

Concentrated Ownership and Labor Relations*

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Abstract

We show that differences in the quality of labor relations across countries can help to explain cross-country variation in ownership concentration. Controlling for minority shareholder protection, countries in which labor relations are hostile tend to have more concentrated ownership than countries in which labor relations are cooperative. Union strength, labor regulation, and the political orientation of countries, on the other hand, appear not to matter for ownership concentration. Based on Crouch's (1993) argument that cross-country differences in the quality of labor relations can be attributed to the presence or absence of state-church conflicts in the 19th century, which in turn can be attributed to a country's religious affiliation, we instrument labor relations using religion in 1900. The result remains the same. We also find qualitatively similar results when examining postwar Canadian and Italian ownership and strike time series data, which show a remarkably strong correlation between strike activity and changes in ownership concentration over time.

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1 Introduction

In their seminal study, La Porta, Lopez-de-Silanes, and Shleifer (LLS, 1999) show that the widely held firm envisioned by Berle and Means (1932) is the exception rather than the norm. While the image of the modern corporation as one in which control rests in the hands of powerful managers while shareholders are small and dispersed has spurred a large body of research in corporate finance, LLS show that this image applies at best to a few countries. In most countries, by contrast, firms are owned by rich individuals and families, not by dispersed shareholders. Perhaps more importantly, LLS show that this prevalence of tightly held firms in many countries can, at least partly, be explained by the absence of sufficient minority shareholder protection. And yet, explanations based on differences in minority shareholder protection leave a significant fraction of the variance unexplained. In this paper, we show that part of the cross-country variability in ownership concentration can be explained by cultural factors, specifically, by the quality of a country's labor relations.

The quality of labor relations, i.e., the extent to which labor relations are hostile or cooperative, constitutes part of a country's social capital. And yet, the fact that a country has high social capital in the context of labor relations does not mean it has high social capital in other contexts, or even high social capital in general. In fact, part of the broader argument we would like to make in this paper—and we will provide some evidence for it—is that social capital may be context-specific. Precisely, while the recent literature on social capital focuses on the effect of social capital on broader economic outcomes, such as growth and GDP per capita (Knack and Keefer (1997), Zak and Knack (2001), Tabellini (2005)), financial development (Guiso, Sapienza, and Zingales (2004)), bilateral trade and foreign direct investment (Guiso, Sapienza, and Zingales (2005a)), and stock market participation (Guiso, Sapienza, and Zingales (2005b)), we focus on a much narrower, and in a sense more institution-oriented, question: does a country's labor-specific social capital have an effect on its corporate ownership structure?¹

¹The effect of a country's social capital on its institutions is also the subject of Fukuyama's (1995) intriguing book. His argument that trust is vital for the development of large-scale organizations has been tested by La Porta et al. (1997), who find that, indeed, trust is positively correlated with the share of sales by large firms to GDP across countries. Banfield (1958) and Putnam (1993) provide seminal insights into the role of social capital for social and political development. For an excellent overview of the growing literature on social capital and

On a priori grounds, we might hypothesize that hostile (cooperative) labor relations should go hand in hand with concentrated (dispersed) ownership. When labor relations are hostile, labor requires a strong and powerful “tamer”, whose willingness to fight out battles and push through the capitalists’ viewpoint must ultimately stem from a strong financial interest in the firm. Underlying this hypothesis, of course, is the implicit notion that management—at least in the absence of a large shareholder looking over its shoulders—lacks precisely this willingness, preferring instead a “quiet life” that is free of strikes and labor disputes.²

We test the hypothesis that hostile labor relations go hand in hand with concentrated ownership using data from two different surveys as well as different years. Both across surveys and over time, the relative rankings of countries in terms of their labor relations are extremely stable. This high level of persistence is consistent with Blanchard Philippon (2002), who show that strike data from the 1960s can predict remarkably well country rankings of labor relations based on survey data from the 1990s. Finally, the categorization into countries with hostile and cooperative labor relations suggested by our survey data accords well with qualitative discussions by labor historians such as Crouch (1993). All together, this suggests that our survey data indeed captures actual cross-country variation in the quality of labor relations.

Our sample consists of 21 Western and 9 Asian countries. Controlling for differences in minority shareholder protection, which remains significant in our regressions, we find a strongly significant and negative effect between cooperative labor relations and various measures of ownership concentration. This result remains unchanged if we consider only Europe, only Asia, or only Western countries.

Perhaps equally interesting is what factors do *not* seem to matter for ownership concentration. Roe (2003) argues that “social democracies”—countries with labor-friendly political regimes and tight labor regulations—should have more concentrated ownership. Likewise, he argues that ownership should be more concentrated in countries in which labor unions are strong and powerful. Controlling for the quality of labor relations, we find that neither the political orientation of countries, nor labor regulation, nor union strength matter for ownership concen-

economic development, as well as new empirical findings, see Guiso, Sapienza, and Zingales (2006).

² “[M]anagers appear to care more about workers ... than shareholders do. ... This care for workers may result from a desire to avoid conflict with unions” (Betrand and Mullainathan (2003)).

tration. Accordingly, it is not just *some* aspect of labor relations that matters, but it is precisely the issue of whether labor is cooperative or hostile, where hostility is likely to emanate from anti-capitalist ideology rather than union strength.³

We conduct further robustness checks by including more control variables. For instance, one might worry that our measure of cooperative labor relations is merely a proxy for income inequality, which in turn might be related to ownership concentration. As it turns out, this is not the case. Other control variables which we include are the efficiency of the judicial system, risk of expropriation, repudiation of contracts by governments, rule of law (all from La Porta et al. (1998)), and a measure of private benefits of control (from Dyck and Zingales (2004)). None of these variables is significant. Perhaps more importantly, the coefficient for cooperative labor relations remains remarkably stable across all our regressions.

As we have pointed out earlier, one of the broader arguments we would like to make in this paper is that social capital may be context-specific. To shed light on this issue, we include further control variables. The first is a measure of general trust from the World Value Survey that has been widely used in previous studies. Other control variables include survey measures of trust and social capital related to peoples' confidence in major companies, trust in politicians, trust in the judiciary, and whether or not people think family is important. None of these alternative measures of social capital is significant.

We next come to the issue of causality. The differences in the quality of labor relations across countries suggested by our survey data are remarkably consistent with qualitative descriptions by Crouch (1993), who attributes the origins of these differences to struggles over political space between the church and the emerging liberal states of the 19th (and in some cases 18th) century. While the Anglican and Lutheran churches had little problem sharing political space, the Roman Catholic Church challenged the state's authority. The state—in an attempt to affirm its authority over the Catholic church—in turn responded by oppressing any form of organized interest, including labor, which provoked the formation of highly oppositional labor movements.

³Prima facie, there is no reason why union strength and cooperative labor relations should be correlated. Scandinavia, for instance, has powerful yet cooperative unions. In France and Italy, on the other hand, unions are only moderately powerful, yet many of them are radical and strongly anti-capitalist. Empirically, the correlation between union strength and cooperative labor relations is close to zero.

Based on Crouch’s argument, we instrument cooperative labor relations using either the fraction of Protestants or Catholics in 1900, controlling for legal origin. Either way, our measure of cooperative labor relations remains significant and negatively related to concentrated ownership.

Importantly, Crouch does not argue that it is religion per se that determines the quality of labor relations in a given country, but rather the presence or absence of state-church conflicts, which in turn can be attributed to the country’s religious affiliation. In fact, there are two exceptions to the norm that Catholicism breeds hostile labor movements: Ireland and Austria. When we modify our instrument to tie it even closer to Crouch’s actual argument, our results become even stronger. In fact, using the “Crouch instrument” our results continue to hold even when we add the fraction of Catholics in 1995 as a control variable. Our results also continue to hold if instead of using our survey measure of cooperative labor relations we use actual strike data from the 1960s, instrumented by the Crouch instrument, and controlling for legal origin.

We next try to see if the causality runs both ways, i.e., from labor relations to ownership concentration, and vice versa. Instrumenting labor relations using the Crouch instrument and instrumenting ownership concentration using legal origin (based on LLS (1999) and LLSV (1998)), we find no evidence for a two-way causality, however. This is not to say that a feedback effect does not exist. Indeed, there may be different feedback effects on the firm level, with opposite signs, which cancel out in the aggregate, i.e., on the country level. For instance, firms with a large shareholder might have a longer time horizon, which might help them to maintain good relations and enforce implicit contracts with employees, consistent with Sraer and Thesmar’s (2004) finding that family firms in France seem to provide more insurance to their workers than non-family firms. On the other hand, large shareholders might be detrimental to labor relations. Given that a large shareholder receives a significant fraction out of every dollar of wealth transferred from workers (unlike managers, whose fractional ownership is generally small), he or she might have a strong incentive to eliminate workers’ perks, cut back on their wages, and break implicit contracts, as discussed in Shleifer and Summers (1988).⁴

There are two countries for which we have time series data on the evolution of corporate ownership: Canada and Italy. Canada is particularly interesting, because Quebec is French-

⁴See Shleifer and Vishny (1997) for a general discussion of the costs of large shareholders.

Catholic while the rest of Canada is English-Protestant. Consistent with our hypothesis, strikes are indeed more prevalent, and ownership is more concentrated, in Quebec than in the rest of Canada. As for the evolution of corporate ownership over time, we find that in the case of both Canada and Italy there is a remarkably strong correlation between strike activity and changes in ownership concentration, with the coefficient having the predicted sign: as strike activity increases, the percentage of widely held firms decreases.

The rest of this paper is organized as follows. Section 2 describes the data and presents our basic OLS regressions. Section 3 considers alternative explanations for concentrated ownership. Section 4 offers a brief historical synopsis of the causal role of religion in the 19th century for cross-country differences in labor relations, followed by instrumental variables and 3SLS regressions. Section 5 examines time series data from Canada and Italy. Section 6 concludes.

2 Data and Basic OLS Regressions

2.1 Data on Ownership and 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

$$Fam_{i,j}^{CDL-FL} = \alpha_j + \beta'_j Fam_i^{LLS} + \varepsilon_{ij} \quad (1)$$

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 10 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%.⁵ 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

⁵While 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.

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.

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

$$Fam_i = \alpha + \beta LaborCooperativeness_i + \gamma \log(Population_{i,1995}) + \varepsilon_i \quad (2)$$

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 (2) 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 (1). 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 of Ownership Concentration

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 **Tables 4a, b, & c** 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.

Investor Protection and Private Benefits of Control

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 et al. (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.

Quality of Government and Judicial System

In columns (iii) and (iv) of **Table 4a**, 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 et al. (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.

Income Inequality

In column (v) of **Table 4a** we look at income inequality as measured by the Gini Coefficient. The worry is that our measure of cooperative labor relations might merely be a proxy for income inequality—with high income inequality implying hostile labor relations—which in turn might be related to ownership concentration (e.g., low income inequality implying more dispersed share ownership). As it turns out, income inequality is not significant. If anything, the coefficient for cooperative labor relations becomes even stronger after controlling for income inequality.

Union Power and Labor Regulation

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 et al. (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.

Political Country Orientation and Voting Rules

Another of Roe’s hypotheses, related to an argument made by Pagano and Volpin (2003), 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) in **Table 4b**. 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 (2003). 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.

Alternative Measures of Social Capital

The cooperativeness of labor relations is a *specific* form of social capital that matters for labor relations. Are cooperative labor relations merely an outgrowth of a country’s *general* social capital? Or is it possible that there are different forms of (specific) social capital—not necessarily related to each other—that matter in different social, political, and economic contexts? We try to shed light on this issue in **Table 4c** by running a horse race between our (labor-specific) measure and other measures of social capital.⁶

Column (i) considers general trust, measured as the percentage of respondents who answer that most people can be trusted in response to the following question from the 2000 World Value Survey (WVS): “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, e.g., La Porta et al. (1997) to explain the economic success of large firms, and Guiso, Sapienza, and Zingales (2005b) to explain stock market participation. Column (ii) considers the importance of family, measured as the percentage of respondents—again from the 2000 WVS—who answer that family is very important. The importance of family seems relevant for our question, since societies that consider families to be important might have more family firms. Column (iii) considers the percentage of respondents—again from the 2000 WVS—who answer that they have either a great deal or quite a lot of confidence in major companies. The connection to our question is obvious: if people have less trust in major companies, we might see more (small) family firms. Columns (iv) and (v) refer to two questions from the 1999 Global Competitiveness Report (CGR) (cf., Section 2.2). The first question asks respondents whether they think the

⁶The corresponding correlation matrix is reported in **Table 2e**.

judiciary is independent; the second question asks whether they think public trust in the financial honesty of politicians is very high. In either case, respondents can choose from 1 (=strongly disagree) to 7 (=strongly agree).⁷ Respondents can choose a number from 1 to 10. The reason for including this last measure is that low credibility might imply less delegation to professional managers, and hence more family-operated firms.

While some variables, like general trust, enter with the right sign, none of the alternative measures of social capital in Table 4c is significant. We believe this is good news for theories emphasizing the role of social capital, for it means one can distinguish between different forms of social capital and test which ones matter in different social, political, or economic contexts.

4 Historical Perspective and IV Regressions

In our model, we have assumed there is an exogenous component to whether or not labor relations are cooperative that may vary from country to country. Where do differences in labor cooperativeness across countries come from? To shed light on this issue, we take a closer look at the historical origins of European labor relations.

According to Crouch (1993), European labor relations were directly influenced by conflicts between the church and the emerging liberal states in the 19th century. In some countries, like France, this conflict between the church and the state dates back to the late 18th century. In countries where the state had to struggle to affirm its authority over the church, it tended to forbid all forms of organized interests—including guild structures and labor organizations—to maintain its monopoly power in the political arena.⁸

Such struggles between the church and the emerging liberal state were quite common in Catholic countries. According to Crouch (1993), “*the Catholic Church . . . became the rallying point for all forces alienated from modernization*”. In an attempt to assert its superiority over the Catholic church, the state confronted all organized interests, either trying to drive them out

⁷There is nothing special about the year 1999; the results are qualitatively similar if we choose another year. As in the case of cooperative labor relations, the measures in columns (iv)-(v) are highly persistent over time.

⁸“To the extent that the liberal state had to struggle to assert its autonomy from and superiority over an established religion, it became exceptionally ‘jealous’ of political space, reluctant to share it, and thus exclusive in its claims to sovereignty” (Crouch (1993)).

or marginalize them to the point where they would pose no threat to the state’s authority. As a consequence, “*organized interests . . . found themselves on the ‘wrong side’ in the modernization struggle and either disappeared or became allied with anti-modernizing forces*”. A striking example of this 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 this drastic law that forbade all types of organizations. Later on, when labor organizations emerged in the 19th century, they were considered illegal. Thus labor movements in France had been weak and ostracized from the beginning, which may explain why they became anarchist in the early 20th century and later on communist.

In stark contrast to Catholic countries, state-church conflicts were largely absent in Lutheran countries: “*Lutheran churches have historically been obedient national institutions, accepting something approaching civil-service status within the state and asserting no superior political loyalty as did the Vatican-based Catholic Church.*” Hence, there was no need for the liberal state to be ‘jealous’ of the church as in Catholic countries. As a consequence, “*this lack of ‘jealousy’ reduced the extent to which these [i.e., Lutheran] states confronted guilds and subsequently provoked the formation of highly oppositional labor movements.*” On these matters, the Anglican Church behaved like the Lutheran churches.

Based on this discussion we might expect that a country’s religious affiliation—through its significance for early state-church conflicts—might be a good predictor of the cooperativeness of labor relations. On the other hand, La Porta et al (1998) have emphasized the importance of legal origin. We are therefore going to run the following regression:

$$Fam_i = \alpha + \beta \widehat{LaborCooperativeness}_i + \gamma \log(Population_{i,1995}) + \delta' Legal_Origin_i + \varepsilon_i \quad (3)$$

where *Legal_Origin* is a vector of two dummies for English and German legal origin, and $\widehat{LaborCooperativeness}$ is the cooperativeness of labor relation instrumented by either the fraction of Protestants or the fraction of Catholics in 1900, taken from the 200 CIA Factbook. **Table 5** presents the first and second stages of the estimation of equation (3).

Consider first columns (i) and (ii). 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, which is consistent with Crouch (1993). It is also interesting 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 regression, 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 well above 70%. The second-stage regression points to a causal role from labor relations to ownership concentration. The estimated coefficients are similar to those in our OLS regressions.⁹

In columns (i) and (ii) of **Table 5** we have excluded religion in 1900 from the second-stage regressions. This restriction relies on the assumption that if religion in 1900 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 directly matters for labor relations, but rather that Catholicism is a good predictor of early state-church conflicts, which in turn is a good predictor of non-cooperative 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. Therefore, “*unlike the Finns under the Russians, the Irish did not have an opportunity to develop*

⁹Our results are robust to dropping those countries for which we have used predicted values based on equation (1). The regressions in question are not reported in Table 5 for brevity.

a polity consistent with their religious preferences” (Crouch (1993)). The case of Austria is somewhat different. In Austria there were no state-church conflicts simply because the church de facto controlled the state: “*The heartland of the Counter-Reformation, the Hapsburg empire, presents a paradoxical case. Catholic forces were so strong that even the opposition operated on their terms. Far from liberals seeking a breakdown of institutions, they sought incorporating within them*” (Crouch (1993)).

As it turns out, Ireland, and to a lesser extent Austria, have more dispersed ownership than other Catholic countries in Europe. This is consistent with our theory, and inconsistent with the view that religion directly determines ownership concentration. To make this case more formally, we create a new instrument that is more closely tied to the actual argument in Crouch (1993). We use the term ‘Crouch instrument’. The Crouch instrument is equal to the percentage share of Catholics in 1900, except for Ireland where it is replaced by the value for the UK, and Austria where it is replaced by the value for Germany. Column (iii) of **Table 5** reports the IV results using the Crouch instrument. As expected, our results become stronger, both economically and statistically. In column (iv) we use again the Crouch instrument. This time, however, we include the fraction of Catholics 1995 as a control variable to address concerns that religion might directly influence ownership concentration. While the coefficient associated with cooperative labor relations becomes even stronger, the standard errors become obviously much larger as the Crouch instrument is highly correlated with the percentage share of Catholics today. 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.

We try to address any remaining concerns about the validity of our survey data by replacing our survey-based measure of cooperative labor relations with *actual* strike data from the 1960s. As discussed in detail in Blanchard and Philippon (2002), the 1960s are ideal for measuring the impact of strikes as other macroeconomic factors such as unemployment, growth rates, and inflation are relatively similar among Western countries during this time period. In a sense, the 1960s therefore constitute a natural experiment for our purposes. The result is reported in column (v) of **Table 5**. Instrumenting labor conflicts in the 1960s using the Crouch instrument,

we find that labor conflict has a significant positive effect on ownership concentration¹⁰

To the extent that our instrumental variables approach is valid, reverse causality is not a concern here. Nonetheless, it is interesting to see if the causality runs both ways, i.e., from labor relations to ownership concentration, and vice versa. A first indicator that there might not be any reverse causality is the fact that the coefficients in the IV regressions in columns (iii) and (iv) in **Table 5** are larger than in the corresponding OLS regression. A more direct way of testing for two-way causality is to run a 3SLS regression in which both ownership concentration and cooperative labor relations are instrumented. The result is reported in **Table 6**, where we instrument labor relations using the Crouch instrument and ownership concentration using legal origin, based on LLS (1999) and LLSV (1998). Equation 1 confirms the results of our previous IV regressions, suggesting that cooperative labor relations has a significant negative effect on ownership concentration. Equation 2, on the other hand, suggests that there is no evidence for reverse causality. As remarked in the Introduction, however, this does not necessarily mean that a feedback effect from ownership concentration to labor relations does not exist. It could simply mean that there are different feedback channels on the firm level, with opposite signs, which cancel out in the aggregate, i.e., on the country level.

5 Strike Activity and the Evolution of Corporate Ownership in Canada and Italy

We have time series data on the evolution of corporate ownership from two countries: Canada and Italy. Canada is particularly interesting for our thesis, both because Attig and Gadhoum (2003) have shown that ownership concentration varies across provinces within Canada, and because Morck et al. (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

¹⁰The measure of labor conflict used is described in detail in Blanchard and Philippon (2002). It is a weighted average of days lost due to strikes, number of workers involved in strikes, and number of strikes.

proxy for the quality of labor relations.

Strikes are more prevalent in Quebec than in the rest of Canada (Fortin (2002)). 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 et al. (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 happened 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

$$y_t = \alpha + \beta \frac{Days_Lost_t}{Employees_t} + \gamma y_{t-1} + \varepsilon_t$$

where y_t is either the fraction of family-controlled firms or the fraction of widely held firms.¹¹ The result is reported in **Table 7**. We include the lagged fraction of family-controlled and widely held firms, respectively, as the series in levels are very auto-correlated. Consistent with

¹¹See Morck et al. (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.

our theory, strike activity predicts a drop in the fraction of widely held companies and an increase in the fraction of family-controlled companies.¹²

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.

Table 7 reports similar findings for Italy, albeit the results are not quite as strong as for Canada. Unfortunately, we do not have the fraction of family controlled firms for Italy, but only the fraction of widely held firms.

6 Conclusion

The objective of this paper is to examine whether social capital—in the form of cooperative behavior in labor relations—matters for the structure of corporate ownership. Based on a sample of 30 Western and Asian countries, we find that differences in the degree of hostility or 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 cooperativeness in labor relations, we furthermore provide evidence of a causal link going from labor relations to ownership concentration. We find a similar relationship using Canadian data, for which we document a surprisingly strong correlation between strike activity and ownership concentration over the past 50 years.

An intriguing question is whether there is—in addition to the effect from labor relations to ownership concentration documented here—also the reverse causality effect going from ownership concentration to labor relations. While there is some indirect evidence from other studies suggesting that such a feedback effect exists, we do not find any evidence for it here. As argued in the Introduction, this might be due to the fact that there are different feedback channels on the firm level with opposite signs that cancel out in the aggregate. More research will thus be necessary before we can firmly conclude that the causality between ownership concentration and

¹²In these regressions, the unemployment rate is not significant and hence omitted.

labor relations runs both ways.

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Table 1a: Data on Ownership Concentration

Variable	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 Medium-Sized Publicly Traded Firms Controlled by Families	Fraction of Value of Top 20 Firms Controlled by Families	Fraction of Top 20 Firms Controlled by Families	Principal Component
Data Source				FL & CDL	FL & CDL	LLS	LLS	LLS	
Australia	AUS	LLS	20	.	.	0.50	0.12	0.05	-0.03
Austria	AUT	FL	99	0.16	0.53	0.17	0.06	0.15	-0.10
Belgium	BEL	FL	130	0.20	0.52	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	0.20	0.06	0.10	-0.40
France	FRA	FL	607	0.22	0.65	0.50	0.26	0.20	0.94
Germany	GER	FL	704	0.16	0.65	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	0.90	0.63	0.70	1.24
Indonesia	IDN	CDL	178	0.41	0.72	.	.	.	2.52
Ireland	IRL	FL	69	0.12	0.25	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	0.60	0.14	0.15	0.30
Japan	JPN	CDL	1240	0.02	0.10	0.10	0.03	0.05	-2.96
Korea	KOR	CDL	345	0.30	0.48	0.50	0.22	0.20	1.65
Malaysia	MAL	CDL	238	0.17	0.67	.	.	.	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	0.40	0.13	0.25	-0.72
Philippines	PHI	CDL	120	0.43	0.45	.	.	.	1.46
Portugal	PRT	FL	87	0.25	0.60	0.50	0.38	0.45	0.92
Singapore	SGP	CDL	221	0.20	0.55	0.40	0.15	0.30	0.16
Spain	ESP	FL	632	0.07	0.56	0.30	0.17	0.15	-0.61
Sweden	SWE	FL	245	0.09	0.47	0.60	0.35	0.45	-0.85
Switzerland	SWI	FL	214	0.24	0.48	0.50	0.29	0.30	0.34
Taiwan	TWN	CDL	141	0.15	0.48	.	.	.	0.40
Thailand	THA	CDL	167	0.32	0.62	.	.	.	1.32
United Kingdom	UK	FL	1953	0.04	0.24	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, and Lang (2000), FL is Faccio and Lang (2002), LLS is La Porta, Lopez-de-Silanes, and Shleifer (1999), and GLY is Gadhoum, Lang, and Young (2005). "Principal Component" is the first principal component of columns 5 and 6 (the two FL & CDL columns). For Australia, Canada, Denmark, Greece, Israel, Netherlands, and New Zealand predicted values based on LLS have been used to fill in the missing entries in the FL & CDL columns.

Table 1b: Data on Labor Relations

Variable	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)		
	Data Source	GCR 1993	GCR 1999	GCR 2003	GCR 1999	GCR 1999	IMD 1999	IMD 2003
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

Notes: GCR is Global Competitiveness Report, published by the World Economic Forum. IMD is World Competitiveness Yearbook. The scale for GCR is from 1 (strongly disagree) to 7 (strongly agree). The corresponding scale for IMD is from 1 to 10.

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 (20%)	0.58	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					
2c: Ownership Concentration in Developed Countries. 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 Rare and Quickly Resolved (GCR 1999)	0.8628*	0.9067*	0.8842*	1			
Collective Bargaining Power of Workers (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
2e: Survey Measures of Labor Relations and Social Capital. N = 26-30							
Productive Labor Relations (IMD 2003)	1						
General Trust (WVS 2000)	0.3949*	1					
Importance of Family (WVS 2000)	-0.2549	-0.1614	1				
Confidence in Major Companies (WVS 2000)	0.072	0.1844	0.3295	1			
Trust in Politicians (GCR 1999)	0.6754*	0.4655*	-0.3235	0.1982	1		
Trust in Judiciary (GCR 1999)	0.6368*	0.4265*	-0.3125	0.0912	0.7830*	1	

Note: * denotes significance at 5% level or higher

Table 3: Ownership Concentration and Labor Relations

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Dependent Variable	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	FL + US	West	All Countries
Cooperative Labor Relations	-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: 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). Coefficients are in bold, t-statistics are listed below the coefficients. Asia includes the 9 countries from Claessens, Djankov and Lang (2000). The FL + US sample in column (v) includes the 13 European countries in Faccio and Lang (2002) and the US from Gadhoun, Lang, and Young (2005). The sample in column (vi) includes the sample in column (v) 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: Alternative Theories of Ownership Concentration

	(i)	(ii)	(iii)	(iv)	(v)
Dependent Variable	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
Cooperative Labor Relations	-0.65	-0.60	-0.62	-0.63	-0.76
	-5.79	-4.33	-3.16	-4.17	-5.22
Log(Population) in 1995	-0.36	-0.46	-0.48	-0.37	-0.49
	-2.86	-3.06	-2.87	-2.25	-3.17
Asia Dummy	18.14	12.38	11.87	11.29	10.73
	4.59	3.22	2.54	2.32	2.28
Asia Dummy * Log(Population)	-0.95	-0.47	-0.56	-0.54	-0.45
	-3.79	-1.88	-2.00	-1.99	-1.56
Asia Dummy * Log(GNP_Per_Capita)	-0.77	-0.71	-0.57	-0.57	-0.58
	-3.19	-3.19	-1.81	-1.77	-2.12
Oppressed Minorities Mechanisms (LLSV)	-1.19				
	-3.99				
Preemptive Rights for New Issues (LLSV)	-0.42				
	-1.54				
Percent of Shares to Call Meeting (LLSV)	-6.28				
	-2.21				
Private Benefits of Control (DZ)		1.29			
		0.96			
Rule of Law (LLSV)			0.06		
			0.46		
Efficiency of Judicial System (LLSV)			-0.16		
			-1.26		
Repudiation of Contract by Government (LLSV)				0.48	
				1.20	
Risk of Expropriation (LLSV)				-0.77	
				-1.66	
Income Inequality (Gini Coefficient)					0.03
					1.10
N	29	27	30	30	30
R ²	0.84	0.77	0.73	0.74	0.72
Adj. R ²	0.77	0.70	0.64	0.66	0.64

Note: OLS regressions. Dependent variable is principal component of degree of family control. Coefficients are in bold, t-statistics are listed below the coefficients. Sources : LLSV is La Porta et al. (1998) and DZ is Dyck and Zingales (2004) .

Table 4b: Alternative Theories of Ownership Concentration (cont'd)

Dependent Variable	(i)	(ii)	(iii)	(iv)	(v)
	Principal Component of Family Control	Principal Component of Family Control	State Ownership	Principal Component of Family Control	State Ownership
Cooperative Labor Relations	-0.70	-0.75	0.01	-0.80	0.00
	-4.15	-3.50	0.62	-4.08	0.36
Log(Population) in 1995	-0.50	-0.65	-0.01	-0.51	-0.01
	-2.98	-2.69	-0.42	-2.48	-0.68
Asia Dummy	11.71				
	2.19				
Asia Dummy * Log(Population)	-0.50				
	-1.62				
Asia Dummy * Log(GNP_Per_Capita)	-0.61				
	-1.78				
Index of Collective Bargaining (BDLLS)	-0.13				
	-0.17				
Index of Employment Protection (BDLLS)	0.98				
	0.75				
Collective Bargaining Power of Workers is High (GCR 1999)	-0.17				
	-0.75				
Left-Right Political Scale (Roe)		-0.06	-0.05		
		-0.13	-2.07		
Proportionality of Voting (PV)				0.10	0.02
				0.53	1.75
N	30	16	16	21	21
R ²	0.72	0.63	0.51	0.57	0.34
Adj R ²	0.61	0.54	0.39	0.50	0.22

Note: OLS regressions. Dependent variable is principal component of degree of family control. Coefficients are in bold, t-statistics are listed below the coefficients. Sources : BDLLS is Botero et al. (2004), GCR is Global Competitiveness Report, Roe is Roe (2003), and PV is Pagano and Volpin (2005).

Table 4c: Other Measures of Social Capital

Dependent Variable	(i) Principal Component of Family Control	(ii) Principal Component of Family Control	(iii) Principal Component of Family Control	(iv) Principal Component of Family Control	(v) Principal Component of Family Control
Cooperative Labor Relations	-0.68	-0.71	-0.64	-0.80	-0.70
	-4.05	-4.78	-3.54	-4.84	-3.53
Log(Population) in 1995	-0.49	-0.44	-0.55	-0.46	-0.47
	-2.97	-2.71	-2.84	-2.96	-2.94
Asia Dummy	11.44	13.27	14.89	12.23	12.75
	2.24	2.82	1.89	2.80	2.73
Asia Dummy * Log(Population)	-0.41	-0.45	-0.53	-0.45	-0.53
	-1.20	-1.52	-0.98	-1.54	-1.86
Asia Dummy * Log(GNP_Per_Capita)	-0.70	-0.83	-0.95	-0.70	-0.69
	-2.45	-2.95	-2.60	-2.81	-2.54
General Trust (WVS 2000)	-0.58				
	-0.48				
Importance of Family (WVS 2000)		-5.46			
		-1.84			
Confidence in Major Companies (WVS 2000)			-2.45		
			-1.18		
Trust in Politicians (CGR 1999)				0.18	
				0.96	
Trust in Judiciary (CGR 1999)					-0.02
					-0.09
N	27	26	20	30	30
R ²	0.72	0.76	0.78	0.72	0.70
Adj R ²	6.00	6.00	6.00	6.00	6.00

Note: OLS regressions. Dependent variable is principal component of degree of family control. Coefficients are in bold, t-statistics are listed below the coefficients. Sources : GCR is Global Competitiveness Report and WVS is World Value Survey.

Table 5: Instrumental Variable Regressions

	(i)	(ii)	(iii)	(iv)	(v)
Second Stage: Dependent variable is principal component of degree of family control					
Cooperative Labor Relations	-0.813	-0.714	-0.935	-1.266	
	-2.48	-2.27	-3.44	-2.35	
Log(Population) in 1995	-0.513	-0.455	-0.586	-0.744	-0.267
	-2.18	-1.98	-2.8	-2.38	-1.4
Anglo-Saxon Legal Origin	-0.384	-0.484	-0.262	-0.064	-0.974
	-0.8	-1.02	-0.58	-0.11	-2.35
German Legal Origin	1.122	1.009	1.262	1.63	1.306
	1.92	1.75	2.31	2.08	2.11
Percentage of Catholics in 1995				-0.006	
				-0.69	
Labor Conflicts in the 1960s					1.061
					2.41
N	20	20	20	20	17
R ²	0.664	0.658	0.658	0.609	0.484
First Stage: Dependent variable is cooperative labor relations					
Log(Population) in 1995	-0.488	-0.52	-0.359	-0.332	0.092
	-3.81	-4.29	-3.21	-2.66	0.58
Anglo-Saxon Legal Origin	0.777	0.643	0.179	0.086	0.478
	2.3	1.92	0.56	0.23	1.11
German Legal Origin	1.148	1.131	0.741	0.659	-0.679
	2.75	2.81	2.12	1.7	-1.41
Percentage of Protestants in 1900	0.012				
	3.25				
Percentage of Catholics in 1900		-0.013			
		-3.55			
Crouch Instrument			-0.018	-0.022	0.015
			-4.88	-2.67	2.41
Percent of Catholics in 1995				0.004	
				0.54	
N	20	20	20	20	17
R ²	0.735	0.755	0.826	0.829	0.517

Note: Coefficients are in bold, t-statistics are listed below the coefficients. The sample in columns (i)-(iv) includes the 13 countries in Faccio and Lang (2002) plus the US from Gadhoum, Lang, and Young (2005) plus 6 additional countries with predicted values using La Porta, Lopez-de-Silanes, and Shleifer (1999): Australia, Canada, Denmark, Greece, the Netherlands, New Zealand. Israel is not included because the country did not exist in 1900. The sample in column (v) is the same as in columns (i)-(iv), except that Spain, Portugal, and Greece have been dropped as all three countries were dictatorships in the 1960s

Table 6: 3SLS Estimation of Ownership Concentration and Labor Relations

Equation 1: Dependent variable is principal component of degree of family control				
	Coefficient	Standard Error	z	p-value
Cooperative Labor Relations	-0.97	0.23	-4.14	0.00
Anglo-Saxon Legal Origin	-0.17	0.38	-0.44	0.66
German Legal Origin	1.38	0.46	2.98	0.00
Log(Population) in 1995	-0.61	0.18	-3.39	0.00
Constant	11.76	2.97	3.96	0.00
N	20			
R ²	0.65			
Equation 2: Dependent variable is cooperative labor relations				
	Coefficient	Standard Error	z	p-value
Family Control (Principal Component)	0.56	0.52	1.07	0.29
Crouch Instrument	-0.03	0.01	-2.77	0.01
Log(Population) in 1995	-0.16	0.21	-0.76	0.45
Constant	9.54	1.64	5.81	0.00
N	20			
R ²	0.55			

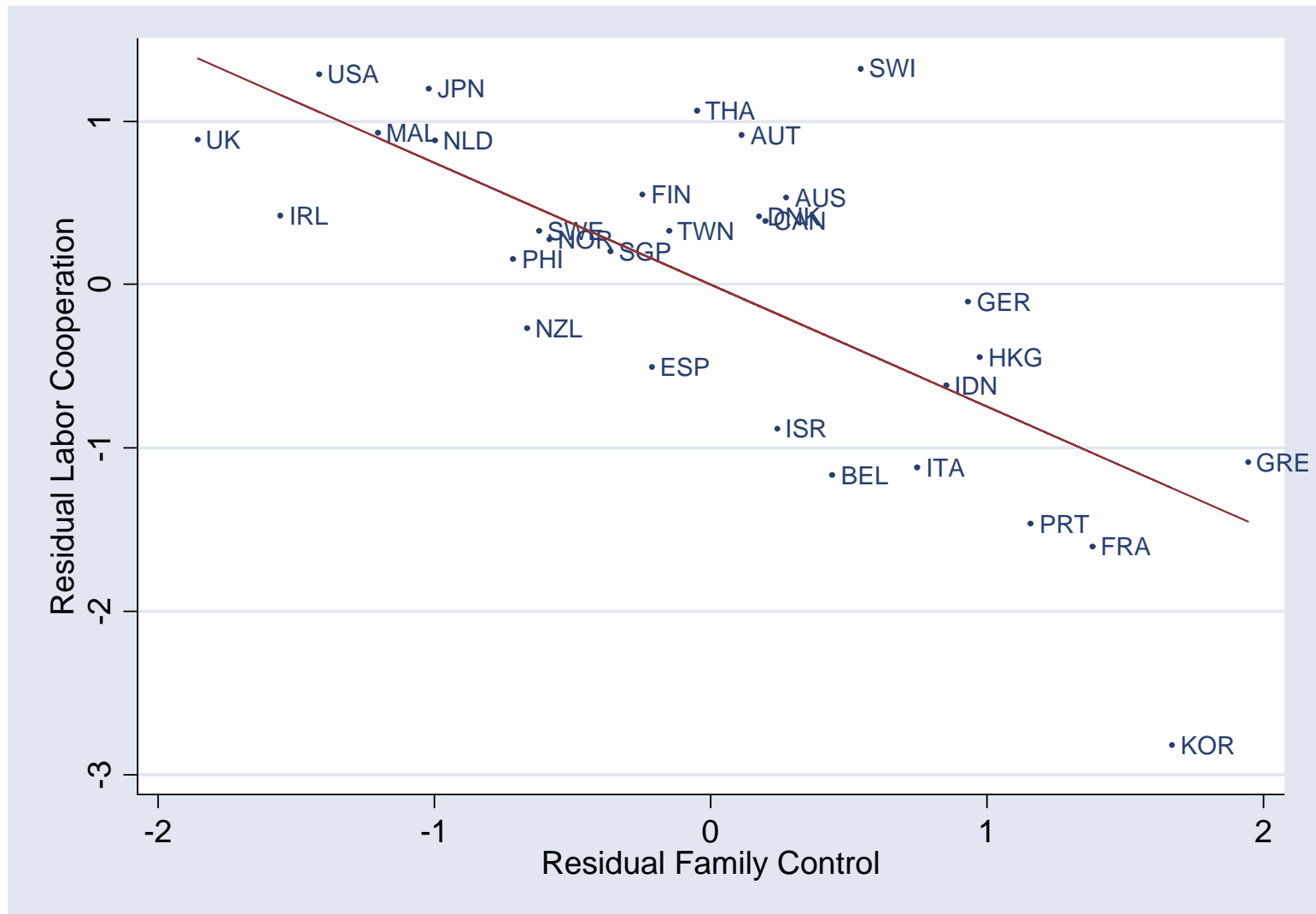
Note: Coefficients are in bold, t-statistics are listed below the coefficients. The sample includes the 13 countries in Faccio and Lang (2002) plus the US from Gadhoum, Lang, and Young (2005) plus 6 additional countries with predicted values using La Porta, Lopez-de-Silanes, and Shleifer (1999): Australia, Canada, Denmark, Greece, the Netherlands, New Zealand. Israel is not included because the country did not exist in 1900. In equation 1 "Cooperative Labor Relations" is instrumented using the Crouch instrument; in equation 2 "Family Control" is instrumented using Anglo-Saxon and German Legal Origin.

Table 7: Strike Activity and Changes in Ownership Concentration in Canada and Italy.

Dependent Variable	Canada		Italy
	% of Family-Controlled	% of Widely Held	% of Widely Held
Days Lost per 1000 Salaried Workers	0.18	-0.44	-0.30
	3.55	-6.23	-2.43
Lagged % of Family Firms	0.99		
	35.64		
Lagged % of Widely Held Firms		0.91	0.96
		50.34	18.99
N	45	45	49
R ²	0.97	0.99	0.9

Note: OLS regressions. Coefficients are in bold, t-statistics are listed below the coefficients.

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: Strike Activity and Changes in Ownership Concentration in Canada

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

