

Legal determinants of corporate ownership concentration

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1 Introduction

Why is corporate ownership more concentrated in Mexico than in Australia? More dispersed in the United States than in France? The seminal paper “Law and Finance”, by La Porta, Lopez-de-Silanes, Shleifer and Vishny, (hence forth “LLSV”, 1998) gave answer to these and other related questions. LLSV (1998) showed how national regulatory factors could be coded and measured quantitatively, and since, the legal environment has been shown to have an impact on various features of an economy’s financial environment, including concentration of corporate ownership (LLS, 1999; LLSV, 1998).

When shareholders are poorly protected, large shareholders need, all else equal, to own more capital, in order to exercise their monitoring role. Too, low shareholder protection reduces demand for new shares, which in turns makes corporations issue less. Both of these effects stimulate ownership concentration. By means of a statistical analysis, a such correlation between law and finance was shown to be empirically significant (LLSV, 1998). As high ownership dispersion is a general assumption in financial literature, this finding was highly relevant.

This paper proposes a revision of the research on legal determinants of corporate ownership concentration by LLSV (1998). This is interesting for at least two reasons. Firstly, the data were collected in the mid-nineties, since when, the world economy has gone through several cyclical fluctuations. Most importantly, The Global Financial Crisis (Rao & Reddy, 2015) has had significant impact on the global financial environment. Secondly, due to critique of some of the methods used in gathering the legal measurements, corrections to some of the measurements is found in more recent literature. It is therefore relevant to test, whether the correlation is still significant, or if new explanations are required.

2 Research objective

The objective of the proposed research is to provide an adequate answer to the question: “To which degree is there a correlation between the quality of legal investor protection and corporate ownership concentration?”

Variances in ownership concentration are observed across different economies, and a general explanation is required. A such explanation has been found in prior literature (La Porta, Lopez-de-Silanes, & Shleifer (henceforth “LLS”) 1999; LLSV, 1998), through means of a statistical analysis. Due to developments in both the empirical and literary context, it is however relevant to revise ear-

lier studies. The research design employed will be based on those found in relevant literature (LLSV, 1998; Spamann, 2010).

3 Empirical background

The following sections will first show why a study on variances in corporate ownership structure is of interest in the first place. This is followed by a brief outline of why the recent Global Financial Crisis, makes it interesting to review previous findings with recent empirical material.

Across different economies, there are significant differences in the financial environment. Scholars have pointed out the very low frequency of initial public offerings (IPOs) in Italy (Pagano, Panetta, & Zingales, 1998), as well as the small German stock market (Edwards and Fischer, 1994). Too, the voting premium (the price difference between shares holding voting power and those who do not) is for example significantly lower in Sweden and United States than in Italy and Israel (Levy, 1983).

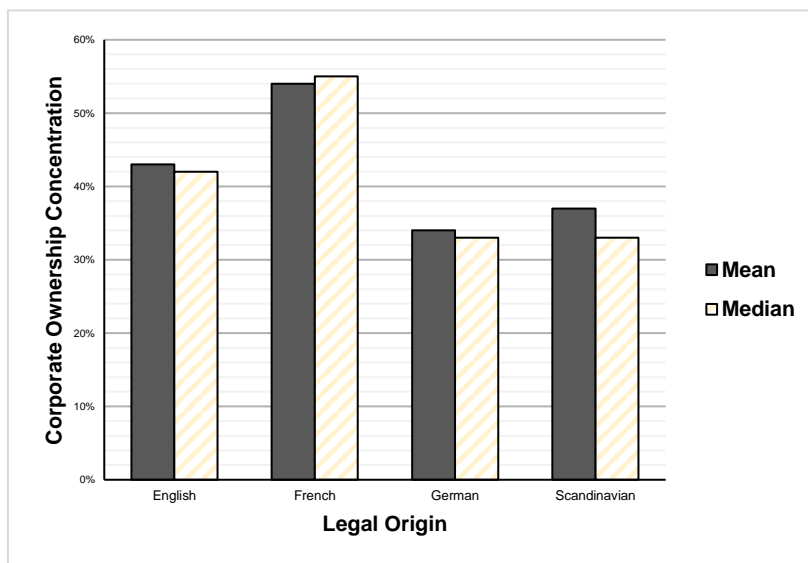


Fig. 3-1. Legal origin-specific average of mean and median of country-specific corporate ownership stake of 3 largest shareholders. Source: LLSV (1998).

The 1932 classic, *The Modern Corporation and Private Property*, by Adolph Berle and Gardiner Means, described the American corporation as an institution, in which ownership is widely dispersed. This is also the prevailing picture found in corporate finance literature (Modigliani & Miller, 1958; LLS, 1999). Across different economies, however, there are huge variations in ownership

concentration. As an example, the view of Berle and Means (1932) is, in reality, more descriptive of the United States than of Mexico and Italy (LLS, 1999).

At a closer look, ownership concentration variation follows distinct patterns, as shown by LLSV (1998). Grouping countries by the origin of their commercial laws, shows an apparent association, see Fig. 3-1. LLSV further (1998) proved a negative correlation between legal investor protection and ownership concentration. In this understanding, legal protection is a product of the legal origin of commercial laws and the country-specific revisions. Providing an explanation these cross-country variations was relevant to the epistemic communities of both international business, financial economy and corporate governance. This, in turn, made it relevant to investors, policy-makers and other stakeholders in the business environment, reliant on research.

Yet, revising previous findings on cross-country variations in corporate ownership concentration is interesting for at least two reasons. The first of these deals with the empirical material used to measure ownership concentration. Published in 1998, and several years underway, the seminal “Law and Finance” (LLSV, 1998) is based on more than 20 years old data. Business fluctuations, and especially the 2007-2008 Global Financial Crisis might thus have blurred the picture. Research on the Financial Crisis has shown a considerable impact on global investment patterns. As an example, emerging market economies are attracting larger quantities of foreign investments, both in terms of FDI and M&A (Rao & Reddy, 2015). This could likely change general ownership patterns as well.

A second reasons why it is interesting to revisit the findings of LLSV (1998), is found in the development in the literature on the measure of legal protection. This will be reviewed in the following section on the theoretical foundation, and in greater detail in the section on data.

4 Literature review

In the traditional financial literature, as presented mainly by Modigliani and Miller (1958), the defining characteristic of securities was first and foremost their ability to provide cash flows, (LLSV 1998); debt securities paying interest; equity securities paying dividends. Securities were thus valued by the intrinsic value of generating cash-flows.

Future scholars argued that the defining feature is the rights attached to the individual security; creditors are thereby paid since they yield the right to reposes collateral; holders of equity do thus receive dividends, since they can vote out directors, unwilling to pay them (Hart, 1995).

Both of these views do, however, come short in explaining various differences in the financial environment between countries. These include a deficiency in providing a universal explanation of cross-country variations in corporate ownership concentration.

Referring to the mentioned literature, the seminal “Law and Finance” (LLSV, 1998) suggest how the quality of the legal and regulatory environment can explain cross-country variations in the financial environment. LLSV thus take extrinsic rather than intrinsic characteristics as focal area. In doing so, LLSV (1998) draw on a proposition from corporate law, stating that “legal protection of outside investors limits the extent of expropriation of such investors by corporate insiders, and thereby promotes financial development” (LLS, 2008, p. 285). A such argument is derived from a contractual view of the firm, in which a firm’s financing is ensured through the protection of property rights of the financiers (Jensen & Meckling, 1976; Grossman & Hart, 1988; Hart, 1995).

A major finding is the documentation of systematic variations in legal investor protection across legal traditions of commercial. Through conquest and colonialization, four major traditions define the legal origin of individual countries’ commercial laws. (LLS, 2008)

Further, LLSV (1998) show how individual countries’ rules and other regulatory factors can be coded and measured quantitatively in indices (LLS, 2008). Among these indices is the, now famous, “antidirector rights index” (henceforth “original ADRI”). This index, ranging between zero and six, captures shareholder protection rules in forty-nine countries, by measuring shareholder voting and minority protection. More than 100 papers have used the original ADRI (Spamann, 2010). This and other measures of legal investor protection is shown to correlate to various features of the financial environment. These include corporate valuation (LLSV, 2002), greater dividend payouts (LLSV, 2000), lower private benefits of control (Dyck and Zingales, 2004; Nenova, 2003), lower cash balances (Dittmar et al., 2003), and lower concentration of ownership and control (LLS, 1999; LLSV, 1998).

The argument behind investor protection determining ownership concentration is twofold (LLSV, 1998). Similar to the proposition of corporate law, large shareholders might, all else equal, need to own more capital to exercise control, in the prevalence of low investor protection. Too, low investor protection is likely to reduce demand for corporate shares, in turn, making it unattractive for corporations to issue new shares. This will indirectly stimulate low ownership concentration (LLSV, 1998). Drawing on this argument, this paper proposes research of the following hypothesis:

HYPOTHESIS: *There is a significant correlation between legal investor protection and ownership concentration of listed companies.*

In recent years, the original ADRI has been subject to criticism. This has partly been pointed towards methodology used in obtaining the index values (Coffee 2001; Berkowitz, Pistor, and Richard 2003a, 2003b; Graff 2008), and thus the exact values of the index (Spamann, 2010). In several cases, the coding has been inconsistent across countries.

The research proposed in this paper, will largely draw on the theoretical foundation and research design, presented in "Law and Finance" (LLSV, 1998). As also previously outlined, it will contribute through the application of the most recent data on ownership concentration. Also, it will not apply the original ADRI, but rather a revised ADRI, presented in 2010 by Holger Spamann (2010), acknowledging his criticism of the original index.

5 Research design

The data applied in this study can be categorized into three sets. The first, measuring corporate ownership concentration (dependent variable), and the second measuring legal investor protection (independent variables). Lastly comes a set of economic control variables.

5.1 Corporate ownership concentration

The dependent variable measures corporate shareholder concentration across different countries. As the measures of legal and regulatory environment are only available for 47 different countries, the sample is limited to these countries (Spamann, 2010).

For each country, a sample of the 10 largest, publically traded companies is collected, measured in market capitalization. A range of companies are excluded from the sample, as the companies has to be nonfinancial (i.e. excluding banks, insurance companies and similar), and cannot be affiliates of foreign firms, defined as 50% of votes controlled by a single foreign corporate owner. By construction, wholly owned by government nor wholly privately held companies are excluded. If it is not possible to gather information for ten firms, the country should still be included in the sample, as long as at least five firms live up to the criteria.

For each company, there is collected data from the three largest shareholders, from which their combined cash flow ownership stake is computed. The mean and median ownership stake is then computed for each countries' companies. This resembles the measures used in a range of other studies¹. The data will be gathered from the WorldScope, Moody's Internal database, and 20-f reports, and should be valid for the fiscal year ending in 2014.

5.2 Legal investor protection

To measure legal investor protection, several measures, indices and dummy variables will be applied. The variables are measures of legal origin, law enforcement quality, accounting standards, remedial rights, creditor rights, and shareholder rights. These are all constructed by LLSV (1998) (see the appendix table for a detailed description of the individual variables).

To measure shareholder rights, LLSV (1998) applied the original ADRI; an index ranging 0-6. Rather than the values of LLSV (1998), the actual values of the index will be the corrected ADRI, as presented by Holger Spamann (2010). The correlation between the corrected ADRI and the original ADRI is only 0.53. (Spamann, 2010).

The method of Spamann (2010) differs from that of LLSV (1998) in three specific, interrelated ways. Firstly, the raw legal data were directly derived from primary materials. In this case, "primary materials" refers to materials used by, and written for, legal practitioners in the relevant country. In contrast to LLSV (1998), lawyers were taking into inquiry in the following analysis process. Additionally, the raw data were documented in an online appendix. Lastly, in converting the raw data into replicable index values, a detailed coding protocol was developed.

5.3 Economic control variables

Following LLSV (1998), three different control variables will be applied in order to isolate the effects of legal variables. These are country-specific measures of wealth, size of economy and social equality, gathered from the World Bank database. The logarithm of GNI per capita (constant US dollars) will be used, following the argument that richer countries may have different ownership patterns. Also, the logarithm of total GNI (constant US dollars) will be applied, since larger economies have larger firms, which might have lower ownership concentration.

¹ See Demsetz and Lehn (1985) and Mørck, Shleifer and Vishny (1986).

The final control variable used will be estimates of the GINI index for the countries' incomes, since more unequal societies might have a higher ownership concentration.

5.4 Method of data analysis

To test the hypothesis, a regression analysis of the variables will be applied. The applied method will be an ordinary least squares (OLS) multiple regression, which is possible through software such as STATA (SAS) and JMP. For both the median and average ownership structure (dependent variables) an OLS multiple regression will be conducted.

Prior to this, it is relevant to show and briefly examine the descriptive statistics, such as mean and standard deviation, of the variables. This will help detecting possible outliers and skewness, which should be prevented by the use of logarithms.

Further, the assumptions of linear regression should be tested. These are linearity, equality of variance and normality. Firstly, it is important to test if the distribution of the residuals, for each regression, is normal. Graphically, the distribution should show a bell-shaped formation. Next, standardized residuals should be plotted against the standardized predicted values. This should show no clear pattern, with residuals symmetrically distributed. Lastly the variance inflation factors (VIFs) should be reported and examined, in order to detect multicollinearity (Agresti & Franklin, 2013).

5.5 Limitations

There are several important limitations to this study. Taking these into consideration is imperative in interpreting the analysis results, and they will therefore be discussed in the following.

Looking at the variables of ownership concentration, it is crucial to acknowledge that any conclusion only applies to publically traded firms. The process of acquiring ownership in non-listed companies is radically different from that of listed companies, and it is thus obsolete to apply the conclusions to non-listed companies. As the sample consist of only the largest companies in each country, the degree to which the results can be applied to the smallest listed companies, which are likely to receive less coverage, is also limited. Moreover, though basing the sample on the largest 10 companies from each country, there might be significant variations in the size of the largest companies across the different countries. Too, the employed restrictions on chosen firms biases the findings towards fewer firms with significant government and family ownership than there actually exists.

Neither does the measure of ownership concentration take account of the possibility that some of the large shareholders are affiliated with each other. Neither does the method consider the case of pyramidal structures, or the notion that shareholders might themselves have shareholders. Possibly, the complete ownership structure of the firm is not examined. This might distort how well effective cash flow ownership is measured.

The application of this measure of ownership concentration is justified, as a more delicate measure would exclude many countries from the analysis. In a 1999 paper, LLS (1999) developed a such more accurate measure, but could only include 27 countries in the analysis, due to the restrictive criteria.

Concerning the variables of legal protection, a major drawback is that most of the index values were determined by LLSV in 1998. Since then, the regulatory environment has possibly changed, and so may several of the legal variables. Redefining the entire set of indices and measures found of “Law and Finance” is, however, beyond the scope of this piece of research. Additionally, the data is not of panel structure. It is therefore impossible to analyze development over time (Wooldridge, 2013). Though the independent variable of legal origin is per definition time invariant, that is most likely not the case for the rest of the legal variables.

This leads to another issue; that of endogeneity LSSV (1998). argues that the only truly exogenous variable, depicting legal protection, is that of legal origin, as it is largely determined by colonialization and imperialism. However, for the other independent variables, accounting standards in particular, endogeneity is possible. Countries that, for one reason or another, have highly concentrated company ownership, might have failed to develop strong accounting standards, since the prevalence of large shareholders have made them obsolete through active monitoring. Thus, there is a risk of reversed causality.

Using the measures of LSSV (1998) also strictly limits the number of countries included in the analysis. The original measures are restricted to 49 countries, whilst applying the corrected ADRI narrows down the number of countries to 47. Defining the sample, partly through availability of legal data, might skew the data in the direction of countries with high level of easily accessible information.

5.6 Time schedule

The planned time schedule for the research is outlined in the following Table 1.

<i>Month and year</i>	<i>Main activity:</i>
February 2016:	Collect ownership data and the relevant controlling variables.
March 2016:	Calculate ownership concentrations, and conduct statistical analysis.
April 2016:	Outline conclusions and assess the results. Revise the structure and the literature review. Commence writing if possible.
May 2016:	Complete writing. Revise the paper thoroughly and hand in.

Table 1. Time schedule for planned research.

6 References

- Agresti, A., & Franklin, C. (2013). *Statistics. The art and science of learning from data* (3rd ed.) Pearson Education
- Berkowitz, D., Pistor K., & Richard. J.-F. (2003a). Economic development, legality, and the transplant Effect. *European Economic Review*, 47, pp. 165–95.
- Berkowitz, D., Pistor K., & Richard. J.-F (2003b.) The transplant effect. *American Journal of Comparative Law*, 51, pp. 163–203.
- Berle, A., & Means, G. (1932). *The modern corporation and private property*. MacMillan, New York, N.Y
- Bris, A., and Cabolis, C. (2008). The value of investor protection: firm evidence from cross-border mergers. *Review of Financial Studies*, 21, pp. 605–48.
- Coffee, J. C., Jr. (2001). The rise of dispersed ownership: the roles of law and the state in the separation of ownership and control. *Yale Law Journal*, 111, pp. 1–82.
- Dahya, J., Dimitrov, O., & McConnell, J. J. (2008). Dominant shareholders, corporate boards and corporate value: a cross-country analysis. *Journal of Financial Economics*, 87, pp. 73–100.
- Demsetz, H. & Lehn, K. (1985). The structure of corporate ownership: causes and consequences. *Journal of Political Economy*, 93, pp. 1155-77.
- Dittmar, A., Mahrt-Smith, J., & Servaes, H., (2003). International corporate governance and corporate cash holdings. *Journal of Financial and Quantitative Analysis*, 38, pp. 111–133.
- Dyck, A., & Zingales, L., (2004). Private benefits of control: an international comparison. *Journal of Finance*, 59, pp. 537–600.
- Edwards, J. & Fischer, K. (1994). *Banks, finance and investments in West Germany since 1970*. Cambridge: Cambridge Univ. Press.
- Fogel, K., Mørck, R., & Yeung, B. (2008). Big business stability and economic growth: is what's good for general motors good for america? *Journal of Financial Economics*, 89, pp. 83–108.
- Graff, M. (2008). Law and finance: common-law and civil-law countries compared—an empirical critique. *Economica*, 75, pp. 60–83.
- Grossman, S. & Hart, O. (1988). One share-one vote and the market for corporate control. *Journal of Financial Economics*, 20, pp. 203-235.

- Hart, O. D. (1995). *Firms, Contracts, and Financial Structure*. Oxford and New York: Oxford University Press, Clarendon Press.
- Huang, R. R. (2008). Tolerance for uncertainty and the growth of informationally opaque industries. *Journal of Development Economics*, 87, pp. 333–353.
- Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), pp. 305–60.
- John, K., Litov, L. & Yeung, B. (2008). Corporate governance and risk-taking. *Journal of Finance*, 63, pp. 1679–1728.
- La Porta, R., Lopez-de-Silanes, F. & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54(2), pp. 471–517.
- La Porta, R., Lopez-de-Silanes, F. & Shleifer, A. (2008). The economic consequences of legal origins. *Journal of Economics Literature*, 46(2), pp. 285–332.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R., (1998). Law and finance. *Journal of Political Economy*, 101, pp. 678–709.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R., (2000). Agency problems and dividend policies around the world. *Journal of Finance*, 55, pp. 1–33.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R., (2002). Investor protection and corporate valuation. *Journal of Finance*, 57, pp. 1147–1170.
- Levy, H. (1983). Economics evaluation of voting power of common stock. *Journal of Finance*, 38, pp. 79–93.
- Marosi, A., & N. Massoud. (2008). You can enter but you cannot leave ...: U.S. securities markets and foreign firms. *Journal of Finance* 63, pp. 2477–506.
- Modigliani, F. & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 48(3), pp. 261–297
- Mørck, R., Shleifer, A. & Vishny, R. W. (1988). Management ownership and market valuation: An empirical Analysis. *Journal of Financial Economics*, 20, pp. 293–315.
- Nenova, T., (2003). The value of corporate voting rights and control: a cross-country analysis. *Journal of Financial Economics*, 68, pp. 325–351.
- Pagano, M., Panetta, F. & Zingales, L. (1998). Why do companies go public: an empirical analysis. *Journal of Finance*, 53, pp. 27–64.
- Rao, N. V. & Reddy, K. S. (2015). The impact of the global financial crisis on cross-border mergers and acquisitions: a continental and industry analysis. *Eurasian Business Review*, 5, pp. 309–341.
- Shleifer, A. & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3), pp. 461–488.
- Spamann, H. (2010). The "antidirector rights index" revisited. *The Review of Financial Studies*. 24(2), pp. 467–486.
- Wooldridge, J. M. (2013). *Introductory Econometrics: A Modern Approach* (5th international ed.). Australia: South-Western.

7 Appendix

<i>Variable</i>	<i>Description</i>	<i>Source</i>
Mean of owner-ship concentra-tion, 10 largest firms	The mean ownership stake (cash-flow) of the three largest share-holders is compiled for each countries' 10 largest companies (by market capitalization).	WorldScope, Moody's database, and 20-f reports.
Median of own-ership concentra-tion, 10 largest firms	The median ownership stake (cash-flow) of the three largest share-holders is compiled for each countries' 10 largest companies (by market capitalization).	WorldScope, Moody's database, and 20-f reports.
Legal origin	Equals 1 when the origin is English common law, 2 if French com-mercial code, 3 if German commercial code, and 4 if Scandinavian civil law.	LLSV (1998)
Law enforcement	A 0-10 scale. Also referred to as "rule of law" by LLSV (1998).	LLSV (1998)
Accounting standards	An index ranging from 0 to 7 index, based on the level of infor-mation found in annual reports.	LLSV (1998)
Remedial rights	A dummy variable of remedial rights.	LLSV (1998)
Creditor rights	An aggregate index of various rights related debt financing, ranging 0-4.	LLSV (1998)
Shareholder rights	An aggregate index of various rights related to equity financing, ranging 0-6. Rather than the original ADRI, used by LLSV (1998), the corrected ADRI, constructed by Spamann (2010), will be used.	Spamann (2010)
(Log) GNI per capita	Gross national income divided by midyear population, measured in constant US dollars.	The World Bank
(Log) GNI	National income, measured in constant US dollars.	The World Bank
GINI index	A 0-100 index of social equality. 0 represents perfect quality and 100 represent perfect inequality, of income distribution.	The World Bank

Table 2. Variable names, description and sources for the statistical analysis.