Vice Presidency for Sectors and Knowledge
Research Department
Capital Markets and Financial Institutions Division

Structure and Composition of Firms' Balance Sheets

RG-K1198

1. Motivation / Background

Given the exceptional monetary policies in advanced economies in the years following the Global Financial Crisis, Latin American and Caribbean (LAC) corporates have had unprecedented access to international capital markets at low interest rates. Persistent record-low yields and weak economic prospects in high-income countries have prompted international investors to increase their exposure to financial instruments issued by emerging market (EM) corporates. Taking advantage of these conditions, issuance of international debt securities by LAC corporations reached record highs in 2013 after more than tripling from the levels of issuance in 2008. However, the auspicious global financial conditions for EMs may be coming to an end, as normalization of monetary policy in the United States proceeds and, eventually, as short-term rates rise. Furthermore, after years of buoyancy, recent projections suggest that growth in EMs will probably be weaker than expected in the next few years, with growth in LAC countries being marked down to 1.5% in 2014 and 2.7% in 2015.[1]

These developments raise a set of questions that may be critical for the economic and financial stability for the region. Which LAC corporates have been issuing international debt? Do they include only larger firms in the tradable sector, or have firms in the non-tradable sectors also been issuing international debt? Have firms issued largely in dollars? Has issuance been at shorter or longer maturities? Have leverage ratios for corporates risen? How have corporates used the funds they have raised? Have corporates used the funds raised to boost investment and, if so, what type of investments have ensued? Have corporates built up large cash positions, and are they holding large amounts of deposits in domestic financial systems in domestic currency, which may have helped boost the credit booms we have seen in several countries? Have firms hedged any currency mismatches?

A challenge moving forward is that market finance is typically pro-cyclical and can evaporate in response to problems in the domestic economy or after a shift in paradigm of global investors. As U.S. interest rates normalize, investors' demand for the region's financial assets may fall. Corporations needing to roll over their debts may face difficulties in the less favorable environment of the coming years. On the other hand, interest rates in Euros may remain at low levels for longer, especially if the European Central Bank pursues an aggressive policy of Quantitative Easing. Can firms easily switch to Euro financing? Would this allow them to roll over debt coming due?

The asymmetry between U.S. and European monetary policy may also heighten currency volatility. Moreover, in some countries in the region, currencies may depreciate rapidly against the dollar as a result of rises in U.S. rates, and they may depreciate against both the dollar and the Euro if there is a retrenchment of international capital. Large depreciations in the face of slow-growth prospects may pose risks to corporations that increased their reliance on financing in foreign currency. The extent of the exposure of corporations to foreign liabilities may be difficult to gauge, as some firms issue debt through

[1] World Economic Outlook, October 2014, IMF.

offshore subsidiaries, often off the radar screen of the authorities, and some firms may also hedge currency exposures using currency derivatives or exacerbate exposures using the same means.

There may also be knock-on effects on domestic financial systems. An increase in corporate deposits appears to have played some role in financing strong growth in credit in some countries, as discussed in the IDB's 2014 Latin American and Caribbean Macroeconomic Report. As dollar rates rise, large corporates may move liquid resources to dollar-based assets. At the same time, if larger firms lose access to international markets at competitive rates, they may borrow more through the domestic financial system. In a context of subdued economic growth, banks may also become more conservative in their credit allocation decisions, and this may then squeeze smaller firms out of credit markets. Finally, less favorable conditions may constrain access to international markets by national development banks, which have been a major source of funding for a number of firms in the region over the past eight years (see IDB, 2013).

Against this background, this project will contribute to achieving a better understanding of the financial challenges that the LAC region may face in coming years. The project aims to provide a solid empirical basis to underpin the policy dialogue with the IDB's borrowing member countries and to assist in formulating policy recommendations. The project aims to generate both a database that adds value to existing data sources and interesting empirical analysis. The output will be a set of working papers and a novel database of firm-level financial information. The IDB may seek an agreement with a recognized academic journal to produce a special issue, in which case the journal would retain the right of first refusal. Otherwise, authors would be free to publish the papers produced in an academic journal, provided they acknowledge the Bank's financial and technical contribution.

2. Objective, Content and Methodology

The objective of this project is threefold:

i) Produce a firm-level database on currency composition of assets and liabilities of LAC non-financial firms.

ii) Produce a second database, likely more qualitative in nature, on hedging policies and, where possible, actual hedging activities in LAC non-financial firms based on a standardized survey specifically designed for this project.

iii) Produce a set of research papers based on the collected data examining the financial challenges faced by LAC private enterprises given developments in global capital markets and the real economy.

An important part of this project will consist of gathering, describing and analyzing firm-level data. An earlier IDB Red de Centros project and subsequent work resulted in a similar firm-level database on the currency composition of liabilities, as well as a set of papers (e.g., Cowan et al. 2005; Kamil, 2004; Kamil, 2012). Potential respondees to this call may wish to familiarize themselves with this work. The new database will go beyond the previous one in time span and by including a broader set of indicators and it may also take advantage of improved sources of information where available.

Research centers will also conduct a standardized questionnaire aimed at the Chief Financial Officers (CFOs) of firms active in international capital markets. After gathering the data, researchers will attempt to answer key questions. Possible areas of research include, but are not limited to, exploring the facts related to the recent evolution of firms' balance sheets; considering how issuance has affected firms' balance sheets and performance, including in terms of investment, output, employment and exports; gauging the potential build-up of currency and maturity mismatches; analyzing how past episodes of large international debt issuance ended, and hence discussing how concerned policymakers should be at present; and reviewing potential policy options. The studies may also explore some of the wider implications for financial stability in LAC countries.

We plan to commission 4-6 studies, depending on the proposals received and the available budget. Each study should be composed of the three elements described in this proposal: a firm-level database on currency composition of balance sheets, a survey on hedging activities of international debt issuers, and an analytical paper studying a relevant topic and making use of these databases. It is likely that each project will focus on one country, although proposals considering more than one country would also be acceptable if deemed feasible.

A. Firm-level data on currency composition of assets and liabilities

This is a key objective of the project, and it is aimed at documenting the currency composition of assets and liabilities of non-financial firms in LAC. It is expected that both publicly traded (listed) firms and privately held (non-listed) firms may be included in the database. Research centers should note that the aim of this project is to produce a dataset that can be made public and therefore data collection financed by the project will be transferred to the Research Department of the Inter-American Development Bank. If information is to be obtained from confidential sources, this should be communicated in advance. Research institutions should gather firm-level data including, but not be limited to, the following information:

- Basic firm indicators of size, performance, leverage, and identifying information.
- Ownership structure of the firm (foreign/domestic/multinational/publicly traded/family owned).
- Breakdown of liabilities and assets by denomination of currency.
- Maturity and currency composition of assets and liabilities. An ideal breakdown would be between short-term liabilities in foreign currency and long-term liabilities in foreign currency. Assets may have a breakdown by level of liquidity.
- Borrowing from national development banks or access to credit lines backed or guaranteed by second tier national development banks.
- Breakdown of liabilities between financial debt and trade debt.
- Composition of output in terms of currencies.
- Composition of inputs in terms of currencies.

- Extent of hedging.
- Access to public financing (i.e., through loans with public banks).
- Interest cost of different types of debt.
- Exports sales.
- Breakdown of income according to different currencies, and any available information on the geographic origin (domestic or foreign) of inputs (e.g., imported intermediate or capital goods).

A minimum core set of indicators will be defined at a later stage. The dataset should have a panel structure and, ideally, it should cover a period from the early 1990s to 2014. The research center should make an effort to collect data on the largest possible sample of firms and try to go beyond publicly traded firms.

B. Questionnaire of CFOs on hedging activities of international debt issuers

This is a key objective of the project, and the idea is to document the hedging policies and activities of non-financial firms in LAC. It is expected that a standardized survey will be developed, taking the best parts of the suggestions from each successful proposal submitted. The initial suggestion is that each team should seek interviews with at least 10 firms identified by the researchers and agreed upon with the project's coordinators and academic advisors. The main objective of the survey would be to gather information on the following:

- Corporate information systems on risks including currency, maturity and interest rate risks.
- Policies regarding how such risks are managed.
- Policies related to the use of derivatives.
- Policies regarding the level of liquidity that is maintained, the investment instruments used and how the costs and benefits of liquidity are assessed.
- Factors that influence the firm's decision to issue international debt and the different decisions that accompany the issuance of bonds: currency denomination (domestic vs. USD vs. EUR and other currencies), listing place(s), governing law(s), and underwriter(s).
- Impact of international issuance on treasury management.

C. Research papers

Research centers are expected to produce a paper with detailed description of the data and analytical work involving the estimation of econometric models using the data collected. The participating institutions are expected to propose research questions that are relevant to the project and that use the data collected. Some relevant questions that might be explored empirically include, but are not limited to, the following:

- What determines whether a firm issues abroad in foreign currency versus issuance at home or versus no issuance or versus obtaining (more) credit through a bank loan, possibly in local currency?
- Is there a relationship between the liability/asset composition and measure of potential currency mismatch and/or other firm characteristics? For example, does the sector of the economy or the share of tradable goods in production affect liability/asset composition? Does firm ownership affect liability/asset composition? What is the relationship between liability/asset composition and the currency denomination of revenues?
- How does debt issuance affect firms' balance sheets? Does issuance drive greater investment or simply increase cash balances? Is issuance associated with greater leverage? Is issuance associated with the acquisition of other firms abroad or at home?
- How do exchange rate and interest rate fluctuations affect firms' performance, and what is the interaction between exchange rate and interest rate volatility and firms' balance sheet composition? Do firms with higher short-term debts suffer more when there are large changes in interest rates? Do firms with larger dollar liabilities suffer more when there are large exchange rate depreciations? Under what conditions would a currency/balance sheet effect dominate an interest rate or competitiveness effect of a more depreciated exchange rate?

3. Selection Criteria

Research institutions only may present proposals. Proposals will be evaluated based on the following criteria:

a) Demonstration that a high-quality database of firm-level data for the country or countries proposed can be constructed, including the relevant variables of interest (30%).
b) A set of suggestions for the design of a questionnaire for CFOs. This can take the form of an outline of a questionnaire, not necessarily at the level of detail of actual questions, although such detail would of course be welcome. The research teams should be confident that they are able to reach out to such CFOs (20%).
c) The description of a high-quality, relevant and feasible empirical analysis employing data on individual firms' balance sheets, which may follow one of the suggestions above or may be a completely innovative suggestion (30%).
d) The career history and experience of the participating researchers (20%).

To be considered for the project, the research proposal should include the following:

a) A brief survey of previous studies on this topic conducted on the country (up to 2 pages).
b) Data templates for the data being used and assessment of data availability. Proposals must additionally provide a description of the strategy for collecting relevant data on compositions of firms' balance sheets, including regulatory/proprietary data.

c) An outline or details of a questionnaire for CFOs of firms (to be standardized across the research teams later on).
d) A detailed description of the proposed study, spelling out the proposed research question and the quantitative methodology to be used to answer it.

Final papers will be considered for dissemination as IDB working papers or technical notes depending on quality. The project coordinators may explore the possibility of the papers being published in an academic journal, in which case they would be subject to a system of standard peer reviewing. Otherwise, authors would be able to publish in an academic journal (again, provided they acknowledge the Bank's technical and financial contribution). Proposals may include suggestions for further dissemination of the final version of the paper.

4. Proposal Submission

Research institutions interested in submitting a proposal should submit a proposal no later than **December 7, 2014** using the Web Submission Form. Please note that there are two options within the submission form: one for institutions and another for teams of individual researchers. Please make sure to choose the institutions option. If unable to submit by this means, please send an email to red@iadb.org**.**

The following information will be required for submitting your proposal:

- The proposal with all the technical aspects involved in the development of the study, based on the Terms of Reference outlined in this Call for Proposals.
- A budget indicating the time and resources that will be used within the context of the research work plan. The budget is requested as a separate file and should not be included in the proposal. The budget proposed should disaggregate items financed by the IDB contribution and those financed by the research institution. The budget should distinguish among amounts assigned to professional honoraria, "overhead" and other major categories of research expenditures.
- The name and Curricula vitae (two pages maximum) of the technical coordinator and other researchers involved. The research team should demonstrate its ability to meet the objectives of the project, including relevant experience. Please note that for proposals submitted by institutions, subsequent substitutions for researchers originally specified in the proposal may be made with prior approval from the project coordinators, but the technical coordinator should lead the entire project until its full completion.

Institutions submitting proposals must provide the name and contact information of the legal representative, with authority to sign contracts with the IDB, if selected to conduct the study.

Proposing research institution should register as Research Network members (contact Elton Mancilla at res@iadb.org) and should be based in the Latin America and Caribbean region. U.S. and European institutions do not qualify as members of the Research Network.

However, researchers from the United States and Europe can participate with research teams from proposing institutions. Such collaboration is encouraged.

Note: All proposals and research papers should be submitted in English.

5. Coordination and Schedule

The project will be jointly administered by the Research Department (IDB/RES) and the Capital Markets and Financial Institutions Division (CMF). The team consists of Julián Caballero (IDB/RES), Andrew Powell (IDB/RES) and César Tamayo (IFD/CMF). Ugo Panizza (The Graduate Institute of International and Development Studies, Geneva) will act as the External Advisor for the research project.

The tentative schedule of activities is as follows:

- **December 7, 2014:** Due date for **receiving proposals.**
- **December 15, 2014:** Announcement of **selected research proposals**.
- **December 28, 2014:** Due date for receiving a PowerPoint **presentation summarizing the proposal** (and to be discussed in the January kick-off seminar).
- **January 15 and 16, 2014: First Discussion Seminar** in Washington, D.C., to discuss selected proposals.
- **July 30, 2015:** Due date for receiving the **datasets** and a **first draft** of research papers, including the narrative and the preliminary results of the quantitative exercise.
- **September 10, 2015:** Due date for receiving a **second draft** of research papers and delivery to the IDB of complementary support documents utilized in the study.
- **September 17 and 18, 2015:** Final Conference to discuss second drafts of papers.
- **November 30, 2015:** Deadline for delivery to the IDB of a **final version** of research papers, including a summary that discusses policy lessons and delivery of any further versions of the datasets utilized in the study.
- **December 15, 2015:** Deadline for a **final edited version** of the research papers, following the **IDB Manual of Style** for working papers.

6. Financial Contribution and Payment Schedule

The IDB will contribute up to **US$30,000** (or domestic currency equivalent) for each study, depending on the scope of the work proposed. The payment schedule is as follows:

- **25 percent** within 30 days of signing the formal agreement between the IDB and the respective research center.

- **10 percent within 30 days of receiving the PowerPoint by December 28, 2014.**

- **30 percent** within 30 days of presenting and approving the first draft of the research paper.
- **15 percent** within 30 days of presenting and approving the second draft of the research paper.
- **20 percent** upon approval by the Bank of the final research paper and delivery to the IDB of the databases utilized in the study.

7. References

- IDB's 2014 Latin American and Caribbean Macroeconomic Report, available at www.iadb.org/macroreport
- IDB, 2013, "Public Development Banks: Toward a New Paradigm?", Available at: http://publications.iadb.org/handle/11319/464
- Cowan, K., E. Hansen and L.O. Herrera, 2005, Currency Mismatches, Balance-Sheet Effects and Hedging in Chilean Non-Financial Corporations", IDB Research Department Working Paper No. 521.
- Kamil, H., 2004, "A New Database on the Currency Composition and Maturity Structure of Firms' Balance Sheets in Latin America, 1990-2002" available at: http://www.iadb.org/res/files/databases/Cowan-Kamil.pdf
- Kamil, H., 2012, "How Do Exchange Rate Regimes Affect Firms Incentives to Hedge Currency Risk? Micro Evidence for Latin America", IMF Working Paper No. WP/12/69