



European integration and corporate financing



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ABSTRACT

This paper explores the importance of supply of capital for corporate financing. To identify this relation, we examine the impact of two exogenous events, entry to the EU and the adoption of Euro, which caused shifts in equity and credit markets during European integration. Following membership to EU, which eased access to equity capital, firms increase equity financing. Firms increase debt financing after the adoption of Euro, which improved access to international debt capital. We control for globalization, ongoing developments in equity and credit channels, firm characteristics, and the moderating effects of the country of origin.

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1. Introduction

In this paper, we explore the importance of the supply of capital for corporate financing decisions. We choose two exogenous events, membership to the European Union (EU) and the adoption of the Euro, which caused a shift in stock and credit market conditions and impacted on European integration. Our paper makes two contributions to the literature. First, we examine the capital structure implications of this unique integration experience initiated by the establishment of the EU, which preceded the introduction of the Euro. Several studies have examined the economic implications of this integration process. For example, earlier research has looked at the impact on bond and equity markets (e.g., Bekaert, Harvey, Lundblad, & Siegel, 2013; Hardouvelis, Malliaropoulos, & Priestley, 2006; Lane, 2006), on firms' foreign exchange exposures (e.g., Bartram & Karolyi, 2006) and on banking activities (e.g., Kalemli-Ozcan, Papaioannou, & Peydró, 2010; Spiegel, 2009).³ No study has looked at the impact on firms' financing choices.

Secondly, our paper contributes to capital structure theories by focusing on the supply-side effects. Supply-side effects arise when imperfections exist in capital markets. If the supply of capital is infinitely elastic at the correct price as assumed by Modigliani and Miller (1958), then debt levels are determined solely by the firm's demand for debt. There is recent evidence to suggest that supply conditions are important inputs to capital structure decisions. For example, Leary (2009) explores the relevance of capital market supply frictions for corporate capital structure decisions by studying the effect on firms' financial structures of two changes in bank constraints, the 1961 emergence of the market for certificates of deposit and the 1966 credit crunch. His results lend support to the role of credit supply and debt market segmentation in capital structure choice. Faulkender and Petersen (2006) present evidence that firms with bond rating have higher leverage ratios than those without after controlling for the demand for debt. The authors interpret this result as suggesting that debt segmentation may put constraints on some firms' ability to borrow so the observed leverage ratios may not reflect those demanded.

To test how the supply of capital affects capital structure choices one has to identify exogenous shocks that directly affect the supply of capital without directly affecting the trade-offs that firms face due to their corporate characteristics that influence these capital structure choices. The adoption of the Euro is an example of such an exogenous event as described by Titman (2002). "In 1999, European currencies were effectively merged into a single currency, the Euro. Prior to conversion, there

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³ For a more complete list of studies see Bekaert et al. (2013).

were illiquid and inactive bond markets in the individual currencies in Europe. Basically the markets were small and illiquid. Therefore investors did not want to hold French Franks and DM bonds. By creating the Euro, European corporations can issue corporate bonds in a single currency which is likely to result in a single more active and more efficient market.” (Titman, 2002 p.113–114). In this paper, we investigate the adoption of the Euro and its impact on corporate financing choices through the supply of debt capital.⁴

Prior to the adoption of the Euro, European countries had to join the EU created in 1993 with the signing of the EU Treaty, commonly referred to as the Maastricht Treaty, which allowed for the free movement of goods, capital, people and services between EU members and the implementation of EU directives to harmonize regulation of capital markets and financial services. The establishment of the EU enhanced the countries' access to international capital and allowed foreign equity ownership. The new financial environment expanded firms' financing choices, especially those of the smaller countries that had originally the least developed financial markets. Bearing in mind the findings of Bekaert et al. (2013) that equity market integration in Europe was mainly achieved during accession to the EU, while the launch of the European Monetary Union (EMU) and the adoption of the Euro had a non-significant impact, we consider membership to the EU as an exogenous event that affects capital structures of firms through the supply of equity capital. We delineate the impact of the two phases of European integration accordingly; the country's membership to the EU, which improves access to equity capital; and the country's adoption of the Euro, which improves access to debt capital.

Our work draws from two strands of literature, which have studied capital structure decisions in an international context. The first one refers to the difference between bank-based and market-based systems and the other looks at the impact of structural changes in emerging economies. Our study is complementary to those but differs from them in several aspects. The first group of studies in this literature focuses on differences in corporate financing choices between bank-based and market-based systems (e.g., Antoniou, Guney, & Paudyal, 2008; Rajan & Zingales, 1995). However, today bank-based and market-based systems are getting closer (e.g., Beck, Demirguc-Kunt, & Levine, 2010; Levine, 2002).⁵ Higher levels of credit market integration have been observed in market-based systems and higher levels of equity market integration have been observed in bank-based systems (e.g., Rajan & Zingales, 2003). Assuming that firms operate either in a bank-based or in a market-based system underestimates the complexity of the financial markets today. Most firms operate in systems that exhibit characteristics of both. Our study contributes to the literature by examining the effect of the European integration that brings closer bank-based and market-based systems. On the one hand, stock markets are established in every European country, and FDI flows increased, while on the other hand, the introduction of Euro made it possible to borrow in a common currency and expand the credit markets.⁶ Accordingly, in our empirical models we control for the effects of both equity and credit market channels.

The second strand of studies focus on the impact of structural changes in emerging markets on firm financing choices through the equity market channel (e.g., Lucey & Zhang, 2011; Mitton, 2006; Schmukler & Vesperoni, 2006). Part of the deregulation, which leads to financial integration, includes the relaxation of foreign ownership restrictions. It

should be noted that foreign equity flows can follow two routes; portfolio flows through the stock market and foreign direct investments (FDI) flows. The effect of stock market expansion has been studied in detail (e.g., De Jong, Kabir, & Nguyen, 2008; Demirguc-Kunt & Maksimovic, 1999; Fan, Titman, & Twite, 2012). We introduce the impact of FDI flows on corporate choices as another channel of equity market integration. FDI flows precede portfolio flows (e.g., Andrade & Chhaochharia, 2010) that are traditionally used to measure equity market integration. This is especially important in the European context, whereby FDI inflows have increased from \$124 billion in 1996 to \$347 billion in 2009⁷ (see Fig. 1). The two types of equity market integration arising from FDI and portfolio flows can proceed simultaneously and interact with each other.⁸ Hence, we control for both aspects of equity market integration to obtain a complete picture.

Our sample includes firms from both large and small economies of Europe. We have a total of 7226 listed firms in our sample, of which 6795 are from EU-15 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the UK) and 431 are from European Union new member states EU-NMS (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia).

Our results show that European firms increase equity financing when the country they reside enters the EU and debt financing when it joins the EMU. The firm level implications of adopting the Euro are through the credit channel that leads to increasing debt ratios and both short-term and long-term borrowing. We show that at the corporate level, firms increase equity financing as access to equity capital is expanded through accession to EU. In addition, we show that supply side developments in the credit markets as a result of the adoption of the Euro result in the use of higher debt at the corporate level confirming Titman's (2002) expectations to that effect. Our results are robust to controlling for several economic and financial developments in equity and credit markets that took place during the European integration and to the moderating effects of the country of origin. Bearing in mind that financial integration can be constrained by country and firm characteristics (e.g., Claessens & Schmukler, 2007) and firms can overcome these obstacles with the help of globalization (e.g., Dojige, Karolyi, & Stulz, 2012) we extend our analysis and divide our countries into EU-15; and EU-NMS, accordingly. In addition to our main results, we observe that in this process EU-NMS firms respond to higher levels of credit market integration by increasing leverage and to greater equity market integration by increasing equity, while EU-15 firms that are going through EMU accession phase increase their debt maturities in response to these changes. It is particularly interesting to note that FDI flows provide a valuable source of equity financing for firms in EU-NMS, while it enables longer debt maturities for firms in EU-15.

In order to ensure that our results concerning the effects of EU and EMU do not mask the effects of the ongoing globalization process, we conduct further tests by including two direct indicators of financial globalization based on Lane and Milesi-Ferretti (2007). Our results survive this test as well. We complete our analysis by looking at whether joining the EU and EMU offers better access to finance for small firms and try to understand if they have actually benefited more from European integration, and by looking at the financing decisions of non-surviving firms to understand their survival strategies with respect to corporate financing choices.

The rest of the paper is organized as follows. Section 2 gives the literature review and develops the hypotheses, Section 3 introduces the data, while Section 4 presents the research design. Section 5 discusses

⁴ It is possible that there could have been demand-side effects as a result of the adoption of the Euro as well. We describe how we control for them in detail in the next section.

⁵ In fact, Levine (2002) argues that classifying countries as market or bank based to distinguish financial systems is not helpful as both types of financial systems promote similar levels of economic growth. He further discusses that what matters is the level of development of the financial systems and the enforcement of legal contracts.

⁶ In fact, this process is officially addressed by the Markets in Financial Instruments Directive (known as MiFID) of 2003 that became effective in 2007 that provides the basis of the European Union law that harmonizes the regulation for investment services across the 30 member states.

⁷ However, in 2000 FDI reached \$695 billion as a result of the build-up to the adoption of the Euro by most EU-15 countries, before declining in 2004 due to primarily large repayments of intra-company loans by foreign affiliates in some host countries, particularly, Germany and the Netherlands (WIR, 2005). Subsequently, FDI inflows rose again due to higher intra-EU FDI, as NMS acceded to EU (WIR, 2006) reaching \$830 billion in 2007, before declining again as a result of the global financial crisis.

⁸ FDI is defined by OECD as minimum 10% of equity ownership.

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