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## Financial integration and emerging markets capital structure

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## ABSTRACT

This paper investigates the impact of country-level financial integration on corporate financing choices in emerging economies. Examining 4477 public firms from 24 countries, we find that corporate leverage is positively related to credit market integration and negatively related to equity market integration. As integration proceeds to higher levels, high-growth firms seem to obtain more debt than low-growth firms; large firms seem to obtain more debt – especially long-term debt – and issue more equity than small firms. Also, there is evidence that firms are able to borrow more funds in countries with more efficient legal systems during integration process.

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## 1. Introduction

Since the late 1980s, the openness of domestic financial markets to foreign investors and institutions is a key structural change in emerging economies. The economic implications of this integration have attracted substantial research efforts. Many papers have documented the positive impact of financial integration at the country level, such as decreased cost of capital (Bekaert and Harvey, 2000; Henry, 2000a; Kim and Singal, 2000), higher economic growth (Bekaert et al., 2001a, b) and greater private investments (Henry, 2000b). The factors that drive these macro-level changes could also affect various metrics of emerging market firms. Among others, a group of literature has shown the relation between financial integration and capital structure decisions. Mitton (2006) shows that firm-specific openness to foreign equity investors is associated with lower leverage. Schmukler and Vesperoni (2006) find that by accessing international equity and bond markets, firms increase their long-term debt and extend their debt maturity. However,

market liberalization at the country level decreases the use of long-term debt, and debt maturity shifts to shorter term. Ağca et al. (2007) show that credit market integration results in higher leverage but shorter debt maturity in developing countries. Focusing on Eastern European firms, Giannetti and Ongena (2009) find that foreign bank lending stimulates the use of financial debt although the effect is dampened for small firms.

In this paper, we study the effect of financial integration on corporate leverage and debt maturity in emerging markets. Our study is complementary to the ones cited above but differs from them in several aspects. First, our empirical models emphasize the effects of both credit market integration and equity market integration. Doing this matches the debt and equity component of capital structure. Prior works tend to account for either credit or equity. The studies conducted by Ağca et al. and Giannetti and Ongena focus on the credit side, while the study by Mitton only looks at the equity side. Ignoring either side risks a misinterpretation of estimation results. For instance, if one finds that increased credit market integration does not impact leverage, this could be due to the fact that the level of equity market integration increases as well, offsetting the effect of credit market integration. Alternatively, although the expected effect of one type of integration (either credit or equity market) might be found, completeness suggests

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that both types be incorporated in the model. The reason is that different types of financial integration can proceed simultaneously and therefore interact with each other. Hence, both credit and equity sides should be accounted for to obtain a complete picture. Second, apart from financial integration, we consider a wide range of firm- and country-level determinants of financing choices. Third, we propose a number of interactive effects of financial integration with firm and country characteristics. Interaction analysis allows us to assess whether integration has facilitated the financing of firms in need of capital. Also, we are able to see under what conditions the expected effects of financial integration would be either strengthened or attenuated. Last, in comparison with others, we construct a relatively large sample having more than 4000 public firms from 24 emerging economies during the period 1995–2007.

Our results show that higher levels of credit market integration result in higher leverage and that greater equity market integration leads to lower leverage. The evidence on debt maturity is relatively unclear. Particularly, we find that when the degree of financial integration increases, firms with high growth opportunities seem to borrow more funds than low-growth firms; from integration, large firms are likely to obtain more debt – especially long-term debt – and issue more equity than small firms. There is also evidence showing that firms are able to borrow more funds in countries with more efficient legal systems during the integration process. Thus, our work demonstrates that financial integration does have an impact on the capital structure of emerging markets by affecting factors related to corporate financing. More importantly, different firm and institutional characteristics can lead to different significance and magnitude of the effects.

The remainder of the paper is structured as follows. Section 2 discusses theoretical underpinnings and develops the hypotheses. Section 3 describes the sample and variables. Section 4 presents the regression results. The concluding remarks are given in the final section.

## 2. Financial integration and corporate financing: hypotheses development

### 2.1. Main hypotheses

Previous works suggest two interrelated channels by which financial integration can influence corporate financing choices. First, financial integration improves the availability of financial services in the domestic financial market, enhances a country's access to international capital and allows foreign equity ownership (e.g., Levine, 1996; Obstfeld, 1998; Giannetti et al., 2002). The new scenarios expand firms' financing options, especially when their home countries have limited capital. The emergence of extra financing resources may thus result in a change in capital structure.

Second, theories suggest that we should expect a decline in the cost of capital as financial integration proceeds to higher levels.<sup>1</sup> Related literature has provided evidence to support the prediction. For example, Bekaert and Harvey (2000), Henry (2000a) and Kim and Singal (2000) report a decrease in the cost of equity after equity market liberalization using a market level analysis.<sup>2</sup> Chari and Henry (2004) find that emerging market firms that become investible for foreign investors, experience a positive stock price revaluation of

15.1% on average, suggesting a reduction in the cost of equity. Patro and Wald (2005) find that firms' stock returns increase during liberalization and that most firms have lower mean returns and dividend yields after liberalization. In the spirit of the above arguments, firms can adjust their use of debt and equity financing as a result of expanded financing resources and reduced cost of debt and equity capital from financial integration. Thus, we test the following hypothesis:

**H1a.** The degree of credit market integration is positively associated with corporate leverage in emerging markets.

**H1b.** The degree of equity market integration is negatively associated with corporate leverage in emerging markets.

Regarding debt maturity, we argue that emerging market firms are likely to obtain additional debt finance due to credit market integration, but primarily at short maturities. The main reason is that the weak financial and legal institutions in developing countries will force creditors to use short-term debt to monitor and discipline borrowers' behavior.<sup>3</sup> Schmukler and Vesperoni (2006) argue that if foreign creditors are more risk averse than domestic investors, the debt maturity structure would shift to the short term because foreign creditors would charge emerging market borrowers a higher risk premium on long-term issues than domestic investors. It is also possible that, as noted by Ağca et al. (2007), increased competition from foreign financial intermediaries and markets is likely to make domestic lenders shorten debt maturity as existing relationship lending can be broken as arms-length finance becomes more prominent. Regarding the equity side, market integration would make equity finance more desirable. Firms could switch from long-term debt to equity since both are long-term financing. Thus, we test the following hypothesis:

**H2a.** The degree of credit market integration is negatively associated with debt maturity in emerging markets.

**H2b.** The degree of equity market integration is negatively associated with debt maturity in emerging markets.

### 2.2. Interactive effects of financial integration on corporate financing

The preceding discussions revolve around the direct effects of financial integration on financing choices. In this section, we discuss conditions under which financial integration can exert differential effects. These conditions can be grouped into three categories, namely, growth opportunity of firms, firm size and the efficiency of a country's legal system.

Our first interactive prediction is that firms with greater external financing needs would benefit more from financial integration. Rajan and Zingales (1998) find that industrial sectors that are more in need of external financing grow faster in more financially developed countries. Their evidence suggests that financial development can facilitate external financing for a firm. In our terminology, financial integration leads to greater financial depth and lower financing costs. This means that more external capital is available than before and at a lower cost, and a fall in a country's cost of capital can transform some negative net present value (NPV) projects into positive NPV projects in the long run. These improvements are likely to motivate firms' financing and investments into new projects and assets. Indeed, Henry (2000b) finds abnormally high

<sup>1</sup> The decline could be driven by some beneficial outcomes of integration such as international risk sharing, diversification potentials, increased competition and efficiency of financial markets and institutions, enhanced corporate governance, and improved information environment (e.g., Stulz, 1999; Errunza and Miller, 2000; Claessens et al., 2001; Giannetti et al., 2002; Dojige et al., 2004; Bae et al., 2006).

<sup>2</sup> These studies assume that financial integration takes place upon liberalization announcement. However, one must be aware that liberalization does not necessarily render immediate integration.

<sup>3</sup> It is argued that short-term debt makes it difficult for borrowers to defraud creditors (e.g., Diamond 1991, 1993; Rajan, 1992). Short-term debt is also used when it is costly to enforce debt contracts (Diamond, 2004).

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