

Concentrated Ownership and Labor Relations*

Holger M. Mueller and Thomas Philippon[†]

Preliminary and Incomplete

October 2005

Abstract

Explanations for the observed variation in ownership concentration across countries based on differences in the protection of minority shareholders leave a significant part of the variance unexplained. This paper offers a novel explanation based on differences in the quality of labor relations. We show empirically that—controlling for minority shareholder protection—countries in which labor relations are less cooperative tend to have more concentrated ownership, and vice versa. Our results continue to hold if we instrument labor relations using religion, which has been argued is causal for the differences in cooperativeness among European labor organizations based on its role in early state-church conflicts. We find similar results using historical data on the evolution of corporate ownership in Canada, documenting a strikingly strong correlation between increases in strike activity and increases in ownership concentration over the past 50 years. We provide a simple model of optimal ownership concentration and worker cooperativeness that is consistent with our empirical findings.

*We thank Randall Morck, Michael Percy, Gloria Tian and Bernard Yeung for providing us with data on the evolution of corporate ownership in Canada, and Pierre Fortin for providing us with Canadian strike and union membership data. For helpful comments and suggestions, we thank Lucian Bebchuk, Andrew Clark, Oliver Hart, Fausto Panunzi, Antoinette Schoar, Guido Tabellini, and seminar participants at Harvard, Bocconi, and DELTA-PSE.

[†]Department of Finance, Stern School of Business, New York University. Address: 44 West Fourth Street, Suite 9-190, New York, NY 10012.

Introduction

The role of trust and social capital for economic development has been the object of much research. While Banfield (1958) and Putnam (1993) focus on social and political development, Fukuyama (1995) argues that trust is vital for the development of large-scale organizations and firms. Indeed, La Porta, Lopez-de Silanes, Shleifer, and Vishny (1997) find that—across countries—trust is positively correlated with the relative success of large firms.¹

While there is increasing evidence that social capital matters for economic outcomes, Guiso, Sapienza, and Zingales (2005a) rightly point out that we still know relatively little about the precise mechanism leading from one to the other. Arguably, social capital may foster cooperative relations among individuals (Fukuyama (1995)). But the precise channel through which individuals' cooperativeness affects economic behavior, institutions, and development is likely to depend on the specific context. To make progress along these lines, it would therefore seem that one must narrow the focus. This is what we do here. We focus on a particular form of cooperative relations: cooperative labor relations. And we focus on a particular economic outcome: the structure of corporate ownership.

We begin with a simple model suggesting how differences in the cooperativeness of labor relations might translate into different optimal levels of ownership concentration. The model is based on two key assumptions, both of which appear uncontroversial: i) less than full ownership leads—due to the usual free-rider problem—to insufficient monitoring, and ii) concentrated ownership entails a cost from forgone diversification benefits. While trading off these costs and benefits pins down an optimal level of ownership concentration, our interest lies in the comparative statics properties of the solution: as workers behave less cooperatively, the need for monitoring increases. To ensure a higher monitoring intensity, the firm's ownership concentration must increase correspondingly.² While we cannot, and

¹LLSV measure the relative success of large firms as the fraction of total sales of the largest 20 publicly traded firms in a country relative to the country's GDP. Other studies showing that trust matters for economic development are, e.g., Knack and Keefer (1997), Zak and Knack (2001), Guiso, Sapienza, and Zingales (2004a), Guiso, Sapienza, and Zingales (2004b), Guiso, Sapienza, and Zingales (2005b), and Tabellini (2005). For a recent survey, see Guiso, Sapienza, and Zingales (2005a).

²For parsimony, we assume that workers are monitored by a large shareholder/manager. But the idea

do not want to, exclude the possibility that there is a feedback effect from ownership concentration to cooperative labor relations, we focus on the link from labor relations to ownership concentration. This assumes, of course, that there is an exogenous component to whether or not labor relations are cooperative. As we argue in our subsequent empirical analysis, there is indeed such an exogenous component, which is related to the political struggle between the church and state more than 100 years ago.

The main part of our empirical study consists of a cross-country analysis. As La Porta, Lopez-de Silanes, and Shleifer (1999) show, the widely held firm envisioned by Berle and Means (1932) seems to be the exception rather than the norm. In most countries around the globe, firms tend to be controlled by rich individuals and families, not by dispersed shareholders. In their seminal study, La Porta, Lopez-de Silanes, and Shleifer (1999) show that this prevalence of tightly held firms can, at least partly, be explained by poor legal protection of minority shareholders. And yet, explanations based on differences in investor protection leave a significant fraction of the variance unexplained.

Guided by our model, we test whether the extent to which labor relations are cooperative can explain differences in ownership concentration across countries. We measure the cooperativeness of labor relation using data from two different surveys as well as different calendar years. The respective country rankings are remarkably similar, both across surveys and across time. This high level of persistence is also consistent with Blanchard and Philippon (2002), who show that strike data from the 1960s can predict country rankings of cooperative labor relations from the 1990s. Finally, at least for Europe, we find that the classification of countries into those with cooperative and hostile labor relations suggested by our survey data accords well with the qualitative description by Crouch (1993). Taken together, this suggests that our survey data seems to capture quite well actual differences in labor relations across countries.

Our sample consists of 21 Western and 7 Asian countries. Controlling for differences straightforwardly extends to a two-tier setting in which ownership and management are separated: as workers behave less cooperatively, the firm's manager must, or should, expend more effort in monitoring workers. That is, the *manager's* moral hazard problem vis-à-vis shareholders increases. This, in turn, increases the need to monitor the manager, and hence the large shareholder's optimal monitoring intensity, which in turn increases the optimal level of ownership concentration.

ences in the level of minority shareholder protection—which remains significant in our regressions—we find a strongly significant and negative effect between the cooperativeness of labor relations and measures of ownership concentration used in previous studies. This result remains unchanged if we consider only Europe, only Asia, or only Western countries. Perhaps equally interesting, however, is what factors do *not* matter for ownership concentration. Roe (2003), for instance, has argued that “social democracies”—countries in which labor has a strong lobby leading to protective labor regulations—exhibit more concentrated ownership. Likewise, it has been argued that countries in which labor unions are strong and powerful have more concentrated ownership. We find that, once we control for the cooperativeness of labor relations, none of these factors matter. Hence, it is not just *some* aspect of labor relations that matters for ownership concentration; it is precisely whether or not labor relations are cooperative.³

We include more control variables in our regressions, based on possible alternative theories of ownership concentration. Among these variables are, e.g., efficiency of the judicial system, risk of expropriation, repudiation of contracts by governments (all from La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998)), the political orientation of countries on a left-right scale (from Roe (2003)), and a measure of private benefits of control (from Dyck and Zingales (2004)). While some of these variables enter with the right sign, none of them turns out to be significant.

Let us briefly come back to our initial remark that, in order to learn about the channels through which social capital affects economic outcomes, one must narrow the focus. Arguably, cooperative labor relations are a *specific* form of social capital. An interesting question is whether cooperative labor relations are merely a consequence of high *general* social capital, or whether social capital is context-specific in the sense that high general social capital does not necessarily imply cooperation in specific settings. To shed light on this issue, we include as a control variable a measure from the World Value Survey (WVS) indicating whether people think other people can be trusted. This measure has

³ On a priori grounds, there is nothing suggesting that union strength and cooperative labor relations should be related. Scandinavia, for instance, has powerful yet cooperative unions. In France and Italy, on the other hand, unions are only moderately powerful, yet they are aggressive. Empirically, the correlation between union strength and our measure of cooperative relations is close to zero.

been widely used in previous studies as a measure of general social capital. We also include another measure from the WVS indicating whether people think family is important. Neither measure is significant, suggesting it is not social capital per se that matters, but the precise way in which social capital enters in specific economic contexts.

Taking the issue of endogeneity seriously, we next ask what drives the differences in labor relations across countries suggested by our data. As we argued earlier, at least for the case of Europe, our relative country rankings are remarkably consistent with the classification offered by Crouch (1993).⁴ According to Crouch, the origin of these differences lies in the struggle over political space between the church and the emerging liberal states of the late 19th century. (In some countries, like France, this struggle dates back to the 18th century). While the Anglican and Lutheran churches had little problem sharing political space, the Roman Catholic Church challenged the state's authority, leading to overt conflict and retribution by the state in the form of suppression of any kind of organized interest, including labor organizations. Based on Crouch's argument, we instrument labor cooperativeness by either the fraction of Protestants or Catholics in the respective countries, controlling for legal origin. Either way, labor cooperativeness remains significant and negatively related to concentrated ownership.⁵

The final part of our paper is devoted to specific countries. We first discuss the Japanese experience before and after World War II. Before the war, Japan had concentrated ownership and hostile labor relations; after the war it had dispersed ownership and cooperative labor relations. Similarly, in today's Korea ownership of chaebols is highly concentrated and labor relations are hostile, despite the fact that "*Korean labor institutions are a virtual replica of Japan's*" (Yoon (2005)). While broadly consistent with our theory, evidence from both countries also suggests there may be a feedback effect from ownership concentration to labor relations.

Another country we consider in more detail is Canada. Canada is particularly interest-

⁴Crouch (1993) only considers European countries in his analysis.

⁵Two countries do not follow the general pattern that Catholicism is associated with concentrated ownership: Ireland and Austria. This suggests it is not religion per se that matters, but the precise way in which the political struggle between the church and state took place in the historical context. This is important, as it helps us justify our exclusion restriction when running IV regressions. See Section 4.1 for a discussion of this issue.

ing, for Quebec is French-Catholic while the rest of Canada is English-Protestant. Consistent with our theory, strikes are more prevalent—and ownership is more concentrated—in Quebec relative to the rest of Canada. We moreover test whether our theory can help explain the evolution of corporate ownership in Canada over the past 50 years. We regress changes in the percentage of family-controlled and widely held firms, respectively, on changes in strike activity, where the latter is a proxy for the (non-)cooperativeness of labor relations. In either case, the correlation is significant and remarkably strong, with the coefficient having the predicted sign: as strike activity increases, the fraction of family-held firms increases, while the fraction of widely held firms decreases.⁶

The rest of this paper is organized as follows. Section 1 presents the model. Section 2 contains the basic OLS regressions. Section 3 considers alternative explanations for concentrated ownership. Section 4 offers a brief historical synopsis of the influence of church-state conflicts on labor relations in Europe, followed by IV regressions using religion as an instrument for labor relations. It also contains a brief discussion of Japan and Korea. Section 5 focuses on Canada. Section 6 concludes.

1 The Model

We present a simple model of optimal ownership concentration based on the notion that i) less than full ownership leads to insufficient monitoring, and ii) concentrated ownership entails forgone diversification benefits. While there are many other factors that potentially affect a firm's ownership concentration, these two assumptions, in particular, appear to be widely accepted. As we will show, they quite naturally generate the prediction that a decrease in workers' cooperativeness—meaning they need to be monitored more intensely—implies a higher optimal ownership concentration.

There are two types of agents: workers and a large shareholder/manager who runs the firm. Workers can be of two types. A fraction $1 - \alpha$ of the firm's workers behaves cooperatively, meaning they produce output Y even if they are not monitored. The remaining fraction α behaves non-cooperatively, meaning they produce Y only if they are

⁶The two fractions do not add up to one: there are also state- and foreign-owned firms.

monitored; otherwise they produce zero output.⁷

Let β denote the large shareholder's fractional ownership of the firm. Due to the usual free-riding argument only the large shareholder monitors; the remaining shareholders are small and thus passive (cf., Burkart, Gromb, and Panunzi (1997)). Let m denote the probability with which the large shareholder monitors, and let $c(m) = \frac{\gamma}{2}m^2$ denote the large shareholder's private cost of monitoring. Consequently, non-cooperative workers' expected output is mY , implying total firm output is $(1 - \alpha)Y + \alpha mY$.

The question we are ultimately interested in is how the firm's optimal ownership concentration depends on workers' cooperativeness, expressed by the variable α . In our model, concentrated ownership has both costs and benefits. The benefit is that it mitigates the externality problem associated with monitoring: large shareholders internalize more of the benefits from their monitoring, which implies they monitor more, which in turn implies the firm's (non-cooperative) workers produce more output. The cost of concentrated ownership is that large shareholders forgo benefits from diversification. We model these costs by assuming that the large shareholder—in addition to his monitoring cost—incurrs a private cost $d(\beta)$ from lack of diversification. Quite naturally, we would expect that $d(\beta)$ is increasing in β .

Working backwards, let us first determine the large shareholder's optimal monitoring intensity m^* as a function of his ownership share β . The large shareholder chooses m to maximize

$$\beta((1 - \alpha)Y + \alpha mY) - \frac{\gamma}{2}m^2,$$

which implies m^* is given by

$$m^* = \frac{\beta\alpha Y}{\gamma}. \tag{1}$$

As one might expect, m^* is increasing in both β and the extent to which workers need to be monitored, expressed by the variable α .

Taking the effect of β on the large shareholder's monitoring effort as given, we can next determine the value of β that maximizes total shareholder wealth, which includes the large

⁷Interpreting α as a fraction is only one of several possible interpretations. Another is that α represents the *degree* to which workers behave non-cooperatively, e.g., with probability α workers behave non-cooperatively and with probability $1 - \alpha$ they behave cooperatively.

shareholder’s monitoring cost $c(m)$ as well as his cost $d(\beta)$ from lack of diversification.⁸ Noting that $m^* = m^*(\alpha, \beta)$, the optimal value of β solves

$$\max_{\beta \in [0,1]} (1 - \alpha)Y + \alpha m^* Y - \frac{\gamma}{2} (m^*)^2 - d(\beta).$$

Using (1), this maximization problem simplifies to

$$\max_{\beta \in [0,1]} (1 - \alpha)Y + \frac{1}{\gamma} \alpha^2 Y^2 \beta \left(1 - \frac{\beta}{2}\right) - d(\beta). \quad (2)$$

Denote the solution to (2) by β^* . Without making any assumptions about $d(\cdot)$, the fact that the maximand in (2) is supermodular in (α, β) implies that β^* is non-decreasing in α (cf., Milgrom and Shannon (1994)). If in addition the function $d(\cdot)$ is differentiable and β^* lies in the interior of $[0, 1]$, then β^* is (even) *strictly* increasing in α .⁹

Let us summarize. As workers become less cooperative (α increases), the need for monitoring them increases. To secure a higher monitoring intensity, the firm’s ownership concentration must therefore increase as well. Implicit in this statement, of course, is the notion that there is cost of concentrated ownership—expressed by the cost function $d(\beta)$ —that pushes the optimal ownership concentration below $\beta^* = 1$. Absent such a cost full ownership is always optimal—*regardless of* α —as it solves the externality problem associated with the large shareholder’s monitoring.¹⁰

The above model is based on a minimal set of assumptions. In particular, the two key assumptions driving our main result—namely, that less than full ownership leads to insufficient monitoring and that concentrated ownership entails forgone diversification benefits—appear to ring true. Hence, we would expect that the main prediction

⁸Hence, we adopt the standard “IPO perspective” in which the owner of a firm sells a fraction $1 - \beta$ to infinitesimally small shareholders at a price that rationally incorporates the effect of his monitoring effort on the firm’s value (cf., Burkart, Gromb, and Panunzi (1997)).

⁹Alternatively, if one assumes that $d(\cdot)$ is differentiable, increasing, and convex, one can compute $d\beta^*/d\alpha$ directly. Accordingly, β^* is given by the first-order condition

$$\frac{1}{\gamma} \alpha^2 Y^2 (1 - \beta) = d'(\beta^*).$$

Implicit differentiation with respect to α yields

$$\frac{d\beta^*}{d\alpha} = \frac{2\alpha(1 - \beta)}{d''(\beta^*) \frac{\gamma}{Y^2} + \alpha^2} > 0.$$

¹⁰This is easy to see. If $d(\beta) \equiv 0$ the maximand in (2) has a global maximum at $\beta = 1$.

of our model—namely, that less cooperative labor relations imply more concentrated ownership—might also come out of a richer and less parsimonious model than ours. In the following, we will now test whether our prediction holds true empirically.

2 Cross-Country Analysis

2.1 Data on Ownership & Control

We use three sources of data on the degree of family control in different countries. The data is listed in **Table 1a**.

Faccio and Lang (2002) (henceforth FL) provide data for 13 Western European countries from the time period between 1996 and 1999: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. They measure ownership in terms of cash flow rights and control in terms of voting rights, and they report the data separately for financial and for non-financial firms. The number of companies ranges from 69 in Ireland to 1953 in the UK. The authors define control when a shareholder holds at least 20% of the votes. Ultimately, families control 44.29% of the firms, and the state 4.14%. Family control ranges from 23.68% in the UK to 64.82% in France. Faccio and Lang (2002) also report the fraction of total market value controlled by the top 5 families. This fraction ranges from 4% in the UK to 25% in Portugal. For the United States, we use the data from Gadhoun, Lang, and Young (2005), which is assembled in a way that makes it directly comparable to the FL data. **Table 2b** reports the correlations among these various measures of family control. The correlation between the measures based on the number of firms and the measures based on the fraction of market capitalization is 54%.

Claessens, Djankov, and Lang (2000) (henceforth CDL) provide data for 9 East Asian countries in 1996: Hong Kong, Indonesia, Japan, South Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand. The number of companies ranges from 120 in the Philippines to 1,240 in Japan. Family control ranges from 13.1% in Japan to 68.6% in Indonesia. **Table 2a** shows that, for the Asian sample, the correlation between the measures based on the number of firms and the measures based on the fraction of market

capitalization is 58%.

For the remaining countries, we draw on La Porta, Lopez-de Silanes, and Shleifer (1999) (henceforth LLS), who study corporate ownership in 27 wealthy economies. For each country, LLS create three measures of the prevalence of family control. The first two measures are based on the top 20 firms ranked by market capitalization of common equity at the end of 1995. LLS define control using a 20% cutoff, and they report the fraction of top-20 firms controlled by families, which ranges from 0% in the UK to 70% in Hong Kong, as well as the value weighted fraction, which ranges from 0% in the UK to 63.42% in Hong Kong. The third measure is the fraction of family controlled firms in a sample of mid-sized companies. **Table 2c** shows that the correlation among the various measures in the LLS sample ranges from 67% to 93%.

We wish to construct a consistent measure of family control for all 30 countries for which we have both ownership data and data on labor relations. Unfortunately, CDL-FL and LLS construct their respective measures in different ways. On the one hand, CDL and FL cover relatively few countries, but look at essentially all the publicly traded companies in these countries. On the other hand, LLS cover more countries, but only look at the top 20 companies, and their selection criteria makes it potentially more difficult to compare large and small countries. Given these issues, we proceed in two steps. Whenever possible, we use the two measures of family control from CDL-FL, which are constructed based on a large sample of companies in each country: the fraction of family controlled firms using the 20% cutoff, and the fraction of market capitalization controlled by the top 5 families. For those countries that are covered only by LLS, we use predicted values from the following regression

$$Fam_{i,j}^{CDL-FL} = \alpha_j + \beta_j' Fam_i^{LLS} + \varepsilon_{ij} \quad (3)$$

where $Fam_{i,j}^{CDL-FL}$ is the particular measure j for country i included in either CDL or FL, and Fam_i^{LLS} is the vector of the three measures reported by LLS (fraction and value weighted fraction in top 20 firms, fraction in mid-sized firms). For the first measure—the fraction of family controlled firms—we obtain an R^2 of 42.9% for the 18 countries covered by both CDL-FL and LLS. For the second measure—the fraction of market capitalization

controlled by the top 5 families—we obtain an R^2 of 41%.

2.2 Data on Labor Relations

Our data on labor relations, displayed in **Table 1b**, come from two surveys of business managers. The first survey, published in the Global Competitiveness Report (GCR) by the World Economic Forum, covers 100 countries. The second survey is conducted by IMD, a business school in Lausanne, Switzerland, and is sent out to approximately 4,000 managers in over 60 countries. Since 1993, GCR asks managers about the quality of labor relations in their respective countries. The managers must report if they agree with the statement: “Labor/employer relations are generally cooperative”. The responses range from 1, strong disagreement, to 7, strong agreement. In 1999, managers were also asked to report on the collective bargaining power of workers, and on the frequency and severity of strikes. IMD asks a similar question, “Labor relations are generally ... (hostile, productive)”, and the managers can choose a number from 1 if they disagree strongly to 8 if they agree strongly. **Table 2d** presents the correlation matrix of these various survey measures.

Two points are most important for us. First, the various country rankings of labor cooperativeness are remarkably persistent over time: the correlation between the GCR rankings in 1993 and 2003, for instance, is 88.6%. This is also consistent with Blanchard and Philippon (2002), who show that the cooperativeness of labor relations today can be well predicted by strike activity in the 1960s. Second, the country rankings are remarkably similar across surveys: the correlations between the various IMD and GCR rankings range from 83% to 93%.¹¹ Note also the strong correlation between the ‘labor relation’ measure and the ‘strikes are rare and always quickly resolved’ measure. On the other hand, none of these measure is significantly correlated with the perceived strength of unions. This is good news, for it means that we will be able to distinguish our theory, based on social capital, from alternative theories based on union strength.

¹¹While we only report GCR data from 1993, 1999, and 2003, and IMD data from 1999 and 2003 for brevity, we have data from both surveys for many more years (e.g., we have the IMD country ranking for all years 1996-2004). Regardless of what survey and what year we take, however, the correlation is extraordinarily high.

Because the various measures of cooperative labor relations are so consistent, both across surveys and over time, none of the issues encountered in the construction of measures of family control arise here. In fact, all the results that we present are robust to using any of the 6 measures of labor relations listed in **Tables 1b and 2d**. For brevity, we choose to work with a single measure, IMD03, which is the most recent measure.

2.3 Basic OLS Regressions

Table 3 presents our basic regression, for various definitions of family control and various subsamples. Arguably, the way the data on family control has been constructed, it is clear that there may be systematic effects of country size. All else equal, the top 5 families in Sweden, with a population of 8.8 million, are likely to control more of the stock market than the top 5 families in the US, with a population of 268.7 million. Therefore, we shall always include the log of the total population in 1995 as a control in our regressions. Our basic specification is

$$Fam_i = \alpha + \beta LaborCooperativeness_i + \gamma \log(Population_{i,1995}) + \varepsilon_i \quad (4)$$

The first two columns of **Table 3** report the basic regressions using the fraction of family-controlled firms and the share of market capitalization controlled by the top 5 families, respectively. In both cases, there is a significant and negative relation between the quality of labor relations and the extent of family control. Also, as expected, we find that our measures of family control are negatively related to country size.

We have two measures of family control defined for all 30 countries. As we have already mentioned, **Tables 2a, 2b, and 2c** show that the measures based on the fraction of family-controlled firms are not perfectly correlated with the measures based on the fraction of market capitalization controlled by the top 5 families. From a theoretical perspective, it is unclear which is the better measure. From an empirical perspective, both are probably noisy estimates of the truth, and we have just shown that labor cooperativeness enters negatively and significantly whether we use one or the other. Moreover, given the number of robustness checks that we wish to perform, keeping both variables would not be convenient. Therefore, we construct the first principal component of these

two variables, and we use it as our main measure of family control in the remainder of the paper. The first component, displayed in the last column of **Table 1a**, accounts for 79% of the variance in these two variables. The first principal component is normalized to have a mean of 0 and a variance of 1.

The last 5 columns of **Table 3** report the results using the principal component as our dependent variable. We estimate equation (4) in different subsamples, for two reasons. The first is that we want to allow for systematic differences between Asian and Western countries. The second is that we want to check that our results are robust to dropping the countries for which we were forced to use predicted values using equation (3). The first point to notice is that the coefficient for labor cooperativeness is quite stable and very significant in all cases. The second point to notice is that the coefficients for size and GNP per capita differ in Asia and in the West. In fact, GNP does not enter significantly among Western countries, which is not very surprising given that these countries are similar in terms of development. On the other hand, it is significantly negative in Asia, confirming the intuitive notion that family firms are more prevalent in less developed economies.

Columns (iii) to (v) lead us naturally to our preferred specification, a kind of “best-of regression”, which is reported in column (vii). It includes as controls, in addition to population, both a dummy for Asia and interaction terms with population and GNP per capita. For parsimony, we restrict the coefficient on GNP to zero for western countries, since it is otherwise small and insignificant. Before discussing alternate theories, it is important to check that the results are not driven by outliers. To do so, we first regress family control and labor cooperativeness separately on population, the Asia dummy, and the interaction terms $\text{Asia} \cdot \log(\text{population})$ and $\text{Asia} \cdot \log(\text{GNP per capita})$. **Figure 1** plots the residuals of these two preliminary regressions. The correlation between the residuals is -72%, and, more importantly, the figure shows that our results are not driven by outliers.

3 Alternative Theories

In this section, we discuss alternate explanations that have been proposed in the literature to explain why ownership concentration varies so much across countries. For each explanation, we run a separate regression using various proxies for the variable in question that is supposed to explain the cross-section of family control. A quick look at the first row of **Table 4a,b** shows that our main result remains stable and significant throughout. Nonetheless, it is interesting to see which of the alternate theories are supported by the data.

The leading explanation for differences in patterns of corporate ownership around the world is the protection of minority shareholders. When this protection is inadequate, we expect more concentrated ownership. There are two ways to measure shareholder protection. One way is to look at legal mechanisms that are supposed to protect minority shareholders. These mechanisms are the focus of La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998), who collect data on six different rights protecting minority shareholders: the right to mail proxy votes, the interdiction for the firm to block shares before the meetings, the right of cumulative voting and proportional representation, a judicial venue to challenge managerial decisions (called oppressed minority mechanism), preemptive rights to buy newly issued shares, and the minimum percentage of shares to call an extraordinary meeting. When these six variables are all included in one regression (not reported), only the last three appear significant, and we focus on them. Column (i) of **Table 4a** shows that mechanisms protecting minority shareholders from oppression by management are particularly important. Dyck and Zingales (2004) have estimated the value of (private) benefits of control for a large number of countries, 27 of which are in our sample. Their measure is the premium that market participants are willing to pay for control. Column (ii) shows that private benefits enter with the expected sign, but, in our sample, they are not significant.

In columns (iii) and (iv), we look at the efficiency of the judicial system and political risk. Rule of law is the assessment of law and order by the country credit rating agency International Country Risk. This agency also provides measures of the risk of

repudiation of contracts by the government, and of the risk of expropriation. Efficiency of the judicial system is the assessment of “the efficiency and integrity of the legal environment” produced by the rating agency Business International Corporation. All four variables are taken from La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998). None of these variables is significant, and they do not affect the estimated coefficient of labor cooperativeness. In fact, they only appear to reduce the significance of GNP per capita, consistent with the idea that rich countries have better judicial and political institutions.

In column (i) of **Table 4b**, we consider union power and labor regulation, as emphasized by Roe (2003). Roe argues that labor-friendly regulation and powerful unions lead to concentrated ownership. To test this theory, we include the index of collective bargaining and the index of employment protection from Botero, Djankov, La Porta, Lopez-de Silanes, and Shleifer (2004), as well as our survey measure of the strength of unions, as perceived by managers. We find that these measures do not explain ownership concentration, neither individually nor collectively.

Another of Roe’s hypothesis, related to an argument made by Pagano and Volpin (2005), is that politics predicts ownership concentration. To test this theory, we use the same index as Roe, and the same sample of 16 European countries. The index measures the left-right scale of politics between 1981 and 1991, with higher scores meaning more to the right. On its own, this index is correlated with ownership concentration, but this correlation disappears once we control for size and labor cooperativeness, as shown in column (ii). We do not mean to imply that politics do not matter, however. In fact, column (iii) shows that politics is related to the extent of state ownership, while labor cooperativeness and population size are not. In columns (iv) and (v), we use the measure of proportionality in voting reported in Pagano and Volpin (2005). This measure is not related to ownership concentration, but, like the left-right scale advocated by Roe, it can explain the extent of state ownership. Hence, both Roe’s and Pagano and Volpin’s theories are—from a purely empirical perspective—valid theories of state ownership. They do not, however, seem to have much predictive power as far as the ownership of private companies is concerned.

Finally, in column (vi), we consider two other measures of social capital: general trust and the importance of family in one’s life. A number of recent books and papers have emphasized the importance of trust among people for the economic performance of different societies.¹² General trust is usually measured as the percentage of respondents who answer that most people can be trusted to the following question from the World Value Survey: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?” This variable has been used in La Porta, Lopez-de Silanes, Shleifer, and Vishny (1997) to explain the economic success of large firms, and in Guiso, Sapienza, and Zingales (2005b) to explain stock market participation. The importance of family seems relevant for our question, since societies that consider families to be important might have more family firms. Column (vi) shows that neither general trust nor the importance of family predict ownership concentration once we control for the quality of labor relations. We believe this is good news for theories emphasizing the role of trust and social capital, since it means one can distinguish different forms of social capital and test which form of social capital matters for which social, political, or economic setting. As Guiso, Sapienza, and Zingales (2005a) put it: “Without testable hypotheses, there is no role for culture in economics.”

4 Historical Perspective and IV Regressions

We now turn to the issue of causality, and thus to historical determinants of labor relations. In our model, we have assumed that there is an exogenous component to whether or not labor relations are cooperative, which may vary from country to country. Where do these differences come from? To answer this question, we take a closer look at the historical origins of European labor relations. Subsequently, we take a brief look at Japan and Korea.

¹²See the references in the Introduction.

4.1 Western Countries

According to Crouch (1993), for most countries the critical period is between 1870 and 1914, since before 1870 there was essentially no organized labor outside the UK, and even there it was concentrated in skilled labor occupations. Crouch's thesis is that labor relations were directly influenced by the conflict between the church and the emerging liberal state. In those countries where the state had to struggle to affirm its authority over the church, the state had a tendency to forbid all forms of organization to maintain its monopoly power in the political arena. These conflicts were usually more pronounced in Catholic countries than in Protestant countries, because the Vatican-based Catholic Church asserted a superior political position, while Lutheran churches have historically been obedient institutions. In return, Lutheran states had no problem sharing political space. The state remained mostly neutral vis-à-vis the churches and organized interests. On these matters, the Anglican Church behaved like the Lutheran churches.

For some countries, the struggle between church and state dates back even earlier. A striking example of the consequences of politico-religious struggles is the *Lois Le Chapelier*, passed in France in 1791. The French republicans of 1789 wanted the state to be as strong and encompassing as the church had been. They were eager to make sure the state did not suffer from competition by organized groups. This was the motivation behind the drastic 1791 law that forbade all types of organization. Later on, when labor organizations emerged in the 19th century, they were considered illegal. Thus labor organizations in France were weak and ostracized from the beginning, which may explain why they became anarchist in the early 20th century, and later on communist.

The above discussion suggests that the religious affiliation of a country should be able to predict cooperativeness of labor relations. On the other hand, La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) have emphasized the importance of legal origin. We are therefore going to run the following regression:

$$\begin{aligned} Fam_i = & \alpha + \beta \widehat{LaborCooperativeness}_i + \gamma \log(Population_{i,1995}) \\ & + \delta' Legal_Origin_i + \varepsilon_i \end{aligned} \quad (5)$$

where $Legal_Origin$ is a vector of two dummies for English and German legal origin, and $\widehat{LaborCooperativeness}$ is cooperativeness of labor relation instrumented by either the fraction of Protestants or the fraction of Catholics, taken from Stulz and Williamson (2003). **Table 5** presents the first and second stages of the estimation of equation (5). We present several regressions to show that our results are robust to dropping those countries for which we have used predicted values based on equation (3), and that they are also robust to using either the percentage of Catholics or the percentage of Protestants.

Consider first columns (i) to (iv). The first stage regressions show that labor cooperativeness is higher in countries with a larger fraction of Protestants, and lower in countries with a larger fraction of Catholics, as predicted by Crouch (1993). It is also striking to see that larger countries have systematically lower labor cooperativeness than smaller countries. In fact, if one were to add a Scandinavian legal origin dummy to the first stage, it would be insignificant. According to the data, the differences between France and Sweden are well explained by the different sizes of the two countries, and by the different fractions of Protestants. On the other hand, the German and Anglo-Saxon legal origin dummies are positively related to labor cooperativeness, which captures the fact that Germany, England and the US, despite their large sizes, have relatively good labor relations. The R^2 s of the first stage regressions are between 61% and 86%. The second stage regression points to a causal role from labor relations to ownership concentration. The estimated coefficients are similar to the ones obtained from our OLS regressions.

In columns (i) to (iv), we have excluded religion from the second stage regressions. This restriction relies on the assumption that, if religion affects ownership concentration, it does so only indirectly through labor relations. There are two ways to address potential concerns about this assumption. First, there is evidence consistent with our assumption. Guiso, Sapienza, and Zingales (2005a) show that, in the US, Catholics and Protestants have the same level of trust in other people, the same thriftiness, and the same preferences for redistribution. Thus, if religion has a direct effect on ownership concentration, it is probably not through one of these channels.

The second way to alleviate potential concerns regarding our exclusion assumption is

to relax the assumption itself. Note that we (or, more precisely, Crouch (1993)) do not claim that religion per se matters for labor relations, but rather that Catholicism is a good predictor of early state-church conflicts, which in turn predict hostile labor relations today. Fortunately, there are two countries that—although predominantly Catholic—did not experience significant state-church conflicts: Ireland and Austria. Ireland was under British rule in the 19th century, and its early labor organizations were similar to the ones in the UK. In Austria, there were no conflicts between the state and the church, simply because the church de facto controlled the state. The experiences of both countries are discussed in details in Crouch (1993). As it turns out, Ireland, and to a lesser extent Austria, have more dispersed ownership than the other Catholic countries. This is consistent with our theory, and inconsistent with the view that religion matters directly for ownership. To try and make the case more formally, we create a new instrument, based on the argument in Crouch (1993). The new instrument is equal to the percentage share of Catholics, except for Ireland, where it is replaced by the value for the UK, and for Austria, where we set it equal to zero given that the Austrian Catholic church behaved cooperatively rather than confrontational. Columns (v) and (vi) report the IV results using the new instrument and including religion as an independent variable. Obviously, the standard errors become much larger, since the new instrument is very correlated with the percentage share of Catholics. While we restrain from putting too much faith in econometrics with such a small sample, we conclude that the data seems to support our theory.

4.2 Japan and Korea

Unfortunately, we could not include Asian countries in our IV regressions. Yet, the OLS regressions suggest that our theory is at least as valid in Asia as it is in Europe. While we were not able to find an instrument for labor relations in the nine Asian countries of our sample, we were able to find some qualitative evidence related to the two most extreme cases, Korea and Japan.

In today's Japan, strikes are practically non-existent, and family firms are rare. It is

therefore interesting to know that this was not the case before World War II. As historian Andrew Gordon explains:

“In their mature form by the 1920s, each of the major zaibatsu was a sprawling business empire embracing dozens of corporations in finance, transport, trade, mining, and manufacturing. Each zaibatsu was held together at the apex by a holding company. Until the start of World War II, individual families (the Mitsui, Yasuda, and Sumitomo families and, in the case of the Mitsubishi combine, the Iwasaki family) were the exclusive owners of these holding companies.” (Gordon (2003), page 143)

Historically, Japanese zaibatsu have been keen on hiring outside managers, but *“even in these appointments, loyalty to the controlling family was valued highly. Devotion was further reinforced when rising managerial stars on occasion married the daughters of zaibatsu families. Already in 1918, the eight largest zaibatsu held more than 20% of all private capital in the manufacturing, mining and trading sectors. The bank crisis of 1927 opened the way for the zaibatsu banks to dominate the financial world even more.”* (Gordon (2003), page 143) After World War II, however, *“occupation reformers attacked the sprawling business empires of the zaibatsu. They took away ownership and control from the holding companies dominated by the zaibatsu families.”* (Gordon (2003), page 231).

On the other hand, labor relations in Japan were more conflictual before World War II than they have been in the past 40 years. Gordon (1985) argues that the century-long process by which a distinct pattern of Japanese labor relations evolved is traced through the often turbulent interactions of workers, managers, and, at times, government bureaucrats and politicians. US occupation officials not only broke up the zaibatsu, they also *“encouraged and advised labor unions.”*

The history of labor relations and ownership concentration in Japan seems consistent with our theory. Unions became stronger after the war, not weaker. So theories based on union power like Roe (2003) would predict that family firms would experience a revival in Japan. By contrast, our theory emphasizes cooperation in labor relations, and we would expect Japanese firms to remain widely held, which they have been since World War II.

Comparing Korea to Japan also provides support for our theory. Yoon (2005) argues

that the sharp contrast in strike intensity between Korea and Japan is puzzling in view of the similarity of labor institutions in the two countries:¹³ *“Essentially, Korean labor institutions are a virtual replica of Japan’s. Yet labor militancy in Korea, as demonstrated by high strike intensity shows that the labor relation outcome in Korea is exactly the opposite to that of Japan.”* Consistent with our theory, the main difference between Korean chaebols and Japanese keiretsu is that *“the founding family tightly controls chaebol through majority share-ownership in the core firm, while family power is absent in keiretsu.”*

Finally, we think that the Japanese and Korean examples suggest a fascinating possibility: that ownership concentration might have a feedback effect on labor relations. One could argue that the exogenous change in ownership concentration imposed by the US on Japan after World War II favored the emergence of the high-quality labor relations that Japan has enjoyed until this date. Likewise, for Korea Yoon (2005) suggests that *“an unintended consequence of the founding family’s tight managerial control of chaebol, as opposed to keiretsu, is labor militancy in chaebol firms.”* Unfortunately, we have been unable to test this idea rigorously, for two reasons. First, it is not obvious based on theoretical grounds that family control should lead to worse labor relations. On the one hand, family firms probably have a longer time horizon and are more risk averse than non-family firms, explaining why they pay lower interest rates on corporate debt. This longer horizon might help them maintain good relations with their employees. Indeed, Sraer and Thesmar (2004) find that family firms in France provide more insurance to their workers than do non-family firms. On the other hand, families, like all controlling shareholders, have greater incentives to extract private benefits—potentially at the expense of other stakeholders like employees. The result might be lower wages and worse labor relations, consistent with Bertrand and Mullainathan (2003) and Fisman and Nair (2005).¹⁴ In short, theory seems to offer no clear guidance as to the direction in which a possible feedback from family control to labor relations might go. Moreover, empirically

¹³Unions are organized on the enterprise level in Korea, as in Japan. The enterprise unions renegotiate labor contracts with management annually in the so-called spring offensive, just like Japan’s shunto.

¹⁴An earlier version of this paper contained a model with these two effects. The reason for why we have abandoned that model is precisely that, given our data, we cannot test for a feedback effect from ownership concentration to labor relations. The current model only assumes a causality from labor relations to ownership concentration, while it is agnostic about possible feedback effects.

it is difficult to find a plausible instrument for exogenous variations in family ownership. Much to our dismay, we therefore had to give up on the idea of testing for a feedback effect given our available data.

5 Canada

Canada is particularly relevant for our thesis, both because Attig and Gadhoun (2003) have shown that ownership concentration varies across provinces within Canada, and because Morck, Percy, Tian, and Yeung (2004) have constructed historical data on ownership concentration from 1902 to 1998. To measure labor relations within Canada and over time, we use data provided to us by Pierre Fortin: it contains days lost due to strike activity as well as union membership for Canada—and separately for Quebec—from 1953 to 2002. Strike activity is defined as days lost over the number of salaried workers, and we use it—for lack of more direct evidence—as a proxy for the quality of labor relations.

Strikes are more prevalent in Quebec than in the rest of Canada. Consistent with our theory, Attig and Gadhoun (2003) show that ownership is more concentrated in Quebec than in the rest of Canada. This is also consistent with our historical discussion above, since Quebec has a French-Catholic tradition while the rest of Canada has an English-Protestant tradition. On the other hand, as argued by Attig and Gadhoun (2003), “traded firms in Quebec and in the rest of Canada are created under the same law, the Canadian Business Corporations Act. In addition, stock market regulations in the different provinces of Canada are not remarkably different.” Arguably, this implies the differences in ownership concentration between Quebec and the rest of Canada are unlikely to result from differences in shareholder protection. They are, however, consistent with our theory based on the quality of labor relations.

Strike intensity increased in Canada in the late 1960s and remained relatively high throughout the 1970s. Consistent with our theory, Morck, Percy, Tian, and Yeung (2004) show that the fraction of widely held firms decreased in the 1970s and started to recover only in the 1980s. As emphasized by Blanchard and Philippon (2005), strike activity declines when unemployment increases, even if labor relations do not improve, as hap-

pened in France over the past 30 years. Therefore, a refined measure of the quality of labor relations can be obtained by first adjusting strike activity for the effect of unemployment

$$\frac{Days_Lost_t}{Employees_t} = \alpha + \beta Unemployment_t + e_t$$

Figure 2 plots e_t and the fraction of non-widely held firms (i.e., one minus the fraction of widely held firms) in Canada from 1953 to 1998. To confirm the visual impression we get from looking at this figure, we also run

$$\Delta y_t = \alpha + \beta \frac{Days_Lost_t}{Employees_t} + \gamma \Delta \log(Union_Member_t) + \varepsilon_t$$

where y_t is either the fraction of family-controlled firms or the fraction of widely held firms.¹⁵ We run the regression in first difference because the series in levels are very auto-correlated. Strike activity predicts a drop in the fraction of widely held companies and an increase in the fraction of family-controlled companies, consistent with our theory. In both cases, strike activity is significant, while the growth rate of union membership is not significantly related to the percentage change of family-controlled firms.¹⁶

While we do not have an instrument for the variation in strike activity in Canada, we believe the Canadian experience is consistent with the discussion in the previous section. The increase in strike activity in the late 1960s and 1970s is significantly larger in Quebec, where it resembles the one in France, which has been badly shaken since the turmoil in 1968. Strike activity in the rest of Canada, on the other hand, resembles more closely that in the US.

6 Conclusion

We study the interaction between a particular form of social capital—cooperation in labor relations—and a particular economic outcome—the concentration of corporate ownership. We present a simple model in which a decrease in workers’ cooperativeness increases the optimal level of ownership concentration. Our model is consistent with casual evidence, and we show that, in conjunction with the protection of minority shareholders, the

¹⁵See Morck, Percy, Tian, and Yeung (2004) for a description of the ownership data. Note that the two fractions do not add up to one: there are also state- and foreign-owned firms.

¹⁶In these regressions, the unemployment rate is not significant and hence omitted.

cooperativeness of labor relations can explain a large fraction of the observed variance in ownership concentration across countries. Using religion as an instrument for the degree of (non-)cooperativeness of labor relations, we provide evidence of a causal link going from labor relations to ownership concentration. We find similar results using Canadian data, for which we document a surprisingly strong correlation between strike activity and ownership concentration over the past 50 years.

References

- ATTIG, N., AND Y. GADHOUM (2003): “The Governance of Canadian Traded Firms,” mimeo.
- BANFIELD, E. C. (1958): *The Moral Basis of a Backward Society*. Free Press, New York.
- BERLE, A., AND G. MEANS (1932): *The Modern Corporation and Private Property*. MacMillan, New York.
- BERTRAND, M., AND S. MULLAINATHAN (2003): “Enjoying The Quiet Life? Corporate Governance and Managerial Preferences,” *Journal of Political Economy*, 111, 1043–1075.
- BLANCHARD, O., AND T. PHILIPPON (2002): “The Decline of Rents, and The Rise and Fall of European Unemployment,” NBER WP 10590.
- (2005): “Labor Relations and Unemployment,” mimeo NYU.
- BOTERO, J., S. DJANKOV, R. LA PORTA, F. LOPEZ-DE SILANES, AND A. SHLEIFER (2004): “The Regulation of Labor,” *Quarterly Journal of Economics*, 119, 1339–1382.
- BURKART, M., D. GROMB, AND F. PANUNZI (1997): “Large Shareholders, Monitoring, and the Value of the Firm,” *Quarterly Journal of Economics*, 112(3).
- CLAESSENS, S., S. DJANKOV, AND L. H. LANG (2000): “The Separation of Ownership from and Control in East Asian Corporations,” *Journal of Financial Economics*, 58, 81–112.
- CROUCH, C. (1993): *Industrial Relations and European State Traditions*. Clarendon Press, Oxford.
- DYCK, A., AND L. ZINGALES (2004): “Private Benefits of Control: An International Comparison,” *Journal of Finance*, 59, 537–600.

- FACCIO, M., AND L. H. LANG (2002): “The Ultimate Ownership of Western European Corporations,” *Journal of Financial Economics*, 65, 365–395.
- FISMAN, R., AND V. B. NAIR (2005): “Are Shareholder Friendly Firms Friendly to Employees?,” mimeo Wharton.
- FUKUYAMA, F. (1995): *Trust*. New York Free Press.
- GADHOUM, Y., L. LANG, AND L. YOUNG (2005): “Who Controls US?,” *European Financial Management*, 11, 339–363.
- GORDON, A. (1985): *The Evolution of Labor Relations in Japan: Heavy Industry, 1853-1955*. Harvard University, Cambridge.
- (2003): *A Modern History of Japan*. Oxford University Press, Oxford.
- GUISSO, L., P. SAPIENZA, AND L. ZINGALES (2004a): “Cultural Biases in Economic Exchange,” mimeo Chicago GSB.
- (2004b): “The Role of Social Capital in Financial Development,” *American Economic Review*, 94, 526–556.
- (2005a): “Does Culture Affect Economic Outcomes?,” *Journal of Economic Perspectives*, forthcoming.
- (2005b): “Trusting the Stock Market,” mimeo Chicago GSB.
- KNACK, S., AND P. KEEFER (1997): “Does Social Capital Have an Economic Payoff? A Cross-Country Investigation,” *Quarterly Journal of Economics*, 112, 1251–1288.
- LA PORTA, R., F. LOPEZ-DE SILANES, AND A. SHLEIFER (1999): “Corporate Ownership Around the World,” *Journal of Finance*, 54, 471–517.
- LA PORTA, R., F. LOPEZ-DE SILANES, A. SHLEIFER, AND R. W. VISHNY (1997): “Trust in Large Organizations,” *American Economic Review Papers and Proceedings*, 87, 333–338.

- (1998): “Law and Finance,” *Journal of Political Economy*, 106, 1113–1155.
- MILGROM, P., AND C. SHANNON (1994): “Monotone Comparative Statics,” *Econometrica*, 62, 157–180.
- MORCK, R., M. PERCY, G. TIAN, AND B. YEUNG (2004): “The Rise and Fall of the Widely Held Firm - a History of Corporate Ownership in Canada,” NBER WP10635.
- PAGANO, M., AND P. VOLPIN (2005): “The Political Economy of Corporate Governance,” *American Economic Review*, forthcoming.
- PUTNAM, R. D. (1993): *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press, Princeton, NJ.
- ROE, M. J. (2003): *Political Determinants of Corporate Governance*. Oxford University Press.
- SRAER, D., AND D. THESMAR (2004): “Performance and Behavior of Family Firms: Evidence from the French Stock Market,” mimeo CREST.
- STULZ, R. M., AND R. WILLIAMSON (2003): “Culture, Openness and Finance,” *Journal of Financial Economics*, 70, 313–349.
- TABELLINI, G. (2005): “Culture and Institutions: Economic Development in the Regions of Europe,” mimeo IGER.
- YOON, B. J. (2005): “Labor Militancy in South Korea,” *Asian Economic Journal*, 19, 205–230.
- ZAK, P. J., AND S. KNACK (2001): “Trust and Growth,” *Economic Journal*, 111, 295–321.

Table 1a: Data on Ownership Concentration

Source of Data				FL&CDL	FL&CDL	CDL	FL	LLS	LLS	LLS	
Country	Code	Sample Used	Number of Firms	Fraction of Total Market Value Controlled by Top 5 Families	Fraction of Firms Controlled by Families (20% cutoff)	Fraction of Firms Controlled by Families (10% cutoff)	Fraction of Non-Financial Firms Controlled by Families	Fraction of Medium-Sized Publicly Traded Companies Controlled by Families	Fraction of Value of Top 20 Firms Controlled by Families	Fraction of Top 20 Firms Controlled by Families	Principal Component
Australia	AUS	LLS	20	.	.	.	.	0.50	0.12	0.05	-0.03
Austria	AUT	FL	99	0.16	0.53	.	0.59	0.17	0.06	0.15	-0.10
Belgium	BEL	FL	130	0.20	0.52	.	0.64	0.40	0.41	0.50	0.20
Canada	CAN	LLS	20	.	.	.	.	0.30	0.28	0.25	-0.17
Denmark	DNK	LLS	20	.	.	.	.	0.40	0.32	0.35	0.01
Finland	FIN	FL	129	0.14	0.49	.	0.44	0.20	0.06	0.10	-0.40
France	FRA	FL	607	0.22	0.65	.	0.71	0.50	0.26	0.20	0.94
Germany	GER	FL	704	0.16	0.65	.	0.69	0.40	0.08	0.10	0.45
Greece	GRE	LLS	20	.	.	.	.	1.00	0.47	0.50	1.70
Hong Kong	HKG	CDL	330	0.26	0.67	0.65	.	0.90	0.63	0.70	1.24
Indonesia	IDN	CDL	178	0.41	0.72	0.69	.	.	.	.	2.52
Ireland	IRL	FL	69	0.12	0.25	.	0.27	0.13	0.04	0.10	-1.67
Israel	ISR	LLS	20	.	.	.	.	0.60	0.31	0.50	0.08
Italy	ITA	FL	208	0.17	0.60	.	0.72	0.60	0.14	0.15	0.30
Japan	JPN	CDL	1240	0.02	0.10	0.13	.	0.10	0.03	0.05	-2.96
Korea	KOR	CDL	345	0.30	0.48	0.68	.	0.50	0.22	0.20	1.65
Malaysia	MAL	CDL	238	0.17	0.67	0.58	.	.	.	.	0.24
Netherlands	NLD	LLS	20	.	.	.	.	0.20	0.06	0.20	-1.29
New Zealand	NZL	LLS	20	.	.	.	.	0.29	0.15	0.25	-0.78
Norway	NOR	FL	155	0.16	0.39	.	0.44	0.40	0.13	0.25	-0.72
Philippines	PHI	CDL	120	0.43	0.45	0.42	.	.	.	.	1.46
Portugal	PRT	FL	87	0.25	0.60	.	0.55	0.50	0.38	0.45	0.92
Singapore	SGP	CDL	221	0.20	0.55	0.52	.	0.40	0.15	0.30	0.16
Spain	ESP	FL	632	0.07	0.56	.	0.62	0.30	0.17	0.15	-0.61
Sweden	SWE	FL	245	0.09	0.47	.	0.47	0.60	0.35	0.45	-0.85
Switzerland	SWI	FL	214	0.24	0.48	.	0.56	0.50	0.29	0.30	0.34
Taiwan	TWN	CDL	141	0.15	0.48	0.66	.	.	.	.	0.40
Thailand	THA	CDL	167	0.32	0.62	0.57	.	.	.	.	1.32
United Kingdom	UK	FL	1953	0.04	0.24	.	0.25	0.40	0.00	0.00	-2.30
United States	USA	GLY	3607	.	0.20	.	.	0.10	0.18	0.20	-2.04

Note: CDL is Claessens, Djankov & Lang (2000), FL is Faccio & Lang (2002), LLS is La Porta, Lopez-de-Silanes & Shleifer (1999), and GLY is Gadhoum, Land and Young (2005). "Principal Component" is the first principal component of the two FL&CDL columns.

Table 1b: Data on Labor Relations

	Global Competitiveness Report (World Economic Forum)					World Competitiveness Yearbook (IMD)	
	Labor/employer relations are generally cooperative.			Strikes are rare and always quickly resolved with minimum economic losses	The collective bargaining power of workers is high	Labor relations are generally ... (hostile, productive)	
	1993	1999	2003	1999	1999	1999	2003
	1 = strongly disagree, 7 = strongly agree					Scale from 1 to 8	
Australia	4.4	4.3	4.5	4.1	4.9	5.8	7.0
Austria	6.0	6.1	5.7	7.0	5.5	7.6	7.7
Belgium	4.5	4.4	4.2	4.1	5.2	5.2	5.5
Canada	4.4	4.8	4.9	4.5	4.6	6.1	6.6
Denmark	6.1	6.0	6.0	5.6	5.0	7.7	7.4
Finland	5.5	5.4	5.5	5.0	6.0	7.1	7.6
France	3.3	3.3	3.5	3.2	4.4	4.4	4.3
Germany	5.3	5.3	4.7	5.6	5.3	7.0	5.6
Greece	4.4	3.9	4.1	3.1	4.3	4.8	5.6
Hong Kong	5.7	5.8	5.8	6.3	2.8	7.3	7.5
Indonesia	4.5	4.8	3.7	3.3	3.6	5.0	3.6
Ireland	5.2	5.2	5.0	5.3	4.8	7.1	7.6
Israel	5.0	4.7	4.3	3.7	5.0	6.5	6.1
Italy	4.3	4.2	3.8	3.6	4.6	5.0	4.8
Japan	6.0	6.1	5.4	6.2	4.2	7.7	7.6
Korea	3.9	3.9	3.6	3.3	4.6	3.6	3.6
Malaysia	5.3	5.7	5.6	6.2	4.2	7.3	7.3
Netherlands	5.9	5.9	5.8	5.9	5.2	7.7	7.4
New Zealand	5.4	5.6	4.7	5.8	3.6	7.7	6.9
Norway	5.7	5.7	4.9	4.7	5.7	7.4	7.4
Philippines	4.4	4.3	3.7	3.7	4.7	6.0	5.1
Portugal	4.8	5.0	4.4	4.9	3.8	6.3	5.3
Singapore	6.3	6.5	6.3	6.8	4.2	8.9	8.6
Spain	4.5	4.5	4.3	4.8	4.6	5.7	5.5
Sweden	5.8	5.9	5.8	5.2	5.8	7.4	7.1
Switzerland	6.1	6.4	6.1	6.7	3.4	8.0	8.2
Taiwan	5.3	5.6	5.5	5.9	3.7	6.9	7.1
Thailand	4.9	5.2	5.4	5.0	3.7	6.2	6.5
United Kingdom	5.5	5.1	5.0	5.6	3.5	6.9	6.7
United States	5.1	5.0	5.2	5.1	4.1	6.2	6.4

Table 2: Correlation Matrices

2a: Ownership Concentration in Asia. N = 9, CDL (2000)

Fraction of Total Market Value Controlled by Top 5 Families	1.00			
Fraction of Firms Controlled by Families (10%)	0.50	1.00		
Fraction of Firms Controlled by Families (20%)	0.58	0.85*	1.00	

2b: Ownership Concentration in Europe. N = 13, FL (2002)

Fraction of Total Market Value Controlled by Top 5 Families	1.00			
Fraction of Firms Controlled by Families (20%)	0.54	1.00		
Fraction of Non-Financial Firms Controlled by Families	0.53	0.94*	1.00	

2c: Ownership Concentration using LLS Data. N = 25, LLS (1999)

Fraction of Medium-Sized Publicly Traded Companies Controlled by Families	1.00			
Fraction of Value of top 20 Firms Controlled by Families	0.75*	1.00		
Fraction of Top 20 Firms Controlled by Families	0.67*	0.93*	1.00	

2d: Survey Measures of Labor Relations. N = 30

Cooperative Labor Relations (GCR, 1993)	1						
Cooperative Labor Relations (GCR, 1999)	0.9661*	1					
Cooperative Labor Relations (GCR, 2003)	0.8859*	0.9020*	1				
Strikes are rare and always quickly resolved (GCR, 1999)	0.8628*	0.9067*	0.8842*	1			
Collective bargaining power of workers is high (GCR, 1999)	0.0471	-0.03	-0.0112	-0.1607	1		
Productive Labor Relations (IMD, 1999)	0.9362*	0.9353*	0.8688*	0.8830*	0.0211	1	
Productive Labor Relations (IMD, 2003)	0.8472*	0.8338*	0.9103*	0.8183*	0.0587	0.8972*	1

Note: * denotes significance at 5% level

Table 3: Ownership Concentration and Labor Relations, OLS regressions. "Principal Component" in columns (iii) to (vii) is the first principal component of the two measures of family control in columns (i) and (ii).

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
	Fraction of Family- Controlled Firms	Share of Market Cap. Controlled by Top 5 Families	Principal Component of Family Control	Principal Component of Family Control	Principal Component of Family Control	Principal Component of Family Control	Principal Component of Family Control
Sample	All Countries	All Countries	Asia	Asia	Europe + US	West	All Countries
Cooperative Labor Relations (IMD, 2003)	-0.09	-0.05	-0.93	-0.68	-0.68	-0.86	-0.71
	-4.00	-3.30	-3.59	-3.81	-2.99	-3.49	-5.10
Log(Population) in 1995	-0.06	-0.02	-0.82	-0.99	-0.48	-0.55	-0.47
	-2.65	-1.35	-2.31	-4.41	-2.26	-2.83	-3.05
Log(GNP_Per_Capita) in 1997				-0.72		0.55	
				-3.29		0.84	
Asia Dummy							12.90
							3.00
Asia Dummy * Log(Population)							-0.53
							-1.92
Asia Dummy * Log(GNP_Per_Capita)							-0.70
							-2.80
N	30	30	9	9	14	21	30
R ²	0.38	0.30	0.68	0.90	0.46	0.48	0.70
Adj. R ²	0.33	0.24	0.58	0.84	0.36	0.38	0.64

Note: Coefficients are in bold, t-statistics are listed below the coefficients. Asia includes the 9 countries from Claessens, Djankov and Lang (2000). The sample in column (v) includes the 13 countries in Faccio and Lang (2002) and the US from Gadhoun, Lang and Young (2005). The West sample includes Europe + US plus 7 additional countries with predicted values using data from La Porta, Lopez-de-Silanes and Shleifer (1999): Australia, Canada, Denmark, Greece, Israel, the Netherlands, New Zealand.

Table 4a: Alternate Theories, OLS regressions. Dependent variable is principal component of degree of family control.

	(i)	(ii)	(iii)	(iv)	
	Principal Component of Family Control	Principal Component of Family Control	Principal Component of Family Control	Principal Component of Family Control	
IMD03	Cooperative Labor Relations	-0.65	-0.60	-0.62	-0.63
		-5.79	-4.33	-3.16	-4.17
	Log(Population) in 1995	-0.36	-0.46	-0.48	-0.37
		-2.86	-3.06	-2.87	-2.25
	Asia Dummy	18.14	12.38	11.87	11.29
		4.59	3.22	2.54	2.32
	Asia Dummy * Log(Population)	-0.95	-0.47	-0.56	-0.54
		-3.79	-1.88	-2.00	-1.99
	Asia Dummy * Log(GNP_Per_Capita)	-0.77	-0.71	-0.57	-0.57
		-3.19	-3.19	-1.81	-1.77
LLSV	Oppressed Minorities mechanisms	-1.19			
		-3.99			
	Preemptive Rights for New Issues	-0.42			
		-1.54			
DZ	Percent of Shares to Call Meeting	-6.28			
		-2.21			
	Private Benefits of Control		1.29		
			0.96		
LLSV	Rule of Law		0.06		
			0.46		
	Efficiency of Judicial System		-0.16		
			-1.26		
	Repudiation of Contract by Government				0.48
				1.20	
	Risk of Expropriation				-0.77
				-1.66	
N	29	27	30	30	
R ²	0.84	0.77	0.73	0.74	
Adj. R ²	0.77	0.70	0.64	0.66	

Note: Coefficients are in bold, t-statistics are listed below the coefficients. Sources : LLSV is La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) ; DZ is Dyck and Zingales (2004) .

Table 4b: Alternate Theories (cont'd), OLS regressions. Dependent variable is principal component of degree of family control.

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	
	Principal Component of Family Control	Principal Component of Family Control	State Control	Principal Component of Family Control	State Control	Principal Component of Family Control	
IMD03	Cooperative Labor Relations	-0.70	-0.75	0.01	-0.80	0.00	-0.57
		-4.15	-3.50	0.62	-4.08	0.36	-3.37
	Log(Population) in 1995	-0.50	-0.65	-0.01	-0.51	-0.01	-0.44
		-2.98	-2.69	-0.42	-2.48	-0.68	-2.57
	Asia Dummy	11.71					13.05
		2.19					2.51
	Asia Dummy * Log(Population)	-0.50					-0.34
		-1.62					-0.98
	Asia Dummy * Log(GNP_Per_Capita)	-0.61					-0.97
		-1.78					-3.28
BDLLS	Index of Collective Bargaining	-0.13					
		-0.17					
	Index of Employment Protection	0.98					
GCR99		0.75					
	Collective bargaining power of workers is high	-0.17					
		-0.75					
Roe	Left-Right Political Scale, 1981-1991		-0.06	-0.05			
			-0.13	-2.07			
PV	Proportionality of Voting, 1986-1990			0.10	0.02		
				0.53	1.75		
WVS	Importance of Family (Question A001)						-1.20
							-0.96
	Trust in People (Question A165)						-4.28
						-1.37	
N	30	16	16	21	21	26	
R ²	0.72	0.63	0.51	0.57	0.34	0.74	
Adj R ²	0.61	0.54	0.39	0.50	0.22	0.63	

Note: Coefficients are in bold, t-statistics are listed below the coefficients. Sources : BDLLS is Botero, Djankov, La Porta, Lopez-de-Silanes and Shleifer (2004) ; Roe is Roe (2003) ; PV is Pagano and Volpin (2005) ; WVS is World Value Survey (1999-2002).

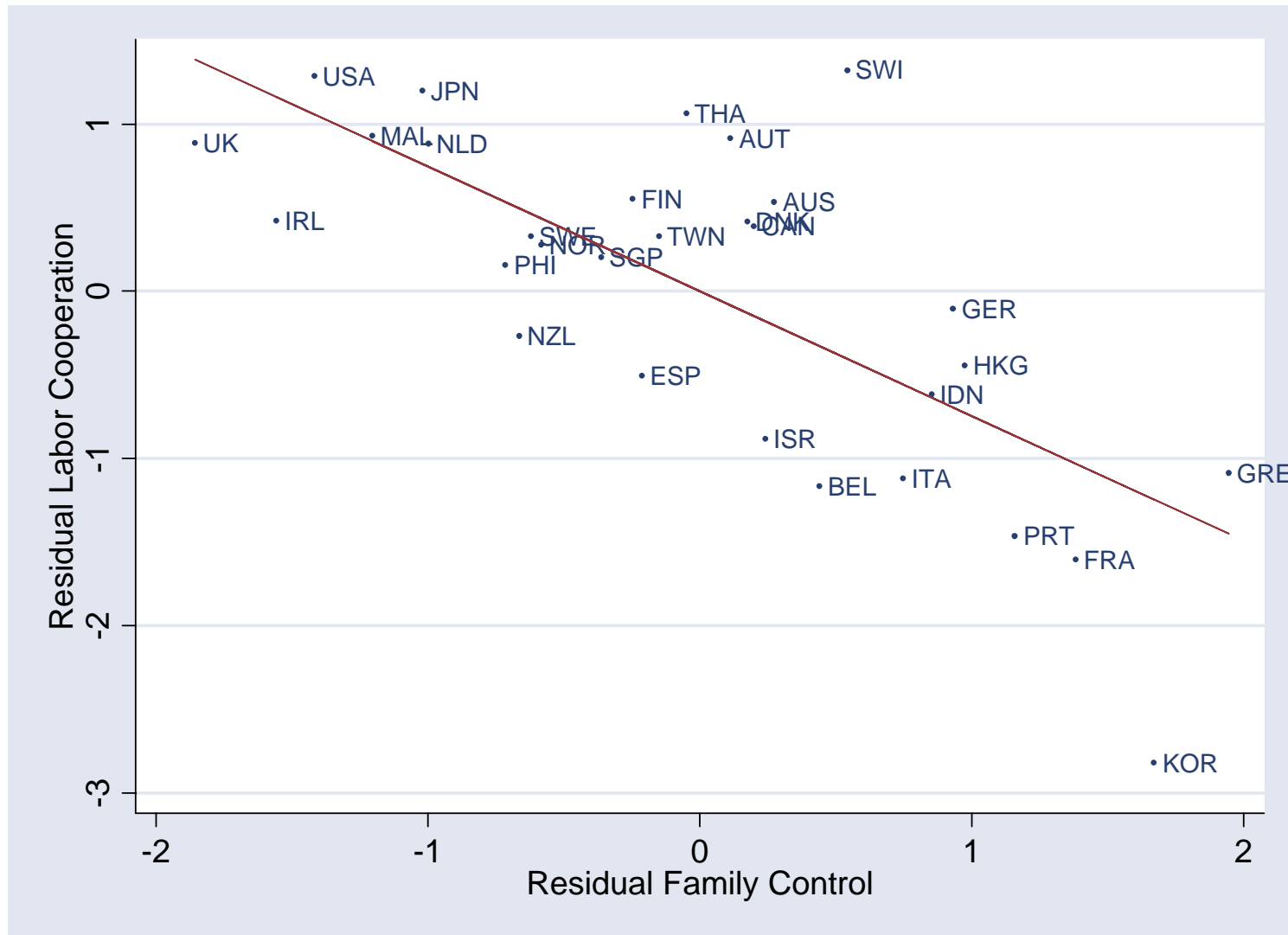
Table 5: Instrumental Variable Regressions

Sample	(i) Europe + US	(ii) West	(iii) Europe + US	(iv) West	(v) West	(vi) West
Second-stage regressions: Dependent variable is principal component of degree of family control						
Cooperative Labor Relations	-0.599 -2.58	-0.803 -2.86	-0.608 -2.89	-0.74 -2.22	-1.527 -2.74	-1.536 -2.09
Log(Population) in 1995	-0.323 -1.81	-0.524 -2.79	-0.329 -2	-0.491 -2.33	-0.843 -2.88	-0.825 -2.43
Anglo-Saxon Legal Origin	-1.048 -2.27	-0.38 -1.04	-1.033 -2.39	-0.428 -1.09	-0.119 -0.25	0.194 0.28
German Legal Origin	1.037 2.62	1.117 2.18	1.049 2.81	1.046 1.89	1.88 2.38	1.949 1.98
Percentage of Catholics					-0.01 -1.12	
Percentage of Protestants						0.012 0.89
N	14	21	14	21	21	21
R ²	0.91	0.707	0.91	0.701	0.532	0.545

First-stage regressions: Dependent variable is cooperative labor relations						
Log(Population) in 1995	-0.588 -4.27	-0.411 -3.03	-0.654 -5.37	-0.447 -3.08	-0.282 -1.85	-0.31 -2.16
Anglo-Saxon Legal Origin	1.543 3.57	0.783 2.32	1.31 3.21	0.393 1	-0.046 -0.11	0.219 0.46
German Legal Origin	1.294 3.13	1.135 2.5	1.199 3.15	1.06 2.16	0.491 0.94	0.704 1.39
Percentage of Protestants	0.014 2.62	0.016 3.15				0.007 0.97
Percentage of Catholics			-0.014 -3.15	-0.012 -2.48	0.001 0.1	
Crouch Variable					-0.02 -2.12	-0.013 -1.62
N	14	21	14	21	21	21
R ²	0.835	0.671	0.862	0.614	0.703	0.72

Note: Coefficients are in bold, t-statistics are listed below the coefficients. The Faccio-Lang sample includes the 13 countries in Faccio and Lang (2002) plus the US from Gadhoun, Lang and Young (2005). The West sample includes 7 additional countries with predicted values using La Porta, Lopez-de-Silanes and Shleifer (1999): Australia, Canada, Denmark, Greece, Israel, the Netherlands, New Zealand.

Figure 1: Residual Labor Cooperation and Residual Family Control



Note: Residuals of regression (vii) in Table 3. Labor cooperation and family control are first regressed on log(employment) and log(GNP per capita), interacted with a dummy for Asia.

Figure 2: Strikes and Changes in Ownership Concentration in Canada

Fraction of non widely held = one minus fraction of widely held firms. Excess strike activity = days lost due to strike per 1000 salaried workers, adjusted for unemployment rate. Sources: Morck, Percy, Tian and Yeung (2004), Canadian Department of Human Resources Development and Labor Force Survey.

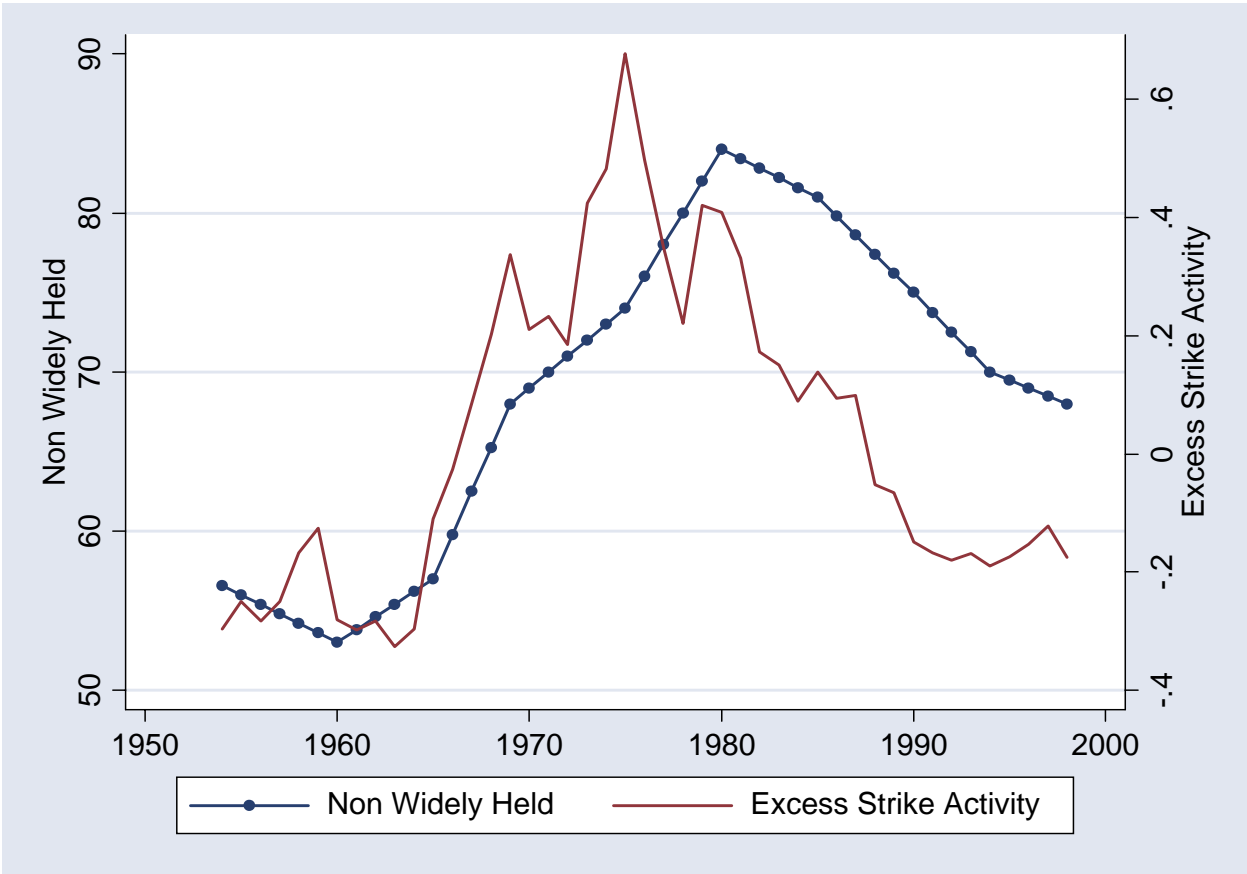


Table 6: Strikes and Changes in Ownership Concentration in Canada.

Dependent Variable	Change in % of Family-Controlled Firms	Change in % of Widely Held Firms
Days Lost per 1000 Salaried Workers	1.22	-2.06
Growth Rate of Union Membership	2.86	-4.47
	3.36	-16.54
	0.63	-2.86
N	45	45
R ²	0.20	0.47