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Determinants of ownership concentration in public firms: The importance of firm-, industry- and country-level factors

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A B S T R A C T

We analyze the relative importance of firm-, industry-, and country-level factors as determinants of the level of ownership concentration of firms. We apply hierarchical linear models to a sample of 900 firms from nine countries. Our models explain up to 28% of the variance in ownership concentration. The results show that firm- and country-level factors influence ownership concentration far more strongly than industry-level factors do. The institutional context in which companies operate has a relatively large effect on ownership concentration. Our results should spark further multi-level research on the relationship between environmental factors on the country level and the allocation of ownership rights.

1. Introduction

Over the past 25 years, research on the determinants of the ownership concentration of firms has made considerable progress. In their seminal work, Demsetz and Lehn (1985) argued that ownership concentration is endogenously determined by firm- and industry-specific factors such as risk and capital requirements. Studies since the late 1990s have identified systematic differences in ownership concentration between countries (Faccio & Lang, 2002; La Porta, Lopez-de-Silanes, & Shleifer, 1999; Thomsen & Pedersen, 1996, 1997). These authors have argued that institutional differences at the country-level, such as the stock market development, the degree of shareholder protection, or the need for a counterweight against the interests of employees, account for a considerable portion of the differences in ownership concentration. However, more recently, Holderness (2009) has cast doubt on the importance of country-level institutional factors as determinants of ownership concentration. Against this background, we investigate the relative importance of firm-, industry-, and country-level determinants of ownership.

This assessment is important for at least two reasons. First, from a theoretical perspective, the idea that institutional conditions shape both the behaviors of economic actors, and the allocation of resources among them, is a central tenet of institutional economics and other institutional theories (North, 1990; Scott, 1987). If country-level conditions played no or only a minor role for the question of how ownership rights in firms were distributed, this finding would cast significant doubt on the institutional perspective. It would also draw into question theories that create linkages between overarching country-level institutional conditions and more specific legal or paralegal provisions that attribute rights and responsibilities to alternative classes of shareholders, and thus define the balance of power among them. For example, according to the 'legal origins hypothesis', countries rooted in the common law tradition provide superior protection to minority shareholders as compared to civil law countries (Beck, Demirgüç-Kunt, & Levine, 2003a; Glaeser & Shleifer, 2002), leading to lower ownership concentration in the former as compared to the latter countries. If country-level conditions did not matter for ownership concentration, the legal origins hypothesis would look untenable.

Second, the question of whether institutional or other conditions on the country-level account for variations in the distribution of ownership rights in firms should also be of interest to policy-makers. If they do, then legislative changes (for example, legislation designed to foster or restrict capital market development) should have secondary effects on who owns and controls the productive resources in an economy. From a historical perspective, Rajan and Zingales (2003) have argued that the dispersed ownership structures widely considered to be characteristic of publicly quoted companies in the United States are a result of politically induced restrictions on dominant capital market players in the post-depression era of the 1930s, a development that they describe as a "great reversal." If country-level conditions affect ownership distribution to a significant extent, policy-makers need to bear in mind the potential consequences of legislative changes on issues such as allocation efficiency.

In this paper, we use a hierarchical linear model for the analysis of a sample of 900 firms from nine countries to address our research question. We find that institutional conditions on the country-level

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are of considerable importance in explaining variations in ownership concentration between firms. The legal tradition to which a country belongs appears to capture these institutional conditions fairly well. In contrast, industry characteristics do not contribute much to explaining variations in ownership concentration. Furthermore, while we find that firm-specific factors as a whole are clearly important as determinants of ownership concentration, the particular ones that we are able to specify (e.g. firm size, firm-specific risk) explain only a limited proportion of the firm-level variation in ownership concentration. Therefore, we conclude that the firm-specific drivers of ownership concentration are still poorly understood.

The structure of the paper is as follows. First, we review the existing literature on firm, industry-, and country-level drivers of ownership concentration. Second, we provide an overview of the data set, the variables and the statistical methods used in the empirical study. In the third sections we present our results. Finally, we discuss the theoretical implications of our empirical study and provide recommendations for future research.

2. Review

The notion of the 'ownership concentration of a firm' refers to the distribution of the ownership rights among different parties who collectively own the firm. The questions of whether the ownership rights in a firm are held by just a few shareholders or by many, and what the relative size of the ownership stakes of different shareholders are, are important concerns for a number of reasons.

The finance literature highlights the idea that dispersed ownership structures efficiently distribute firm-specific risks among multiple investors (Markowitz, 1952). At the same time, small ownership stakes limit the incentive of each shareholder to expend time and resources for monitoring the firm, inducing moral hazard. According to Berle and Means' (1932) managerial capitalism argument, the dispersion of ownership among relatively small outside shareholders led to a control gap which was duly filled by inside managers who were able to exploit the situation to their own advantage. Conversely, many studies have shown that more concentrated ownership structures (e.g. through blockholdings) enhance shareholder monitoring and limit managerial discretion (Holderness & Sheehan, 1988; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). Distributive justice theories, in contrast, are largely in favor of dispersed ownership structures, either for their direct consequences (broad participation in the wealth created by firms' operations), or for their indirect effects (dispersed control over firms' economic activities) (see Morck, Wolfenzon, & Yeung, 2005).

From an empirical perspective, ownership concentration varies widely among firms. In all market-based economies, the clear majority of small and medium-sized firms are owned by individuals, families, or a limited group of internal or external shareholders. However, companies that list on the stock market do so in order to attract equity capital from multiple investors, which induces greater dispersion in their ownership structure. In particular among large companies with significant capital requirements that have issued equity in the stock market, ownership can be so dispersed that no single owner holds more than 1% of the ownership rights. Even within the group of publicly owned firms (and within industries, and countries), there is a large variation in ownership concentration, as our data show (see Tables 1 and 2).

The extant literature analyzes the factors that drive the ownership concentration of firms from a variety of perspectives. Corporate finance suggests that firm-level conditions, such as firm size and firm-specific risk may call for particular degrees of ownership concentration (Bergstrom & Rydqvist, 1990; Crespi-Cladera, 1996; Demsetz & Lehn, 1985; Gedajlovic, 1993). Industrial economics focuses on the variation in ownership concentration between sectors, arguing that industry conditions – such as industry-specific regulatory environments – may partly account for this variation (Bergstrom & Rydqvist, 1990; Demsetz & Lehn, 1985; Van der Elst, 2004). According to institutional perspectives, formal or informal institutional arrangements, many of which (although not all of them) are country-specific, are an important part of the explanation for the observable differences in ownership concentration across firms (La Porta et al., 1999; Roe, 2004; Thomsen & Pedersen, 1997). In the following, we sketch out the arguments developed by these three schools of thought in greater detail, and summarize the existing empirical evidence.

Table 1
Descriptive statistics of *cr5* by country (in %).

Country	*N*	Mean	Min	Max	sd
Australia	100	36.13	0.75	95.56	20.78
Brazil	100	46.73	0.94	98.80	28.40
Canada	100	31.75	1.49	93.09	20.48
France	100	52.48	2.17	99.87	24.22
Germany	100	48.44	1.02	99.75	27.77
Italy	100	56.48	0.12	98.22	20.71
Japan	100	23.19	6.36	64.47	12.87
United Kingdom	100	30.96	8.90	77.01	13.21
United States	100	22.32	0.94	51.21	7.72
Total	900	38.72	0.12	99.87	23.81

2.1. Firm level

As ownership concentration is defined as a characteristic of a firm, an investigation of the potential drivers of ownership concentration should naturally begin at this level. According to financial theory, both firm size and firm-specific risk have implications for the costs and benefits associated with the decisions by investors to take a stake in the firm, and thus influence ownership concentration.

With regards to firm size, Demsetz and Lehn (1985) argue that the larger the size of a firm, the larger the investment required to obtain a particular fraction of equity. Increasing firm size will be associated with the acquisition of relatively smaller equity stakes by a greater number of investors, and hence, lower ownership concentration, for two reasons. First, acquiring a significant share in a large firm likely leads to a suboptimal portfolio diversification of the investor concerned. The investor will incur the resulting costs either in the form of decreased portfolio performance or in the form of transaction costs associated with reestablishing optimal diversification (Markowitz, 1952; Miles & Ezzell, 1980; Modigliani & Miller, 1963). Second, although an investor may use debt capital to acquire a given share in a firm, acquiring debt involves transaction costs and interest payments. These costs increase with the amount of debt necessary to leverage the acquisition of ownership

Table 2
Descriptive statistics of *cr5* by industry (in %).

Industry	*N*	Mean	Min	Max	sd
Mining	63	35.20	7.53	91.26	23.22
Finance, Insurance, Real Estate	164	34.60	0.75	99.65	24.58
Manufacturing	343	38.16	4.85	99.75	22.49
Retail/Wholesale	88	39.39	2.17	95.56	22.92
Transportation	151	42.26	0.12	99.87	26.47
Services	67	42.58	4.58	94.02	22.54
Construction	24	48.51	18.73	97.23	22.24
Total	900	38.72	0.12	99.87	23.81