Journal of Corporate Finance 20 (2013) 59–73

Contents lists available at SciVerse ScienceDirect

Journal of Corporate Finance

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

The internal workings of internal capital markets: Cross-country evidence ☆

Klaus Gugler [a,*], Evgeni Peev [b], Esther Segalla [c]

[a] WU (Vienna University of Economics and Business), Department of Economics, Augasse 2-6, A-1090 Vienna, Austria
[b] University of Vienna, Department of Economics, BWZ, Bruenner str. 72, A-1210 Vienna, Austria
[c] Oesterreichische Nationalbank, Economic Studies Division, Otto-Wagner-Platz 3, A-1090 Vienna, Austria

ARTICLE INFO

Article history:
Received 29 July 2011
Received in revised form 5 December 2012
Accepted 7 December 2012
Available online 13 December 2012

JEL classification:
G3
F3
P5

Keywords:
Investment
Cash flow
Subsidiaries
Internal capital market
Ownership
Country governance

ABSTRACT

We derive empirical predictions from the standard investment-cash flow framework on the functioning of internal capital markets (ICM), but circumvent its criticism by focusing on *parent* cash flow and investment opportunities. We test these predictions using a unique dataset of parent firms and their listed and unlisted subsidiaries in 90 countries over the period 1995–2006. We find that company and country institutional structures matter. (1) Ownership participation of the parent firm in the subsidiary plays a crucial role for the proper functioning of ICMs. The larger the ownership stake of the parent, the better the functioning of the ICM. (2) The best functioning cross-border ICMs can be found in the sub-sample of firms with parents from a country with "strong" institutions and subsidiaries from a country with "weak" institutions. (3) Unlisted subsidiaries are much more dependent on the ICMs their parents provide than listed subsidiaries. Thus, ICMs are not per se "bright" or "dark", their proper functioning depends on how they are set up.

1. Introduction

The literature stresses two opposing effects of internal capital markets (ICMs) on the investment performance of group firms or group segments. On the one hand, ICMs may substitute for missing external capital markets (ECMs), especially in less developed countries (Desai et al., 2004; Khanna and Palepu, 1999; Khanna and Yafeh, 2007). In the presence of capital market imperfections, subsidiaries/segments are able to access the funds that parents provide (Inderst and Mueller, 2003), and they benefit from the access to finance from other affiliates within the multinational network (Stein, 2003). Parents may also impose discipline on subsidiaries/segments by reallocating funds to those with investment proposals with a positive net present value but low internal cash flows (Stein, 2002). On the other hand, the redistribution of capital between subsidiaries or segments may weaken managerial incentives and lead to wasteful business activities (Milgrom and Roberts, 1988; Meyer et al., 1992). Under the conditions of soft budget constraints, ICMs allocate too many resources to firms with bad investment opportunities and too few to firms with good investment opportunities (Lamont, 1997; Rajan et al., 2000; Shin and Stulz, 1998). Some authors explain ICM inefficiency by poor corporate governance (Ozbas and Scharfstein, 2010; Sautner and Villalonga, 2010; Scharfstein and Stein,

☆ This research was partly supported by the FWF project P 19522-G14 on "Corporate Governance in Central and Eastern Europe" and by the Austrian National Bank Project Nr. 12325. We would like to thank Dennis C. Mueller, Marc Roe, seminar participants at the EARIE in Toulouse, the University of Vienna, the Universitat Autonoma de Barcelona, and the Harvard Law School for helpful comments.
* Corresponding author.
E-mail address: klaus.gugler@wu.ac.at (K. Gugler).

0929-1199/$ – see front matter © 2012 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.jcorpfin.2012.12.001

1990, 2000). Others claim that the evidence of ICM misallocations is an artifact of measurement error in Tobin's q used as a proxy for investment opportunities (Whited, 2001).

We take a neutral view and analyze the factors which contribute to the proper or ill-functioning of internal capital markets. Our empirical analysis builds on the familiar asymmetric information hypotheses on the relationship between internally generated cash flows and company investment (see e.g. Gugler et al., 2004a, 2004b or Stein, 2002). We extend this investment-cash flow framework to derive testable hypotheses on the workings of ICMs. We show that in proper functioning ICMs the subsidiary investment is positively related to parent firm cash flow and negatively related to parent firm investment opportunities.

We construct a unique dataset of parent firms and their listed and unlisted subsidiaries in 90 countries over the period 1995–2006. The cross country/cross firm variation in our dataset allows us to test various novel hypotheses on the effects of the nature of the parent–subsidiary relation (tightness of control, relatedness of assets etc.), country governance, and financial development on the functioning of ICMs. We seek to contribute to the literature on ICMs in at least three ways.

First, most papers on ICMs use firm segment data that introduce measurement errors in the main variables. For example, one cannot directly measure investment opportunities by Tobin's q because divisions have no independent market value, thus papers typically use the q-ratios of stand-alone firms in the same industry as a proxy for division's investment opportunities. This approach was criticized on the grounds that average qs of stand-alone firms do not proxy well for the investment opportunities of divisions (Whited, 2001). Some authors try to resolve the problem of measurement errors constructing a measurement-error consistent estimator (Whited, 2001) or using plant-level data (Maksimovic and Phillips, 2002). Our paper uses subsidiary data. Subsidiaries are separate legal entities and provide balance sheet and income statements. Thus, we do not need to rely on segment data and can directly control for the investment opportunities of the subsidiaries, e.g. measured by (subsidiary) Tobin's q or sales growth.

Second, a large literature has examined the link between internally generated cash flows and company investment, interpreting the investment-cash flow sensitivity as a sign of financial constraints. For example, Bond et al. (2003) study the role of financial factors in investment spending in four countries in Western Europe and present evidence that financial constraints are relatively severe in the more market-oriented U.K. financial system. Love (2003) examines cash flow coefficients across countries and tests whether they vary with measures of financial development. Recently, Becker and Sivadasany (2010) focus on the effects of financial development on company financing constraints in European countries over the period 1998–2002. Both papers find that financial development can mitigate financial constraints.

This literature was criticized on the grounds that cash flow may merely proxy for future investment opportunities, and thus a positive investment-cash flow coefficient does not say much about cash constraints (see the discussion between Fazzari et al., 1988, 2000 and Kaplan and Zingales, 1997, 2000). This paper partly circumvents this critique by focusing on the *parent* firm cash flow influence on *subsidiary* investment. *Parent* cash flows should be less likely to proxy for *subsidiary* investment opportunities. Moreover, we systematically utilize the cross country/cross firm/cross time nature of our panel, and stress the *differences* across firms and countries. Large and significant parent cash flow coefficients found in ICMs for some firms or countries and insignificant cash flow coefficients found for others are a sign of the workings/non-workings of the ICMs and not differing investment opportunities.[1]

Finally, in recent years a great deal of research focused on the role of institutions in determining company performance. It demonstrated that there are significant differences in performance across firms that are related to the corporate governance and legal institutions of the country in which a company is located, the identity of the controllers of a firm, and the degree of entrenchment of those in control.[2] We add significantly to this evolving literature by testing for the effects of institutional structures on ICMs.

Our study is related to a recent paper by Carlin et al. (2008), who examine the effects of ownership and financial development on investment behavior in 69 countries in 1994–2005. We analyze simultaneously listed *and* unlisted subsidiaries of (listed) parents. Carlin et al. (2008) focus on listed subsidiaries only and present evidence in favor of the existence of ICMs that reallocate finance to member firms with superior investment opportunities. However, unlisted subsidiaries far outweigh listed subsidiaries in economic importance and presumably, one of the main reasons why ICMs exist is to substitute for missing ECMs. Unlisted subsidiaries are more likely to face cash constraints, and should benefit most from the workings of ICMs. We discuss the similarities to and differences from Carlin et al. (2008) more in depth in the body of the text.

We find mixed evidence for the functioning of ICMs. On the one hand, we find evidence that ICMs alleviate cash constraints if ECMs are under-developed. Parent firms do re-allocate cash flows, and the subsidiaries with better investment opportunities get a higher share of the pie (i.e. there is a "ranking" of subsidiaries competing for valuable funds). Investment of unlisted subsidiaries is much more sensitive to parent firm cash flow than the investment of their listed counterparts. Subsidiaries from "weak" institution countries or from countries with badly developed financial markets, are more dependent on ICMs than their counterparts in "strong" institution countries or countries with well developed financial markets. All this is consistent with the "bright side" of ICMs.

On the other hand, ICMs are "costly" in the sense that a large ownership stake of the parent is an important factor for their working. Moreover, it appears to be necessary that the parent firm stems from a country with strong institutions and/or ECMs for proper functioning ICMs. If the parent stems from a "weak" country, one should not expect functioning ICMs. Thus, there is also a "dark side" of ICMs.

The rest of the paper is structured as follows. Section 2 discusses our hypotheses and the econometric modeling. Section 3 describes the data and sample characteristics. Section 4 analyzes the econometric results and Section 5 provides conclusions.

[1] See, for example, the discussion in Bond et al. (2003).

[2] See e.g. Claessens et al. (2002), Demirgüç-Kunt and Maksimovic (1998), Faccio et al. (2001), Gugler and Peev (2010), Gugler et al. (2003, 2004a, 2008), La Porta et al. (1997, 2000a, 2000b), Morck et al. (1988), Mueller and Peev (2007), and Mueller et al. (2003).