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Analysis

Greening Development Lending in the Americas: Trends and Determinants

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ABSTRACT

Latin America and the Caribbean (LAC) faces a $110 billion-dollar annual gap in financing for climate change. This paper shows that development banks operating in the Americas are falling far short of playing the key role they need to assume in filling these gaps. According to our estimates, development banks provide just $7 billion per year in terms of green finance in general, and climate finance in particular is just $4.4 billion per year. A corresponding econometric analysis shows green financial flows tend to go to countries with higher human development scores and left of center governments, and derive from development banks where the majority of the shareholder governments have strong environmental performance in their home country.

1. Introduction

Over the past 15 years, the annual GDP growth rate of Latin America and the Caribbean (LAC) countries has been roughly 3%, lagging far behind that of other developing regions (World Bank, 2018; Cadena et al., 2017). Meanwhile, the region faces a $110 billion annual gap in finance for climate change mitigation and adaptation (IADB, 2012). The geographical location of LAC endows the region with abundant wealth in natural resources, but also a particular vulnerability to climate change. Although LAC is only responsible for approximately 12.5% of global greenhouse gas (GHG) emissions, it is disproportionately impacted by climate change as many areas in the region are seriously affected by droughts, flooding, cyclones and the El Nino-Southern Oscillation (ENSO) phenomenon (Mapplecroft, 2014). Damages resulting from extreme weather related to climate change have not only jeopardized socioeconomic activities but also eroded wealth accumulated from previous episodes of economic growth. According to a joint study by the IADB with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) and the World Wildlife Fund (WWF), the annual economic costs of climate change in LAC will reach $100 billion by 2050 (IADB, 2012).

Development finance institutions (DFIs) have a unique role to play in closing financing gaps for development in LAC. DFIs, at their best, seek to correct key market and government failures and crowd in private sector economic activity into areas such as cleaner energy technologies, as well as into policy formation and anti-poverty programs. What is more, as LAC seeks to move past this latest economic downturn, development banks can act in a counter-cyclical manner in order to spark economic recovery and trigger structural transformation throughout the region's economies.

At the same time, DFIs have also been asked to play an enhanced role in meeting the Sustainable Development Goals (SDGs) including Goal 7, that pledges to "ensure access to affordable, reliable, sustainable and modern energy for all (United Nations, 2015)." To this end a number of development banks have pledged to increase finance for sustainable development in general, and low carbon development in particular. In 2015, after China pledged to infuse $3.2 billion into a developing country fund for climate change, the Asian Development Bank, the World Bank and others began pledging major increases as well. The World Bank pledged to increase climate finance to $29 billion (an increase by one third) by 2025 and the Inter-American Development Bank pledged to make climate finance 25–30% of total lending by that time.

This study provides an assessment of the extent to which the existing development banking regime in LAC is poised to help the region achieve these goals. More specifically, we ask two research questions. First, to what extent do DFIs in LAC support green development in the region? Second, what are the key drivers of green lending to LAC countries?

For the first question, we create a database of development lending between 2007 and 2016 across the Americas and estimate the extent to which such finance is 'green' based on a new tracking methodology agreed upon by major multilateral, sub-regional, and national development banks. These banks define green finance as financing for climate change mitigation or adaptation, as well as environmental protection and remediation at the project level. We also supplement our

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analysis and by attempting to understand the determinants of green finance commitments.

This paper's contribution to the literature is two-fold. First, we map green finance from major public development banks in LAC between 2007 and 2016. Several multilateral development banks including the World Bank, the Inter-American Development Bank have been tracking climate finance since 2011 and publish their joint report annually (for example, see MDBs, 2016). Similarly, International Development Finance Club (IDFC) and Climate Policy Initiative have tracked green finance commitments of IDFC members,[1] a group of national and sub-regional development banks across the world and have published their data annually since 2014. Our tracking complements these efforts encompassing a broader range of development banks that have operations in LAC. In addition, we take stock of green finance commitments of these banks between 2007 and 2016 to provide a more comprehensive view over the past decade.

Second, fast growing literature has analyzed the drivers of general lending from development agencies to developing countries, mostly focused on multilateral development banks, represented by the World Bank and regional development banks (Hopkins et al., 1998; Round and Odedokun, 2004; Babb, 2009; Neumayer, 2003a, 2003b; Harrigan et al., 2006; Kilby, 2006 among others). Much attention has been concentrated on the preferences of the supply side, such as conditionality, the relationship between the board member countries and the recipient countries. Nevertheless, Humphrey and Michaelowa (2013) found that demand side factors also played an important role in multilateral lending by reviewing lending preferences of three major development banks in LAC including a sub-regional bank.

However, very few studies have examined the environmental profile of development finding and its determinants. Nielson and Tierney (2006) provided evidence of positive association between lending and "the environmental preferences of predicted coalitions of member states on executive boards", using data from the 1980s when MDBs were pressured to reform their environmental loans. Our econometric analysis is similar to theirs but taking advantage of a new wave of data with the aim to evaluate the pledged effort for sustainable development since mid 2000s. We believe our paper further contributes to understanding the determinants of green finance commitments from development banks.

Our findings demonstrate that total DFI in Latin America and the Caribbean has stood at approximately 1.1% of GDP per annum since 2003. Thirty-two percent of all development bank finance in LAC is not green. This significant amount of development bank finance flows into extractive industries, the generation of fossil fuels, and conventional infrastructure projects that can accentuate global climate change, trigger local environmental problems, and adversely impact local communities.

Green finance is 17% of total development bank financing in LAC. Since 2007, green finance has been $70 billion equal to $7 billion per year. $4.4 billion of the green finance is for climate mitigation and adaptation. Using probit and panel data analyses, we identify donor's environmental performance as the most important factor that drives green finance in LAC. This is consistent with the fact that public development banks are still the most important players in promoting sustainable development and leveraging finance in this field.

The paper proceeds as follows: Section 2 describes the methodological approach, including analytical scope, green finance criteria, analytical strategy and data collection. Section 3 presents the results of estimates of green finance, section 4 presents our econometric analyses and Section 5 offers a discussion and conclusion.

2. Methods

2.1. Analytical Scope

Eleven DFIs provide the majority of development finance to Latin American and Caribbean governments over the past 15 years. Our sample thus includes traditional multilateral development banks (MDBs) operating in the region such as the World Bank and the Inter-American Development Bank (IADB), sub-regional development banks like CAF-Development Bank of Latin America and the Caribbean Development Bank (CaDB), as well as a number of national development banks that have been making loans to other LACn governments, such as Brazil's National Development Bank (BNDES), the China Development Bank (CDB) and Germany's KfW.

We create a database of *international* commitments[2] to LAC governments and state-owned enterprises (SOEs) for each of these banks for the period 2003–2016. For national development banks operating in the region, we only track and analyze their activities outside of their country of origin. The full list of banks examined for this study are:

- The World Bank Group (WB)
- Inter-American Development Bank (IADB)
- CAF-Development Bank of Latin America
- The Caribbean Development Bank (CaDB)
- European Investment Bank (EIB)
- Agence Française de Développement (AFD)
- The Brazilian Development Bank (BNDES)
- KfW Development Bank (KfW)
- China Development Bank (CDB)
- China Export Import Bank (CHEXIM)
- Export-Import Bank of the United States (US EXIM)

We examine the extent to which international development banks operating in LAC support green finance. For the 14-year period under examination we track the annual flows of each bank to LAC to demonstrate the evolution of development finance in the region in terms of the total volume and composition as well as each bank's contribution. Furthermore, we create a more detailed project-level database for the period of 2007–2016 in order to pinpoint the composition of development bank lending for this latter period (project-level data is not widely available for all the banks previous to 2007).

Our research is limited to development finance with sovereign lending, usually commitments to sovereign governments and their affiliations (such as national development agencies, SOEs, etc.), rather than to both sovereign governments and the private sector. Indeed, many of the banks in our study provide lending to both public and private sectors, and many of them even have a private sector financing arm, such as the International Finance Corporation (IFC) of the World Bank Group, the Proparco of the French Development Agency (AFD) and the German Investment and Development Corporation (DEG) of the KfW group. Taking the year of 2014 as an example, the non-sovereign guaranteed operations of IADB were only $2.8 billion compared to the total commitments of $13.8 billion, which accounted for 20%. A similar percentage was seen in the lending of KfW and AFD. The private sector share of World Bank and EIB's financing was higher, at 30–40%. CAF was an exception, whose non-sovereign guaranteed operations were larger than sovereign operations, reaching 60% of total commitments (Fig. 1).

We limit the scope of study to lending with sovereign risks based on two considerations. First, the majority of loans provided by development banks are still sovereign guaranteed loans and for some banks in our sample there is either no private sector lending or the data for such lending is difficult to obtain. Second, green finance is often a field less attractive to private investors because the returns of many green projects are less likely to be commensurate with risks in the short term.

[1] A full list of IDFC members can be found here.

[2] For tracking purposes, we estimate the amount of commitments instead of real disbursements and we acknowledge there might be discrepancies between these two. All the numbers reported in this paper are based on commitments approved in each year.