignment with recipient needs and higher operational efficiency. These advantages make multilateral institutions more reliable and effective in leveraging private finance for development.

These findings underscore both the importance of fiscal discipline for development finance and the catalytic role that MDBs can play in narrowing the development finance gap. We conclude by suggesting two avenues for further research. First, we encourage further investigations on other potential drivers of cross-country heterogeneity in elasticities (such as regulatory quality). Preliminary evidence from our analysis suggests that the impact of ODA on PCM elasticity varies – depending on a country's debt-to-GDP ratio. Institutional quality could be a potential intermediary factor driving this heterogeneity. Second, we encourage further explorations of the sectoral dimension of development finance. That is, we suspect that ODA may have uneven effects on mobilized capital across sectors and within countries (for instance, energy infrastructure versus health). Combined, these will come with actionable policy implications for governments in developing countries to help narrow the development finance gap.

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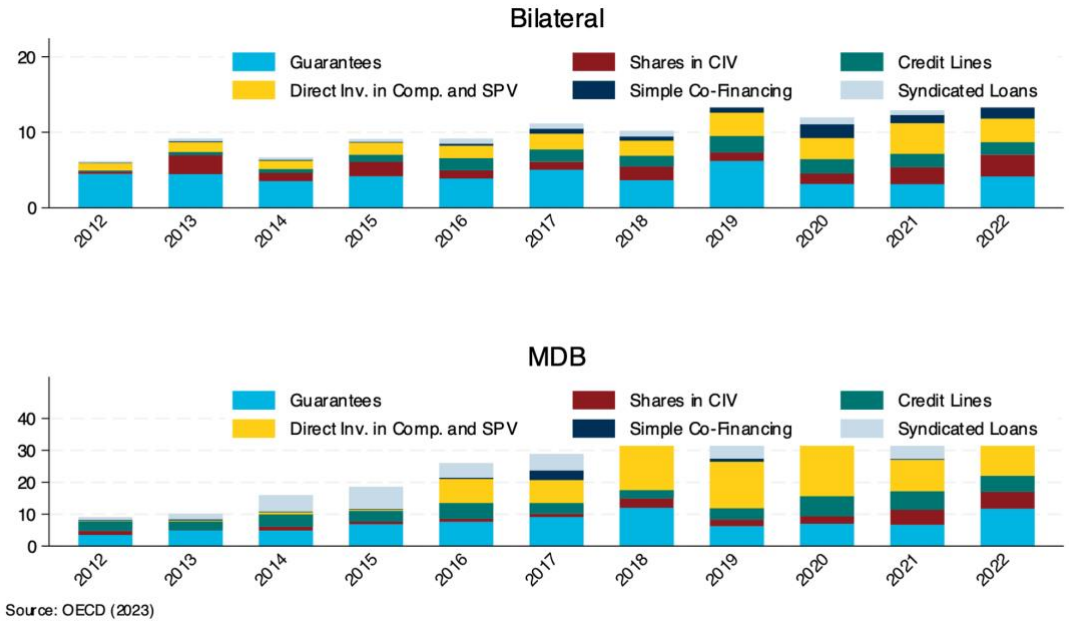
Appendix

A. Mobilization by Instruments

The OECD gathers data on mobilized private finance at the instrument level, including guarantees, syndicated loans, shares in collective investment vehicles, direct investment in companies, credit lines, co-financing arrangements and project finance schemes. For example, with guarantees, it is assumed that private investors would not have provided the financing without the official guarantee. Similarly, for syndicated loans, the assumption is that private investors would not have participated without official sector involvement as an arranger or participant. The figures below provide details on mobilized private finance by instruments for bilateral ODA and MDB over the last decade.

Figure 5: Mobilized Private Finance by Instruments for Bilateral ODA and MDB

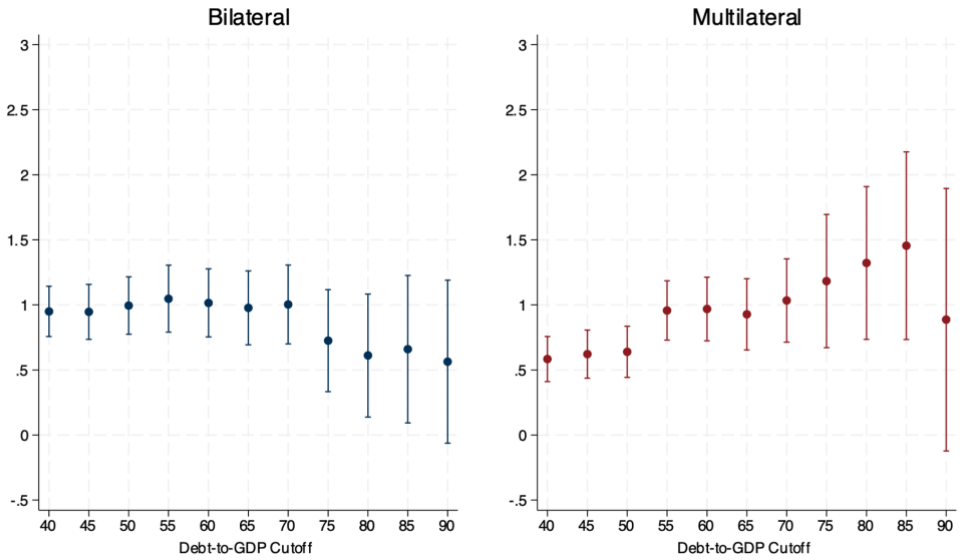


CIV = collective investment vehicle, MDB = multilateral development bank, ODA = official development assistance, SPV = special purpose vehicle.

B. Robustness For Main Results

The y-axis is the elasticity computation as per Section III.C for the bilateral (LHS) and multilateral (RHS) case. The x-axis is the debt-to-GDP cutoff. Countries with a sample average debt ratio higher than the cutoff are defined as indebted countries. Thus, moving along the x-axis naturally reduces the sample of countries in the analysis as less-indebted countries are dropped. The analysis shows that the results described in Section IV.B qualitatively hold: the bilateral elasticity falls dramatically in countries with a debt ratio exceeding 70%, whereas in the bilateral case, elasticity appears to be mostly rising as we consider more indebted countries.

Figure 6: Elasticity of Indebted Countries



GDP = gross domestic product.

Note: Confidence intervals are computed using heteroskedasticity-robust standard errors in parenthesis.

C. Regulatory Quality and Debt-to-GDP ratio

The table below reports the correlations between debt-to-GDP ratio and regulatory quality. The results show that debt-to-GDP ratio has a negative significant correlation with regulatory quality for low-income countries (LICs) and middle-income countries (MICs).

Table 4: Correlation between Regulatory Quality and Debt: LICs and MICs

	(1)	(2)
Debt, %GDP	-0.002**	-0.003***
	(0.001)	(0.000)
Country FE	No	Yes
Year FE	Yes	Yes
N	1439	1439

FE = fixed effect, GDP = gross domestic product, LIC = low-income country, MIC = middle-income country.

Note: Heteroskedasticity-robust standard errors in parenthesis; *** 10% level significance, ** 5% level significance, * 1% level significance.