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# The cyclicality of international public sector borrowing in developing countries: Does the lender matter?



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#### ABSTRACT

The paper shows that international government borrowing from multilateral development banks is countercyclical while international government borrowing from private sector lenders is procyclical. The countercyclicality of multilateral development bank (MDB) lending is mostly driven by the behavior of the World Bank (borrowing from regional development banks tends to be acyclical). The paper also shows that MDB lending to Latin America and East Asia is more countercyclical than MDB lending to other regions. Private sector lending is instead procyclical in all developing regions. While the cyclicality of MDB lending does not depend on domestic or international conditions, private lending becomes particularly procyclical in periods of limited global capital flows. By focusing on both borrower and lender heterogeneity, the paper shows that the cyclical properties of international government debt are mostly driven by credit supply shocks. Demand factors appear to be less important drivers of procyclical international government borrowing. The focus on supply and demand factors is different from the traditional push and pull classification, as push and pull factors could affect both the demand and the supply of international government debt.

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#### 1. Introduction

This paper studies the cyclical properties of international government debt by focusing on the heterogeneous behavior of different types of lenders and by exploring over-time and cross-sectional borrower heterogeneity.

The paper is related to a large literature that studies the cyclicality of capital flows to developing and emerging market countries and to an equally large literature that studies the cyclical behavior of fiscal policy in advanced and developing economies. The consensus is that in developing and emerging market countries both capital flows and fiscal policy tend to be procyclical and that these two forms of procyclicalities reinforce each other leading to a "when it rains it pours" phenomenon (Kaminsky, Reinhart, & Végh, 2004). These findings are in contrast with standard models

The literature on the drivers of procyclical capital flows to developing countries has focused on the differences between pull (capital flows are driven by attractive domestic conditions in developing countries) and push factors (capital flows are pushed by low returns in advanced economies) and concluded that push factors are the key drivers of portfolio flows.<sup>3</sup> Two classic papers in this line of research are Calvo, Leiderman, and Reinhart (1993) and Fernández-Arias (1996), more recent work includes Fratzscher (2012) and Forbes and Warnock (2012).

which predict that both international capital flows and fiscal policy should be countercyclical.<sup>2</sup> Procyclical capital flows are instead consistent with the finding that financial liberalization may have increased economic instability (Stiglitz, 2000) with potential negative effects on the competitiveness of recipient countries (Naceur, Bakardzhieva, & Kamar, 2012).

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<sup>&</sup>lt;sup>1</sup> There is a small literature that studies the cyclicality of aid flows and finds that these flows tend to be procyclical with respect to the business cycle of both donor and recipient countries. However, these flows turn countercyclical when recipient countries experience very large shocks (Dabla-Norris, Minoiu, & Zanna, 2015).

<sup>&</sup>lt;sup>2</sup> The former helps smooth consumption by transferring income from good to bad states of the world and the latter can either minimize tax distortions (Barro, 1979) or stabilize the economic cycle as in the typical Keynesian countercyclical policy. Procyclicality of capital flows may also explain the finding that social expenditure tends to be procyclical in developing countries and acyclical in developed countries (Del Granado, Gupta, & Hajdenberg, 2013).

<sup>&</sup>lt;sup>3</sup> However, Cerutti, Claessens, and Puy (2015) show that the importance of push factors varies across types of flows.

The literature on the cyclicality of fiscal policy has instead emphasized two types of explanations for procyclicality. The first class of explanations focuses on capital market imperfections which lead to a situation in which, like Mark Twain's proverbial banker, international financiers stand ready to lend an umbrella when the sun is shining but want it back as soon as it starts raining. According to this view, procyclicality is driven by the fact that developing countries lack access to international credit during recessions (Gavin & Perotti, 1997). An alternative class of explanations concentrates on political failures and shows that fiscal procyclicality may arise from political pressure for wasteful spending (Talvi & Végh, 2005), from the presence of corrupt politicians (Alesina, Campante, & Tabellini, 2008), or from a conflict across different interest groups (Tornell & Lane, 1999).

This paper contributes to both strands of literature by studying the cyclical properties of international public sector borrowing. Our contribution is twofold. First, we assess the cyclicality of international government debt by studying both net flows and disbursements by private lenders, multilateral development banks, and regional development banks. In doing so, we improve on existing work (Humphrey & Michaelowa, 2013; Levy Yeyati, 2009) by using different techniques (instrumental variables and differences-in-differences estimations) to address possible endogeneity problems that affect the relationship between international government debt and the domestic business cycle. Second, besides exploring heterogeneity among types of lenders, we also explore over-time and cross-sectional borrower heterogeneity.

By focusing on both borrower and lender heterogeneity we are able to discriminate among some of the theories highlighted above. We conclude that the cyclical properties of international government debt are mostly driven by supply shocks (which are better explained by the presence of international capital market imperfections). Demand factors (which would instead be consistent with the presence of domestic political failures) appear to be less important drivers of procyclical international government borrowing. Note that our focus on supply and demand factors is different from the traditional push and pull classification. For instance, higher domestic GDP growth (a traditional pull factor) could affect both the demand and the supply of international government debt. By focusing on the behavior of different lenders, we are able to identify supply factors. Along similar lines, low interest rates in advanced economies (the typical push factor) could increase both the demand and supply for international government debt of developing countries. Again, by focusing on lender heterogeneity, we are able to separate demand and supply factors.

To the best of our knowledge, Levy Yeyati (2009) and Humphrey and Michaelowa (2013) are the only two papers that use country-level data to study the cyclical properties of lending to governments by different types of institutions. The first paper focuses on net flows and shows that private international lending to the public sector tends to be procyclical and that multilateral lending is countercyclical. Humphrey and Michaelowa (2013) focus on multilateral development lending to Latin America and compare the lending patterns of the World Bank, Inter-American Development Bank, and the Development Bank of Latin America (CAF). Their main finding is that the World Bank and the Inter-American Development Bank have a better capacity to lend in times of crisis with respect to the smaller CAF.

The main rationale for the countercyclicality of multilateral lenders incorporates both demand and supply considerations. From the demand side, given that during economic slowdowns private capital markets are tighter, governments will demand more funds

from MDBs. On the supply side, MDBs have, as part of their mandates, the objective of supporting countries financially when private funds are scarce (Humphrey & Michaelowa, 2013). The long-term relationship between borrowing governments and MDBs, their cooperative nature, and the *de facto* preferred creditor status of MDBs, allows these institutions to provide financing at low rates when countries face increases in their sovereign spreads. There is, in fact, evidence of a negative correlation between net flows and disbursements by MDBs and private sector lending to emerging and developing countries.

Moreover, during past crises these institutions have been asked to support IMF lending and thus play a role as international lender of last resort. By acting in this capacity, MDBs have contributed to catalyzing private sector lending in bad times, thus reducing the likelihood of self-fulfilling debt crises.

Dasgupta and Ratha (2000) show that aggregate net private flows to developing countries are positively correlated with their growth rates and that aggregate net MDB flows are negatively correlated with the growth rates of developing countries. They also show that IBRD (the non-concessional arm of the World Bank) lending is not significantly correlated with GDP growth in developing countries. Using a country-level dataset covering an unbalanced panel of 37 countries over 1980-97, they find that private non-FDI net flows are procyclical, IBRD lending commitments are acyclical (the coefficient is zero), and IBRD adjustment lending commitments are mildly countercyclical. Alfaro, Kalemli-Ozcan and Volosovych (2014), instead, study a cross section of 98 countries over 1980-2007 and show that net private sector lending to governments is positively correlated with per capita GDP growth and net official sector lending to governments is negatively correlated with per capita GDP growth. Their regressions, however, are purely cross-sectional and do not include any test of cyclicality. Along similar lines, Rodrik (1995) estimates a set of crosssectional models aimed at understanding the value added of the international financial institutions (he concentrates on the World Bank and the International Monetary Fund) but does not focus on the countercyclical role of these institutions. Finally, Pagliari and Hannan (2017) study the volatility of capital flows in a sample of 25 countries over 1980-2016 and show that GDP growth is negatively associated with the volatility of both private and public flows. However, these authors do not explore the cyclicality of cap-

We find that lenders matter. International government borrowing from multilateral development banks is countercyclical and international government borrowing from the private sector is procyclical. However, the countercyclicality of multilateral development bank lending is mostly driven by the behavior of the World Bank. Borrowing from regional development banks tends to be more stable and acyclical.

We also show that there is substantial regional heterogeneity in the cyclicality of multilateral lending to the public sector. While lending to Latin America and East Asia tend to be countercyclical, multilateral lending to other regions is often acyclical. There is also evidence that multilateral lending to emerging market countries is less countercyclical than multilateral lending to non-market access countries. Private sector lending is instead uniformly procyclical in all developing regions.

<sup>&</sup>lt;sup>4</sup> Cerutti, Claessens, and Puy (2015) emphasize that the origin of the funds matters but they do not focus explicitly on lending to the government.

<sup>&</sup>lt;sup>5</sup> For a discussion of how different development banks price their loans, see Humphrey (2014).

<sup>&</sup>lt;sup>6</sup> As one may expect, we also find that IMF lending is countercyclical.

A parallel line of research has focused on the countercyclical behavior of national development and state-owned banks in general. Griffith-Jones et al. (2017) survey the literature, and Brei and Schclarek (2018) and Micco and Panizza (2006) present a comprehensive summary of evidence on the countercyclicality of these institutions. While the theoretical underpinnings of the drivers of multilateral development banks differ from those of national development banks, results point to similar directions.

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