Journal of Corporate Finance 18 (2012) 980–993

Contents lists available at SciVerse ScienceDirect

Journal of Corporate Finance

journal homepage: www.elsevier.com/locate/jcorpfin

Determinants of corporate debt maturity in South America: Do institutional quality and financial development matter?

Guilherme Kirch [1], Paulo Renato Soares Terra *

Universidade Federal do Rio Grande do Sul, School of Management, Rua Washington Luís 855, Porto Alegre, RS, 90010–460, Brazil

A R T I C L E I N F O

Article history:
Received 13 September 2010
Received in revised form 16 May 2012
Accepted 17 May 2012
Available online 25 May 2012

JEL classification:
G32
E44
G39

Keywords:
Debt maturity
Institutional quality
Financial development
Factor analysis
Dynamic panel data analysis
South America

A B S T R A C T

We test whether a country's level of financial development or institutional quality (or both) has a first-order effect on corporate debt maturity decisions on a sample of 359 non-financial firms from five South American countries over a 12-year period. We find that there is a substantial dynamic component in the determination of a firm's debt maturity, and firms face moderate adjustment frictions toward their optimal maturities. More importantly, the level of financial development does not influence debt maturity, whereas the institutional quality of a country has a significant positive effect on the level of long-term debt in a firm's financial structure. Our results support the hypothesis that the quality of national institutions is an important determinant of corporate financing in general and of debt maturity in particular.

1. Introduction

The literature in law and finance shows that laws and the quality of their enforcement are important determinants of the shape and complexity of financial contracts pertaining to debt and equity. According to this literature, the level of protection investors receive determines their disposition toward providing funding to firms. Therefore, corporate financial decisions may critically rely on the legal framework and the quality of legal enforcement (La Porta et al., 1998). Further, some authors argue that corporate finance decisions are also affected by a country's financial development, since markets and financial intermediaries source capital to firms and provide information to investors (Demirgüç-Kunt and Maksimovic, 1998).

Empirical work seems to confirm these predictions: differences in investor protection and/or the degree of financial development across countries help to explain why firms in different countries have, e.g., differing access to external financing (Demirgüç-Kunt and Maksimovic, 1998; La Porta et al., 1997), differing ownership structures (La Porta et al., 1998), differing dividend payouts (La Porta et al., 2000a), and differing leverage and debt maturity (Booth et al., 2001; Demirgüç-Kunt and Maksimovic, 1999; Fan et al., 2012; Giannetti, 2003; González and González, 2008; Jong et al., 2008).

* Corresponding author. Tel.: +55 51 3308 3818; fax: +55 51 3308 3991.
E-mail addresses: gkirch@ea.ufrgs.br (G. Kirch), prsterra@ea.ufrgs.br (P.R.S. Terra).
[1] Tel.: +55 51 3308 3536; fax: +55 51 3308 3991.

0929-1199/$ – see front matter
doi:10.1016/j.jcorpfin.2012.05.004

However, as pointed out by La Porta et al. (2000b), more developed financial markets may be an outcome of better investor protection (institutional framework, property rights, etc.). According to Levine (1999), the development of financial intermediaries may depend on the quality of legal systems and of accounting standards, since financial activities are based on contractual arrangements and information about corporations. If financial development is simply an outcome of better investor protection, it should not have a first-order effect on corporate financial decisions, after controlling for the quality of investor protection. In our opinion, previous empirical work fails to test this prediction because: 1) it does not recognize this relation explicitly[2]; and 2) it uses a few single variables (time-invariant in most cases) to represent these constructs, increasing the probability that the estimated coefficients suffer from omitted variables bias.

In this paper, we try to shed light on this issue. Specifically, we analyze, in a focus-country setting, how firm characteristics, quality of national institutions, and country level of financial development affect the debt maturity of firms from a sample of South American countries. Moreover, and more importantly, we are able to provide novel evidence on the question of whether financial development or institutional quality (or both) have a first-order effect on corporate debt maturity decisions.

Among other financial decisions that may be strongly influenced by a country's level of financial development and/or the quality of its institutions, the maturity of debt seems particularly sensitive to these determinants. Indeed, recent studies document that debt maturities in emerging market countries are substantially shorter than in developed markets (e.g., Fan et al., 2012). Therefore, a debt maturity variable is appropriate to the kind of empirical investigation conducted here.

Given the relationship between institutional quality and financial development, if one or both constructs are misrepresented in the regression analysis, there is a substantial likelihood that the coefficients of the included variables are contaminated by an omitted variable bias. Suppose that the hypothesis that financial development is simply an outcome of a better institutional environment is true and that the researcher overlooks this. In this case the variables that proxy for the level of financial development may present (spurious) significant coefficients due to correlation with the omitted institutional quality variables, leading to an incorrect conclusion. In order to address this concern, we construct our financial development and quality of institutions indicators based on a broader array of variables, summarized in continuous, time-varying factors that we hope represent more closely the underlying theoretical constructs than do arbitrary single variables.

This paper also contributes to the existing body of knowledge in other ways. First, we focus on a sample of developing countries in South America that have thus far received little attention in empirical studies. South American countries warrant increased attention for several reasons: the empirical literature relies mainly on U.S. evidence, and the robustness of its results should be compared with evidence from countries whose economic structures differ; the growing significance of emerging markets in general, and South America in particular, in the world economy in terms of output, trade, investment, and stock market capitalization; South America's political and corporate systems have practices that differ from those of industrialized countries; and finally, to the best of our knowledge, no study has yet thoroughly analyzed the influence of national institutions and financial development on the debt maturity of firms in South America.[3]

Second, we employ two databases seldom explored in the maturity literature: the World Bank Financial Structure and the Governance Indicators datasets. These databases provide, respectively, a thorough perspective on the level of financial development and the quality of the institutional environment in each country. They do so by documenting a wide array of variables that describe various aspects of the institutional and financial structures of each country.

Finally, in order to consolidate the information available in the above mentioned databases, the variables are summarized via factor analysis. Such an approach presents many advantages: the extracted factors are time-varying continuous variables in contrast to the time-invariant proxies usually employed in the literature; the extracted factors account for a larger proportion of the underlying variation and represent more closely a given theoretical construct than do single variables; single variables are usually highly correlated, which prevents the use of more than a few simultaneously in the estimation of the models; and finally, the weights attributed to each variable in each extracted factor are objectively determined rather than arbitrarily set, as in indexes that are simple sums of binary variables (e.g., La Porta et al., 1998). Each of these advantages is related to our primary concern of measuring both constructs (institutional quality and financial development) with greater accuracy. Along with the ample coverage (in terms of the aspects measured) of both databases employed, this approach gives us confidence that the likelihood that our results are contaminated by omitted variables biases is reduced.

The paper closest to our own is Fan et al. (2012). However, there are marked differences between the two papers. First, beyond institutional characteristics, our study attempts to capture the effects of country financial development on the firm maturity decision. Also, and even more importantly, as pointed out by La Porta et al. (2000b), more highly developed markets may be an outcome of better investor protections (institutional framework, property rights, etc.); accordingly, whether institutional characteristics or financial development (or both) have a first-order effect on firm debt maturity remains an empirical question.

Second, there is a difference of scope: while ours is a focused-country study, Fan et al. (2012) is a cross-country study. According to Fan et al. (2011, p. 207): "*An advantage of focused-country studies over cross-country studies is that the former can*

[2] Kusnadi and Wei (2011), to the best of our knowledge, is an exception. These authors test whether legal protection of investors or financial development is the first-order effect in influencing the cash flow sensitivity of cash. Their results suggest that legal protection predominates over financial development.

[3] Recent research documents several particularities of the institutional setting in South American countries: a predominance of French civil law legal tradition (La Porta et al., 1998), weaker public law enforcement (La Porta et al., 2006), lower degree of investor protection (La Porta et al., 2000b), financial markets more likely to be bank-based (Levine, 2002), smaller stock markets (La Porta et al., 1997), higher degree of public firm ownership concentration (La Porta et al., 1999a), higher presence of state ownership of banks (La Porta et al., 2002), less efficient governments (La Porta et al., 1999b), and more regulated labor markets (Botero et al., 2004).