



## Foreign currency borrowing by small firms in emerging markets: When domestic banks intermediate dollars

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### ABSTRACT

This paper investigates what induces small firms in an emerging market economy to borrow dollar credit from domestic banks. Our data are from a unique survey of firms in Lebanon. The findings complement studies of large firms with foreign currency loans from foreign lenders. Exporters, naturally hedged against currency risk, are more likely to incur dollar debt. Firms also partly hedge themselves by passing currency risk to customers and suppliers. Less opaque firms with easily verifiable collateral and higher net worth are more likely to access dollar credit. Firms reliant on formal financing (banks and supplier credit) are more likely to contract dollar debt than firms reliant on informal financing (family, friends and moneylenders). Bank relationships, however, do not increase the dollar debt likelihood. And finally, profitable firms are less likely to have dollar debt. Information frictions and limited collateral, therefore, constrain dollar credit even when it is intermediated domestically.

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### 1. Introduction

The purpose of this paper is to understand what induces mostly small firms in an emerging market economy to contract dollar-denominated credit from domestic banks and creditors.<sup>1</sup> We investigate the determinants of dollar debt using data from a unique firm-level survey from Lebanon that we designed and administered. The extent of foreign currency borrowing by small firms in emerging markets is important for the financial stability and economic growth of these economies. One main reason is that extensive and possibly excessive use of dollar debt has been a common thread in emerging market crises over the past two decades. The resulting currency mismatch on the balance sheet has been singled out as an important factor causing dislocations and amplifying crises (see, for example, Aghion et al., 2000; Caballero and Krishnamurthy, 2003). A borrower's assets and revenue are mostly in domestic currency, but currency depreciation magnifies liabilities and debt repayment obligations that are mostly in dollars leading to a drop in net worth and investment. For example, Aguiar (2005) finds that firm-level

investment was adversely affected by the 1994 peso devaluation in Mexico, especially among firms with high levels of foreign currency (even for exporters).<sup>2</sup> Bordo et al. (2010) show that historically a greater fraction of foreign currency debt in a country's debt is associated with a higher frequency of financial crises and permanent output losses. Therefore, systemic risk in emerging markets will be high when small firms, in addition to large internationally active firms, take on dollar debt resulting in correlated defaults in a downturn.

In addition to concerns about financial stability, there is a second reason why the extent of dollar debt and what drives its use are important to the welfare of emerging market economies. The productive sector in these developing economies needs external finance to fund investments that contribute to output growth.<sup>3</sup> The main suppliers of external finance in emerging markets are banks

<sup>2</sup> Nonetheless, the effect of a depreciation is not unambiguous because firms that are seemingly most exposed to a depreciation also may be best placed to deal with the currency risk. For example, Bleakley and Cowan (2008) find that the positive competitiveness effect of a depreciation outweighs the negative balance sheet effect.

<sup>3</sup> Use of the term "external finance" follows the tradition in corporate finance literature, which distinguishes between retained earnings or "internal funds" and "external funds" sourced from outside suppliers such as banks, finance companies, trade credit suppliers, and equity and bond markets. To avoid this term being wrongly construed to mean foreign financing, we will often use the term "formal finance" instead. And we will be clear when external funds from foreign sources are the intended meaning.

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<sup>1</sup> We use the terms "dollar" and "foreign currency" interchangeably throughout this paper.

(Ayyagari et al., 2011). Bank loans can be extended by domestic banks or by foreign banks (including cross-border lending). But one stylized fact is that much of the lending by foreign banks is denominated in foreign currency. For example, Eichengreen and Hausmann (2005) describe the situation in which domestic currency simply cannot be used to borrow abroad or even for long-term domestic debt as “original sin”. Hausmann and Panizza (2011) show that original sin has yet to be purged in that only nine developing countries are managing to issue at least 15% of their debt in domestic currency and less than 10% of developing countries’ bonds held by US investors are denominated in the currency of the issuing country. In addition to foreign lenders, there also are domestic and foreign banks operating *within* the developing country that also widely extend dollar debt loans. Reasons for these stylized facts will be discussed at length in the next section, but one likely cause is the desire of risk-averse households to hold much of their savings in foreign currency deposits. These deposits then are intermediated domestically through the banking system. Deposit dollarization endures worldwide despite declining and stable inflation, with the share of deposits in foreign currency exceeding 10% in more than 70 countries (De Nicoló et al., 2005).

As a result, because a large part of loans to businesses in developing countries are contracted in foreign currency, the growth of the productive sector may be constrained if it has limited access to dollar debt. Small and new firms may be especially constrained if lenders – including domestic banks – channel funds (mostly dollar denominated) to firms based, not on the return of the investment project, but on the borrower’s collateral and net worth. These decisions may be based on asymmetric information and limited commitment problems. In turn, aggregate economic growth and innovation may be stunted because small and new businesses are vital contributors to growth. For example, in the United States, small businesses employ roughly half of the labor force and account for 60% of gross job creation while newer small businesses account for 25% (Bernanke, 2010). Emerging economies feature large numbers of small businesses (more than 70% of a representative cross-country sample of firms in Ayyagari et al., 2011). Interestingly, Ayyagari et al. also show that access to external finance is associated with higher innovation within this sample of mostly small- and medium-sized enterprises. This is true especially for younger firms and for access to dollar credit (nonetheless, these are associations, not causations).

Therefore, for both financial stability and economic development objectives, it is important to study the determinants of dollar debt incurred by a wide range of firms in emerging economies. Significant progress has been made in recent years in developing different theories to rationalize the use of dollar debt. But empirical evidence derives almost entirely from Latin America and East Asia. A more important limitation is that studies focus on the largest and listed firms (a drawback Tornell and Westermann (2002) emphasize), and a large part of this dollar debt is owed to foreign banks and other foreign lenders. The case of Lebanon significantly contributes to this literature because the major part of credit is intermediated through domestic banks<sup>4</sup> (mostly in dollars), including to many small, non-exporting firms. For example, while only 27% of the companies in our survey export, 82% of the companies that borrow obtain dollar loans. Dollar debt as a share of total debt averages 73%. This compares to the World Bank’s 2006 enterprise survey that found 87% of firms sampled have dollar debt with an average dollar share of 75%. In aggregate, central bank statistics show dollar loans

comprise more than 80% of total commercial bank lending in recent years (Fig. 1). In addition, the choice of currency denomination in Lebanon long has been freely determined by the creditor and the debtor in an environment of free capital flows. Therefore, concerns about regulatory constraints and potential contemporaneous deregulation are mitigated in this study relative to studies of other emerging markets.

The main loanable funds of the banking system are in the form of claims by depositors. These claims, many of which are held by expatriate depositors and other regional investors, were more than \$80 billion by the end of 2008. A large share of deposits – roughly 70% – is dollar deposits (Fig. 1). Depositors continue to deposit in dollars because of a perceived currency risk despite a de facto peg of the domestic currency (Lebanese lira or LBP) to the dollar since 1998. For example, the spread between the deposit rates of the lira and the dollar has been roughly 3.5% in recent years (Fig. 2).<sup>5</sup> There are no capital restrictions and depositors can invest in foreign assets overseas. Nonetheless, they hold a substantial amount of their savings domestically, what Schimmelpfennig and Gardner (2008) ascribe to a dedicated investor base. The deposit rate on domestic dollar deposits (about 5%) is also higher than the international dollar deposit rate (Fig. 2). This difference is not arbitrated away by foreign investors because they are unwilling to exchange internationally liquid assets for domestically liquid deposits with arguably greater counterparty risk.

As a result, private sector capital needs, in addition to Lebanese government debt, are financed by depositors intermediating desired dollar-denominated savings through domestic commercial banks. Even so, we find a number of common determinants with foreign currency borrowing by large companies in other emerging markets. Dollar debt is significantly more likely for exporters that are naturally insured against currency risk because foreign earnings help balance dollar liabilities. At the same time, importers are less likely to have dollar loans. Many companies also transfer currency risk to their customers and suppliers through short-term trade credit. Larger, older, audited borrowers with higher net worth are more likely to have dollar loans. Likewise, companies with more tangible assets or foreign earnings that can be used to secure loans are more likely to take out dollar loans. Among these are companies in the construction and wholesale and retail trade sectors. In contrast, companies in the manufacturing and services sectors are less likely to have dollar loans. And while there is a positive relation between dollar debt and formal finance (predominantly bank-sourced), seemingly stronger bank relationships do not materially influence a borrower’s chances of accessing dollar loans. Finally, profitable companies are less likely to get dollar loans. Collectively, these findings indicate that information problems (proxied by opaqueness such as company size, age, audits, and difficulty in verifying and pledging profits), as well as limited collateral, constrain dollar credit even when it is intermediated domestically.

The rest of this paper is organized as follows. In Section 2, we review theories on foreign currency borrowing and relate the theories to empirical evidence from the literature. Section 3 describes our survey and Section 4 evaluates the determinants of dollar debt. We also compare the robustness of our results to using an alternative data set from a survey collected around the same time in Lebanon (the World Bank enterprise survey). Lastly, Section 5 concludes.

<sup>4</sup> For example, Lebanon has the highest share of banking assets to GDP (roughly 300%) and the lowest stock market capitalization (10%) in the Middle East and North Africa region (Grais and Kantur, 2003). Moreover, domestic banks dominate the banking system, accounting for 80% of system assets in recent years.

<sup>5</sup> While not the focus of this paper, the de facto adoption of the dollar alongside the domestic currency as a medium of exchange and a store of value was the outcome of the civil war and the accompanying depreciations from 1977 to 1992. The Lebanese lira depreciated from roughly 3 LBP/USD to more than 1700 LBP/USD over that period and dollar deposits became a pervasive feature of the banking system.

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