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Concentrated Ownership and Labor Relations*

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Abstract

Political struggles between the emerging European liberal states and the Catholic church in the 18th and 19th centuries provoked the formation of highly oppositional labor movements, resulting in Catholic countries having conflictual labor relations until the present. Based on the premise that differences in the quality of labor relations across countries are, at least partly, the outcome of historical and cultural developments, we examine whether these differences have implications for the prevalence of family ownership. Controlling for differences in minority shareholder protection, we find that countries with hostile labor relations have significantly more concentrated ownership than countries with cooperative labor relations. This relationship is strikingly robust and holds even when we instrument our survey measure of the quality of labor relations using either the fraction of Catholics or Protestants 1900. It also holds when we replace our survey measure of the quality of labor relations with actual strike data from the 1960s. As it turns out, differences in strike activity in the 1960s across Western countries can predict differences in ownership concentration thirty years later. Finally, the relationship also holds for Canadian time-series data, for which we document a markedly strong correlation between strike activity and changes in ownership concentration during the second half of the 20th century.

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1 Introduction

In their seminal study, La Porta, Lopez-de-Silanes, and Shleifer (1999) show that the widely held firm envisioned by Berle and Means (1932) is the exception rather than the norm. In most countries, firms are owned by rich individuals and families, not by small shareholders. What is more, the authors document that family ownership is more prevalent in countries with poor minority shareholder protection. And yet, explanations for the observed variation in ownership concentration based on differences in minority shareholder protection leave a significant part of the variance unexplained. In this paper, we show that part of this variation can be explained by differences in the quality of labor relations across countries.

By the 'quality of labor relations', we mean the extent to which labor relations are hostile or cooperative. As we will argue, the quality of labor relations may be viewed as part of a country's social capital. As such, it has cultural and historical origins, meaning it is, at least partly, exogenous with respect to the dependent variable of interest, ownership concentration.[1] Importantly, we do not mean to argue that differences in the quality of labor relations across countries can be fully attributed to cultural and historical developments. We will argue, however, that at least some of the observed variation in the quality of labor relations can be explained by cultural and historical factors that have been "inherited [...] from previous generations, rather than voluntarily accumulated" (Guiso, Sapienza, and Zingales (2006)).

As an illustration of what we mean by cultural and historical factors, consider the case of France and Sweden. Whether we use survey-based measures of labor relations or actual strike data, labor relations in France can safely be described as conflictual. Sweden, on the other hand, has very cooperative labor relations.[2] In an intriguing book, Crouch (1993) argues that

[1] Fisman and Khanna (1999) refer to this as "historical residue," as opposed to the (other) part of social capital that is endogenous. Douglass North, in particular, has emphasized the role of institutions in facilitating cooperative behavior (see North (1991) for a survey), while Glaeser, Laibson, and Sacerdote (2002) model the formation of social capital as the outcome of optimal individual investment decisions.

[2] This also illustrates the difference between hostile labor relations and labor union power. In 1994, for example, Sweden's trade union density was a staggering 91%, while in France it was only 9% (OECD (1997)). Hence, Sweden has powerful yet cooperative labor unions, while France has much less powerful yet hostile and—to a considerable degree—communist or anti-capitalist labor unions. Across all countries in our sample, there is

differences in the quality of labor relations among European countries can be attributed to political struggles between the emerging European liberal states and the church in the 19th century. In some countries, like France, this struggle dates back to the late 18th century. In an effort to affirm their authority over the church, the emerging liberal states confronted all forms of organized interests, including guild structures and labor organizations. In 1791, for example, the French Republicans passed the lois Le Chapelier, a powerful law banning all guilds and trade unions. Ostracized from the beginning, the French labor movement became highly oppositional, later embracing syndicalism and then communism.

Sweden, on the other hand, never had anything like the lois Le Chapelier. The question is why? According to Crouch, the answer lies in the fact that in France the church was Catholic, while in Sweden it was Lutheran. Unlike the Catholic church, which openly challenged the authority of the emerging liberal states, "Lutheran churches have historically been obedient national institutions, accepting something approaching civil-service status [...] 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."

If we accept that the quality of labor relations is, at least partly, the outcome of cultural and historical developments, the next question is why should countries with hostile labor relations have, say, more family ownership than countries with cooperative labor relations? For one thing, family firms might have a comparative advantage in establishing cooperation due to their longer time horizons (or, equivalently, lower discount rates): "While professional CEOs' careers are relatively brief [...] family control endures, with patriarchs grooming scions, sometimes for decades" (Morck and Yeung (2004)).[3] Of course, controlling families may forgo benefits from (not) having a diversified portfolio. But in a society where cooperation in labor relations is weak to begin with (for cultural or historical reasons), the benefits of family ownership may, on the margin, outweigh these costs.

A second possible explanation, which has a different flavor, is that controlling families are

practically no correlation between measures of labor hostility and labor union power.

[3]This argument is consistent with Sraer and Thesmar's (2004) finding that family firms in France are more apt to honor implicit labor contracts and provide employment insurance than widely held firms. For a general discussion of the role of ownership structure for implicit contracts, see Shleifer and Summers (1988).

tougher at fighting labor unions than professional managers. Consistent with this notion, empirical evidence by Bertrand and Mullainathan (2003) suggests that managers prefer a 'quiet life', trying "to buy peace with their workers" (by paying higher wages), possibly driven by a "desire to avoid conflict with unions." Arguably, many family firms have also professional managers. But with a controlling family or a large shareholder on their back, these managers may have to fight out labor conflicts rather than shying away from them.[4]

While our primary interest lies in understanding the implications of labor relations for family ownership, either of the above stories suggests that the causality might go both ways. Where the two stories potentially differ is the sign of the reverse causality. Under the first story, an increase in family control facilitates cooperation, thus improving the quality of labor relations. Under the second story, an increase in family control makes firms tougher at fighting labor unions. Whether this, in turn, worsens or improves labor relations is not clear.

The first part of our empirical study uses survey-based measures of the quality of labor relations. Our main measure of family control is the principal component of two measures: the fraction of firms controlled by families (20% cutoff) and the fraction of the total market capitalization controlled by the top 5 families. Our basic regressions show that the quality of labor relations has a significant negative effect on ownership concentration, which is consistent with either of the two stories above. This relationship is strikingly robust and also holds when we consider only Europe, only Asia, or only Western countries. It also holds when we use different independent variables, including the ratio of stock market capitalization to GDP, which proxies for the relative share of publicly versus privately held companies.

We next run a battery of robustness checks by considering various potential alternative determinants of ownership concentration. With the exception of minority shareholder protection, none of these potential alternative determinants appear to matter. In contrast, our measure of

[4] An illuminating example is that of Safeway Stores Inc. Before the buyout by Kohlberg Kravis Roberts & Co. (KKR) in 1986, Safeway was a union stronghold, paying some of the highest wages in the grocery business. "Three years after KKR bought Safeway, the grocery chain's vice chairman, Harry Sunderland, thundered: "We have been given a rare second chance to confront labor." [...] To hold wages down, Sunderland added, Safeway needn't shy from strikes. The KKR partners would understand if a Safeway regional division incurred big losses one quarter from a strike, but won a cut-rate, long-term labor contract as a result" (Anders (1992)).

the quality of labor relations remains significant in all regresssions.

Some of our robustness checks deserve more discussion. For instance, Roe (2003) advocates a political theory of ownership structure arguing that ownership should be more concentrated in 'social democracies': countries with left-wing governments, tight labor regulation, powerful labor unions, and low income inequality. As it turns out, none of these variables is significant in our regressions.[5] Hence, it is not just *some* aspect of labor relations that matters. What matters is the *quality* of labor relations, i.e., the extent to which labor relations are hostile or cooperative. Union power and labor regulation, on the other hand, appear not to matter.

Another robustness check that yields interesting results concerns alternative measures of social capital. One of the general points we wish to make is that social capital may be context-specific. A high level of trust in, e.g., the judicial or political system, or in people more generally, does not necessarily imply a high level of cooperation in labor relations. Indeed, neither 'General Trust'—a measure widely used in the literature—nor other (context-specific) measures of social capital are significant in our regressions.[6] We believe this is good news for advocates of social capital theories, for it means that we can distinguish among different types of social capital that are each relevant, or productive, in different social and economic contexts.[7]

The discussion at the beginning of this section about the cultural and historical origins of differences in the quality of labor relations points to the role of a country's religious affiliation in the 19th century (or late 18th century). In Catholic countries, struggles between the emerging European liberal states and the church provoked the formation of highly oppositional labor movements. In Protestant countries, by contrast, such struggles had never occurred. Accordingly,

[5] Interestingly, but perhaps not surprisingly, Roe's index of countries' left-right political orientation, while unable to explain family ownership, is well suited to explain *state* ownership.

[6] General Trust has been used in, e.g., Knack and Keefer (1997) to explain economic growth, in Guiso, Sapienza, and Zingales (2005) to explain stock market participation, and—perhaps most closely related to our paper—in La Porta et al. (1997), who show that General Trust is positively related to the share of sales over GNP by the 20 largest firms in each country, affirming Fukuyama's (1995) thesis that trust is vital for the success of large organizations. See Glaeser et al. (2000), however, arguing that this measure primarily predicts trustworthy behavior, not trusting behavior. For an overview and discussion of the social capital literature, see Guiso, Sapienza, and Zingales (2006).

[7] See Kumar and Matsusaka (2005) for a model along these lines.

a country's religious affiliation in the 19th century might be a good predictor of state-church conflicts during the same period, which in turn might be a good predictor of cross-country differences in the quality of labor relations today. Indeed, when we instrument the quality of labor relations using either the fraction of Protestants or Catholics in 1900—which is the earliest year for which we have this data available—we find support for the notion that the quality of labor relations has a causal effect on the extent of family ownership.

We provide an extensive discussion for why we think the exclusion restriction might be satisfied. For brevity, will not repeat all the arguments here, except to note that Crouch's (1993) theory is not about religion proper.[8] It is about political struggles between the liberal states and the church, which happened to occur in Catholic countries. But there are exceptions. As Crouch argues, Ireland behaved more like the United Kingdom, while Austria behaved more like Germany. Based on Crouch's argument, we construct a new instrument (the 'Crouch instrument') that is closer in spirit to his theory. The instrument is the fraction of Catholics in 1900, except that we replace the values for Ireland and Austria with those from the United Kingdom and Germany, respectively. If there was a direct (positive) link between the fraction of Catholics in 1900 and ownership concentration today, using the Crouch instrument instead of the fraction of Catholics in 1900 should only *weaken* our results, for we have replaced the (high) percentage shares of Catholics in two of the most Catholic countries with much lower values. And yet, our results become much stronger, both economically and statistically, which is difficult to reconcile with the notion that the fraction of Catholics in 1900 has a direct (positive) effect on the extent of family ownership one hundred years later.

To examine whether the causality goes both ways, we instrument both the quality of labor relations (using the Crouch instrument) and ownership concentration (using legal origin). Contrary to what we might have expected, we find no evidence for a feedback effect. However, it might be premature to conclude that the effect goes only in one direction. There might exist

[8] While this distinction may appear semantic to some readers, our interest in religion derives solely from its implication for state-church conflicts in the 18th and 19th centuries. This is different from studies where religion itself is the main focus of attention, e.g., Stulz and Williamson (2003), who show that religion can explain creditor but not minority shareholder rights, Guiso, Sapienza, and Zingales (2003), who explore the link between religion and peoples' attitudes, and Barro and McCleary (2003), who examine the role of religion for economic growth.

different channels, with opposite signs, through which family ownership affects the quality of labor relations, which merely happen to offset each other.

The second part of our empirical study uses actual strike data to measure the quality of labor relations. The issue with using strike data is that strike activity commonly depends on many factors, notably unemployment. Fortunately, unemployment and many of the other factors that commonly affect strike activity were relatively uniform across Western countries in the 1960s. Consistent with our previous results using survey-based measures of the quality of labor relations, we find that strike activity in the 1960s has a significant positive effect on the extent of family control thirty years later. This result holds even when we instrument strike activity in the 1960s using the Crouch instrument.

While most of our empirical study is concerned with explaining differences in ownership concentration across countries, the final part is devoted to a single country: Canada. Canada is particularly interesting, for two reasons. First, Quebec is French-Catholic while the rest of Canada is English-Protestant. Consistent with our previous results, strike activity is higher and ownership is more concentrated in Quebec than in the rest of Canada. While Quebec has a Civil Law code and the rest of Canada has a Common Law code, it should be noted that the relevant corporation law is the same. Second, we have historical data on both strike activity and the evolution of corporate ownership in Canada during the second half of the 20th century. We find a markedly strong correlation between strike activity and increases in ownership concentration over time—a pattern which is not driven by business cycle activity, changes in unemployment, or changes in union membership. While we cannot firmly establish that there is a causal relationship between strike activity and changes in ownership concentration, we believe that the correlation is not, at least not to a large degree, driven by reverse causality.

The rest of this paper is organized as follows. Section 2 presents the data. Section 3 presents our basic OLS regressions, which show a strikingly robust empirical relationship between ownership concentration and the quality of labor relations. Section 4 deals with causality and reverse causality. Section 5 explores the relationship between strike activity and ownership concentration, both across different countries (for the 1960s) and within a single country (Canada) over time. Section 6 concludes.

2 Data

2.1 Ownership Data

Ownership of Publicly Held Companies

The main focus of our empirical analysis lies on the ownership of publicly held companies. Our ownership data comes from four sources: Claessens, Djankov, and Lang (2000) (henceforth CDL), Faccio and Lang (2002) (henceforth FL), Gadhoum, Lang, and Young (2005) (henceforth GLY), and La Porta, Lopez-de-Silanes, and Shleifer (1999) (henceforth LLS). All these papers examine the ultimate ownership of publicly held companies, implying ownership is traced back to the individual and family level. Moreover, each paper provides a detailed discussion of the data sources and how the respective ownership measures have been constructed. For the sake of brevity, we will not repeat this information here.

CDL provide ownership data for nine East Asian countries for 1996: Hong Kong, Indonesia, Japan, South Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand. The final sample includes 2,980 firms, representing 56% of all publicly traded firms in the nine countries. The number of firms per country ranges from 120 (Philippines) to 1,240 (Japan). CDL measure family control both in terms of the fraction of firms controlled by families (20% cutoff) and the fraction of the total market capitalization controlled by the top 5 families. The correlation between these two measures is reported in Table 3a. As is shown in Table 2a, with the exception of Japan, family control is pervasive in East Asia. While only 10% of the firms in Japan are controlled by families, the fraction of family-controlled firms in the other Asian countries ranges from 45% (Philippines) to 72% (Indonesia). A similar picture emerges with respect to the second measure of family control. While the top 5 families in Japan control only 2% of the total market capitalization, the corresponding number for the other countries ranges from 20% (Singapore) to 43% (Philippines).

FL provide ownership data for 13 Western European countries for the period 1996 to 1999: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The final sample includes 5,232 firms, representing 94% of all publicly traded firms in the 13 countries. The number of firms per country ranges from

69 (Ireland) to 1,953 (United Kingdom). FL construct the same two measures of family control as CDL. The correlation between these two measures is reported in Table 3b. As is shown in Table 2a, family control is also pervasive in Western Europe. The fraction of firms controlled by families ranges from 24% (United Kingdom) to 65% (France and Germany), while the fraction of the total market capitalization controlled by the top 5 families ranges from 4% (United Kingdom) to 25% (Portugal).

GLY provide ownership data for 3607 publicly traded companies in the United States for 1996. As is shown in Table 2a, only 20% of the firms are controlled by families (20% cutoff), which implies the United States ranks second only after Japan as the country with the most widely dispersed (ultimate) share ownership.

LLS provide ownership data for 27 wealthy countries, primarily from 1995 and 1996. The focus is on the 20 largest firms in each country as measured by the firms' market capitalization of equity. As is shown in Table 2a, the fraction of family-controlled firms (20% cutoff) among the top 20 firms ranges from 0% (United Kingdom) to 70% (Hong Kong). The value-weighted results are similar. LLS also construct a sample of 10 medium-sized publicly traded firms for each country. There, the fraction of family-controlled firms (20% cutoff) is higher, ranging from 10% (Japan and the United States) to 100% (Greece). Table 3c reports the correlations among all three measures of family control.

In total, there are 30 countries for which we have both ownership data and data on the quality of labor relations. Unfortunately, CDL-FL-GLY and LLS construct their ownership measures in different ways. While CDL-FL-GLY cover a large fraction of all publicly traded firms in each country, LLS cover only the 20 largest firms, and their selection criteria makes it potentially difficult to compare large and small countries. To obtain consistent measures for all 30 countries, we proceed in two steps. Whenever possible, we use the two measures in CDL-FL-GLY, which are based on a large sample of publicly traded companies: the fraction of family-controlled firms (20% cutoff) and the fraction of the total market capitalization controlled by the top 5 families. This provides us with 23 countries. For the remaining seven countries—Australia, Canada, Denmark, Greece, Israel, Netherlands, and New Zealand—we use predicted values using data

from LLS based on the following regression:

$$\text{Fam}_{i,j} = \alpha_j + \beta_j' \text{ LLS}_i + \varepsilon_{ij}, \tag{1}$$

where $Fam_{i,j}$ is the particular measure j of family control for country i in CDL-FL-GLY, and where LLS_i is the vector of the three measures of family control for country i in LLS: the fraction and value-weighted fraction, respectively, of family-controlled firms among the top 20 firms, and the fraction of family-controlled firms for a sample of 10 medium-sized firms. For the first measure—the fraction of firms controlled by families—we obtain an R^2 of 43% for the 18 countries included both in CDL-FL-GLY and LLS. For the second measure—the fraction of the total market capitalization controlled by the top 5 families—we obtain an R^2 of 41%.

State Ownership

In some of our robustness regressions, we will use state ownership as the dependent variable. Our measure of state ownership is constructed the same way as our measures of family control. Whenever possible, we use the measure from FL-GLY. (The regressions in question do not include Asian countries.) For the remaining countries, we use predicted values using data from LLS based on a regression similar to equation (1).

Ownership of Publicly and Privately Held Business Groups

Fogel (2005) constructs various measures of the ultimate ownership of the 10 largest non-government business groups in each country for 1996. Unlike our main ownership variables, which are based on publicly traded firms, Fogel's sample includes both publicly and privately held business groups. Fogel constructs four measures of family control, which are all highly correlated. (The average correlation is around 91%.) The particular measure we use in our regression is the labor-weighted fraction of the 10 largest business groups controlled by families (20% cutoff), abbreviated by P_V in Fogel's paper.

Stock Market Capitalization/GDP

Our main ownership measures all consider the extent to which firms are controlled by families *conditional* on being publicly held. The hypothesis we wish to examine, however, is broader. It is whether the prevalence of family control depends on the quality of labor relations. Accordingly,

the quality of labor relations should not only matter for the ownership structure of publicly held firms, but also for the decisions of firms to go public in the first place. To investigate this hypothesis, one would ideally like to have data on the (labor-weighted) fraction of publicly held firms in each country. For lack of this data, we use a value-weighted measure instead: the ratio of stock market capitalization to GDP in 1995.

2.2 Labor Relations Data

Cooperative Labor Relations

Our measures of the quality of labor relations are taken from two different surveys. The first survey, conducted by the International Institute of Management Development (IMD), is published in the World Competitiveness Yearbook. The survey is sent to thousands of executives each year. For example, in 2003 it was sent to 4,256 executives in 59 countries. Besides various other questions, the executives are asked to respond to the following statement: "Labor relations are generally ... (hostile, productive)". Responses may vary from 1 to 10, a low number indicating hostile labor relations. Table 2b reports the survey results for 1999 and 2003. While we have this survey data from 1996 onwards, the country rankings are highly correlated. For instance, the correlation between the 1999 and 2003 rankings is 90% (Table 3d).

The second survey is conducted by the World Economic Forum and published in the Global Competitiveness Report (GCR). Similar to the IMD survey, the survey is sent to thousands of executives each year. For example, in 1999 it was sent to about 4,000 executives in 59 countries. The question that is most relevant for our empirical study asks executives if they agree with the statement "Labor/employer relations are generally cooperative". Responses may vary from 1 (strong disagreement) to 7 (strong agreement). Table 2b displays the survey results for the years 1993, 1999, and 2003. While we also have this survey data for other years, the country rankings are again highly persistent. As is shown in Table 3d, the correlations between the 1993, 1999, and 2003 country rankings lie all between 89% and 97%.

In one year only, 1999, the GCR additionally asked a more nuanced question: executives were asked if they agree with the statement "Strikes are rare and always quickly resolved with minimum economic losses". The results are reported in Table 2b. As is shown in Table 3d, the

country ranking correlates very strongly with the respective rankings from the question asking whether "Labor/employer relations are generally cooperative".

Our measures of the quality of labor relations are not only highly correlated over time, but there is also a markedly strong correlation across the different surveys. For example, the correlation between the IMD and GCR measures in 1999 (2003) is 94% (91%). On the other hand, our measures of the quality of labor relations are entirely unrelated to the perceived bargaining power of workers. Each year, the GCR survey asks executives to respond to the statement "The collective bargaining power of workers is high". For the sake of brevity, Table 2a only displays the result for one particular year, 1999, but the results are similar for other years. As is shown in Table 3d, there is virtually no correlation between the (perceived) bargaining power of workers and any of our six measures of the quality of labor relations.

Given the high correlation among our various measures of the quality of labor relations—both across different surveys and over time—none of the issues encountered in the construction of our ownership measures arises here. In fact, all the results we present in this paper are robust to using any of the six measures in Table 2b. For brevity, we choose to work with a single measure: the IMD measure from 2003. We call this measure 'Cooperative Labor Relations'.

Strike Activity in the 1960s

Our survey measures of labor relations reflect the opinions of executives. In a sense, this is not so bad. Given that the ownership structure of firms is chosen by shareholders, not by workers, the opinions of executives—provided they are sufficiently aligned with those of shareholders—are relevant for our purposes. And yet, it would be useful to know if these opinions also correspond to some observable measure of labor hostility, e.g., strike activity.

The issue with using strike data is that strike activity depends on many factors, notably unemployment. Given that we have a relatively small sample, controlling for all these factors would leave us with too few degrees of freedom. A different approach is to consider a period in which those factors that commonly affect strike activity are 'naturally being controlled for', e.g., because they were relatively uniform across countries. The 1960s were such a period: unemployment was uniformly low across Western countries, whereas TFP growth was high. Our measure of strike activity in the 1960s—adopted from Blanchard and Philippon (2004)—is

a combination of the number of days lost due to strikes and the number of workers involved in strikes, normalized by employment.

As Blanchard and Philippon show, there exists a significant negative relationship between strike activity in the 1960s and the quality of labor relations as perceived by executives in the 1990s. Indeed, the correlation between strike activity in the 1960s and our measure from 2003, 'Cooperative Labor Relations', is a stunning minus 63%, suggesting that high strike activity in the 1960s can predict bad labor relations 40 years later.

3 Ownership Concentration and Labor Relations

3.1 Basic Regressions

Table 4 presents our basic OLS regressions. The first two regressions, shown in columns (i) and (ii), consider the relation between Cooperative Labor Relations and our two measures of family control: the fraction of firms controlled by families (20% cutoff) and the fraction of the total market capitalization controlled by the top 5 families. Given the way these two measures have been constructed, there is likely to be a systematic effect of country size. All else equal, the top 5 families in Sweden, with a population of 9 million, are likely to control a greater fraction of the national stock market capitalization than the top 5 families in the United States, with a population of 295 million. Therefore, we shall always include the log of the total population in 1995 as a control in our regresions. Our basic regression is:

$$\text{Fam}_i = \alpha + \beta \text{ Cooperative Labor Relations}_i + \gamma \log\left(\text{Population}_{i,1995}\right) + \varepsilon_i. \tag{2}$$

As columns (i) and (ii) in Table 4 show, irrespective of which of the two measures of family control we use, there is a significant negative relation between Cooperative Labor Relations and the extent of family control. Also, as expected, the extent of family control is negatively related to country size, albeit this relation is significant only in column (i).

We have two measures of family control for all 30 countries: the fraction of firms controlled by families (20% cutoff) and the fraction of the total market capitalization controlled by the top 5 families. As is shown in Tables 3a and 3b, the correlation between these two measures, while positive, is not perfect. From a theoretical perspective, it is unclear which of the two is a better

measure of family control. From an empirical perspective, both are probably noisy estimates of the truth, and we have just shown that Cooperative Labor Relations is negatively related to either measure. Moreover, given the large number of robustness checks we wish to perform, keeping both measures would not be convenient. We therefore construct the first principal component of these two measures and use it as our main dependent variable in our regressions. The first principal component, displayed in the last column in Table 2a, is normalized with a mean of zero and a variance of one. It accounts for 79% of the variance in the two measures, which have approximately equal weight.

Using the principal component of family control as our dependent variable, we estimate equation (2) separately for different subsamples, for two reasons. First, we want to allow for systematic differences between Asian and Western countries. Second, we want to make sure that our results are robust to dropping those countries for which we have only predicted values based on equation (1). Column (iii) in Table 4 reports the result for Asia, column (iv) reports the result for Western countries, excluding those countries for which we have only predicted values, and column (v) reports the result for all Western countries, including those countries for which we have only predicted values. The first point to notice is that Cooperative Labor Relations is negatively related to family control and significant at the 1% level in all three regressions. Moreover, the coefficient associated with Cooperative Labor Relations is quite stable. The second point to notice is that the coefficients associated with country size and GNP per capita are different for Asian and Western countries. In fact, GNP per capita is not significant among Western countries, which is not surprising given that these countries are relatively similar in their developments. On the other hand, the coefficient associated with GNP per capita is negative and significant in Asia, confirming the impression that family firms are more prevalent in less developed economies.

We next run a regression for the entire sample, which includes a dummy for Asia as well as interaction terms of this dummy with country size and GNP per capita. For parsimony, we restrict the coefficient associated with GNP per capita to zero for Western countries, for it is otherwise small and insignificant. The result is reported in column (vi). Like in our previous subsample regressions, Cooperative Labor Relations is negatively related to family control and

significant at the 1% level.

Before we perform some further robustness checks, let us quickly verify that our results are not driven by outliers. To do so, we regress Cooperative Labor Relations and our measure of family control separately on the remaining variables in column (vi). Figure 1 plots the residuals of these two regressions. The correlation between the residuals is minus 72%. Most importantly, the figure suggests that our results are not driven by outliers.

One potential shortcoming of our measure of family control is that the samples in CDL-FL-GLY and LLS include only publicly held firms. To address this shortcoming, we run again the same regression as in column (vi), except that we replace our measure of family control with Fogel's (2005) measure: the labor-weighted fraction of the 10 largest business groups controlled by families. Unlike our measure of family control, Fogel's measure is based on a sample that includes both publicly and privately held firms. Given the small number of observations per country, we use this measure only here and only as a robustness check. The result, displayed in column (vii), confirms the impression from our previous regressions: Cooperative Labor Relations is negatively related to family control and significant at the 1% level. On the other hand, some of the control variables that were previously significant are now no longer significant, which suggests we may have to interpret this regression with some caution.

As we have argued earlier, the quality of a country's labor relations should not only be reflected in the ownership structure of publicly held firms. It should also be reflected in the decisions of firms to go public in the first place, and thus in relative shares of publicly versus privately held firms in each country. To examine this hypothesis, one would ideally like to have data on the (labor-weighted) fraction of publicly held firms. For lack of this data, we use a value-weighted measure instead: the ratio of stock market capitalization to GDP. We run again the same regression as in column (vi), except that we replace our measure of family control with the ratio of stock market capitalization to GDP. The result is shown in column (viii). Consistent with our previous results, Cooperative Labor Relations is positively related to the ratio of stock market capitalization to GDP and significant at the 1% level.

Arguably, the ratio of stock market capitalization to GDP may depend on many factors, notably the level of minority shareholder protection. At an absolute minimum, one should

thus include measures of minority shareholder protection as controls. We have done that. For expositional reasons, we relegate a discussion of the results to the following section.

3.2 Alternative Determinants of Family Ownership

Our basic regressions suggest that the quality of labor relations is a potentially important determinant of ownership concentration. In this section, we consider various potential alternative determinants. In each case, we run a horse race between the quality of labor relations and the alternative determinant in question. The results are reported in Tables 5a to 5c. A quick look at these tables shows that Cooperative Labor Relations remains negatively related to family control and significant at the 1% level in all regressions. Moreover, the coefficient associated with Cooperative Labor Relations is remarkably stable.

Minority Shareholder Protection and Private Benefits of Control

The leading explanation for the observed variation in ownership concentration across countries, advanced by La Porta, Lopez-de-Silanes, and Shleifer (1999), is based on differences in minority shareholder protection. In countries with poor minority shareholder protection, the costs of being a minority shareholder are high. Indeed, La Porta, Lopez-de-Silanes, and Shleifer document that countries with poor minority shareholder protection have more family ownership than countries with good minority shareholder protection.

La Porta et al. (1998) collect data on six different rights protecting minority shareholders: a) the right to mail proxy votes, b) the interdiction to block shares prior to a general shareholders meeting, c) the right to cumulative voting for directors and proportional representation on the board, d) judicial venues to challenge the decisions of management, e.g., in court ('Oppressed Minorities Mechanism'), e) preemptive rights to buy new issues of stock, and f) a low minimum percentage of share capital to call an extraordinary shareholders meeting. When we include all six measures in a single regression (not reported), only the last three are significant, which is why we shall focus on them. As column (i) in Table 5a shows, judicial venues to challenge the decisions of management and a low minimum percentage of share capital to call an extraordinary shareholders meeting are important determinants of family ownership. But so is Cooperative Labor Relations, which remains significant at the 1% level.

In the previous subsection, we have shown that Cooperative Labor Relations is positively related to the ratio of stock market capitalization to GDP. As the latter may depend on the level of minority shareholder protection, we argued that—at an absolute minimum—one must include measures of minority shareholder protection as controls. We therefore run again the same regression as in column (i), except that we use the ratio of stock market capitalization to GDP as our dependent variable. The result is shown in column (ii). While all three measures of minority shareholder protection enter with the right sign, only one of them is significant. Most importantly, however, Cooperative Labor Relations remains positively related to the ratio of stock market capitalization to GDP and significant at the 1% level.

A more indirect way to measure the degree of minority shareholder protection is through private benefits of control. To quantify these benefits, Dyck and Zingales (2004) compute block premia as a percentage of equity value for a large number of countries, 27 of which are in our sample. As column (iii) in Table 5a shows, the Dyck-Zingales measure of private benefits enters with the right sign but is not significant.

Legal Enforcement

La Porta et al. (1998) argue that a strong system of legal enforcement might, in principle, substitute for weak minority shareholder protection as courts could then step in and "rescue investors abused by the management." The authors provide data on various measures of law enforcement compiled by private credit risk agencies for the use of investors interested in investing in foreign countries. Two of these measures, 'Efficiency of Judicial System' and 'Rule of Law', pertain to law enforcement proper. As column (iv) in Table 5a shows, neither measure is significant in our regression. Two other measures, 'Repudiation of Contracts by Government' and 'Risk of Expropriation', are not concerned with law enforcement proper, but rather with the government's stance towards private contracting and property rights. Again, as is shown in column (v), neither measure is significant in our regression.

Interestingly, while including these four measures of legal enforcement in our regression has virtually no impact on the coefficient associated with Cooperative Labor Relations, it appears to reduce the significance of GNP per capita in Asia, consistent with the notion that richer countries have better judicial and political institutions.

Income Inequality

One might worry that Cooperative Labor Relations is merely a proxy for income inequality in the sense that countries in which income inequality is high also have worse labor relations. At the same time, the prevalence of family ownership might be related to income inequality in the sense that countries in which income inequality is high are countries in which a few families control a large fraction of the stock market. For some countries, this argument might be valid. Overall, however, it is not. As column (vi) in Table 5a shows, income inequality (measured by the Gini coefficient) is not significant in our regression. If anything, the coefficient associated with Cooperative Labor Relations becomes only stronger when we include income inequality.

Labor Union Power and Labor Regulation

An important distinction we would like to make in this paper is that between the quality of labor relations—i.e., the extent to which labor relations are hostile or cooperative—and other aspects of labor relations, such as the power of labor unions and the regulation of labor. For example, Roe (2003) argues that family control protects shareholders from strong labor unions and tight labor regulation, both of which he associates with countries being at the left end of the political spectrum.[9] Accordingly, family control should be more prevalent in countries with powerful labor unions and strong employment protection.

To examine Roe's hypothesis, we include three additional variables in our regression: a measure of employment protection and a measure of the collective bargaining power of labor unions, both from Botero et al. (2004), and a measure of the perceived bargaining power of workers from the 1999 GCR survey. As is shown in Table 3d, the correlation between the last measure and Cooperative Labor Relations is practically zero. As column (i) in Table 5b shows, the evidence does not appear to support Roe's hypothesis: none of the three measures is statistically significant, neither collectively nor individually (not reported).

Political Theories

Roe's (2003) broader argument is that a country's ownership concentration should depend on its left-right political orientation. Countries at the left end of the political spectrum—'social

[9] However, see Table VI in Botero et al. (2004), showing that—controlling for legal origin—there is little correlation between a country's left-wing political orientation and tight labor regulation.

democracies' as Roe calls them—should have concentrated ownership, while countries at the right end of the political spectrum should have dispersed ownership. We have already seen that powerful labor unions and tight labor regulation—two features which Roe associates with social democracies—are unrelated to family control. So is low income inequality, another feature which Roe associates with social democracies. We now finally examine Roe's theory directly by using the same left-right political index and the same 16 Western countries as he does. The result is reported in column (ii) in Table 5b. As expected, a country's left-right political orientation has no significant effect on the extent of family ownership.[10]

Pagano and Volpin (2005) develop a political theory of investor and employment protection arguing that countries with proportional voting systems should have weaker investor protection but stronger employment protection than countries with majoritarian voting systems. The authors do not assert that their theory is related to ownership concentration. In conjunction with Roe's argument, however, their theory would predict that countries with proportional voting systems should have more family ownership. To test this prediction, we include Pagano and Volpin's voting index in our regression, and we use the same 21 Western countries as they do. The result is reported in column (iv) in Table 5b. While the voting index enters with the right sign, it is not significant.

While these results suggest that political theories are not suited to explain family ownership, this does not mean that politics do not matter. As columns (iii) and (v) in Table 5b show, political theories are well suited to explain *state ownership*. In either case, the respective measure—the left-right political index by Roe and the voting index by Pagano and Volpin—is significant, while Cooperative Labor Relations is not significant.

Social Capital: Labor-Specific or General?

One of the more general points we wish to make in this paper is that social capital may be context-specific. While the term 'social capital' invokes notions of trust and cooperation—trust

[10] To support his hypothesis, Roe (2003) runs a number of regressions for a sample of 16 Western countries. None of these regressions control for country size, however. In fact, all regressions are univariate. This matters a great deal. For instance, when we regress our measure of family control on Roe's left-right political index, we find that, on their own, the two variables are correlated. Once we control for country size and the quality of labor relations, however, this correlation disappears.

being either a facilitator of cooperation or the outcome of past cooperation—the question is: cooperation to pursue what objectives?[11] Does a high level of trust in, e.g., the political or judicial system, or in people more generally, also imply a high level of cooperation in labor relations? To shed light on this issue, we include five survey-based measures that all try to measure peoples' trust, either generally or with respect to specific institutions.

Among the five measures which we include in our regression, perhaps the best known is 'General Trust' in column (i) in Table 5c. This measure has been widely used in the social capital literature (see Introduction). It shows the percentage of respondents who answer that most people can be trusted in reponse to a question by the World Values Survey (WVS, Inglehart et al. (2004)). The second and third measures also come from the WVS. In column (ii), 'Importance of Family' shows the percentage of respondents who answer that family is very important. Intuitively, countries in which families are considered important might have more family firms. Of course, the effect might also go the other way: most likely, running a family business imposes a burden on family life, implying countries in which families are considered important might have *fewer* family firms. In column (iii), 'Confidence in Major Companies' shows the percentage of respondents who have either a great deal or quite a lot of confidence in major companies. Intuitively, if people lack confidence in major companies, we might see more (small) family firms. The final two measures come from the GCR survey, meaning respondents are executives. 'Trust in Politicians' in column (iv) measures respondents' confidence in the honesty of politicians, while 'Trust in Judiciary' in column (v) measures the respondents' confidence in the independence of the judiciary.

Table 2e reports the correlations among these five measures and our measure, Cooperative Labor Relations. Indeed, some of these measures are correlated with our measure. When we include them in our regression, however, only one of them—Importance of Family—is significant (at the 10% level). Most importantly, however, Cooperative Labor Relations remains negatively related to family control and significant at the 1% level in all five regressions.

[11] See Putnam (1993), who refers to social capital as "features of life—networks, norms, and trust—that enable participants to act together more effectively *to pursue shared objectives*" (italics added).

4 Causality

In order to determine whether Cooperative Labor Relations has a causal effect on ownership concentration, we must understand better what accounts for the observed differences in the quality of labor relations across countries. In an intriguing book, Crouch (1993) argues that differences in the quality of labor relations among European countries can be attributed to political conflicts between the emerging European liberal states and the church in the 19th century.[12] In some countries, like France, this conflict dates back to the late 18th century.

The basic story is one in which the emerging liberal states were reluctant to share political space with the church, while the church was reluctant to cede power to the liberal states:

> "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."

In an effort to affirm their authority over the church, the liberal states confronted all forms of organized interests—including guild structures and labor organizations—to maintain their monopoly power in the political arena. Hence, while the struggle was first and foremost between the emerging liberal states and the church, guild structures and labor organizations were affected by it:[13]

> "Organized interests [...] found themselves on the 'wrong side' in the modernization struggle and either disappeared or became allied with anti-modernizing forces."

A prominent example 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. Eager to silence opposition from organized groups, the French republicans passed a law banning all guild structures and trade unions. For almost a full century, until 1884, labor organizations were considered illegal in France. Weak and ostracized from the beginning, the French labor

[12] Unless otherwise stated, all quotes in this section are from Crouch (1993).

[13] "The place of guild structures in the struggle over the secular state is clearly only a small part of the general struggle over the relationship between the state and the church."

movement became highly oppositional, which may help explain why it became anarchist in the early 20th century and later on communist.[14]

An important remaining question is why labor organizations became oppositional and hostile in some countries, like France, but not in others. The answer, according to Crouch, has to do with whether the country in question was Catholic or Protestant:

> "The Catholic Church [...] became the rallying point for all forces alienated from modernization." In sharp contrast, "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. [...] This lack of 'jealousy' reduced the extent to which these [Lutheran] states confronted guilds and subsequently provoked the formation of highly oppositional labor movements."

On these matters, the Anglican Church behaved like a Lutheran one.

In light of the above discussion, we might expect that differences in countries' religious affiliations in the 19th century might be a good predictor of state-church conflicts during the same period, which in turn might be a good predictor of differences in the quality of labor relations today. In what follows, we instrument Cooperative Labor Relations using either the fraction of Protestants or Catholics in 1900.[15] On the other hand, La Porta et al. (1998) and La Porta, Lopez-de-Silanes, and Shleifer (1999) emphasize the importance of legal origin for ownership concentration. For this reason, we shall always include legal origin dummies as controls in our regressions. We run the following basic regression:

$$\begin{aligned} \text{Fam}_i &= \alpha + \beta \text{ Cooperative Labor Relations}_i^* + \gamma \log\left(\text{Population}_{i,1995}\right) \\ &\quad + \delta' \text{ Legal Origin}_i + \varepsilon_i, \end{aligned} \tag{3}$$

[14] "The newly developing labour movement found little chance of influencing it [i.e., the French Republic] and therefore became highly oppositional, much of it embracing first syndicalism and then communism."

[15] The choice of 1900 is unrelated to concerns about the validity of the instrument. Whether we use the fraction of Catholics (Protestants) in 1900 or today, both are exogenous with respect to ownership concentration. By the same token, it is irrelevant whether or not the fraction of Catholics (Protestants) is a persistent variable. The year 1900 was chosen because, if Crouch's theory is correct, using the year 1900—which is the earliest year for which we have religion data available—should give us more predictive power than using, say, the year 2000.

where Cooperative Labor Relations$_i^*$ is instrumented using either the fraction of Protestants or Catholics in 1900, and where Legal Origin$_i$ is a vector of two dummies representing English and German legal origin.[16] Our sample includes all Western countries, except Israel.

Table 6 shows the first- and second-stage regressions associated with the estimation of equation (3). In column (i), Cooperative Labor Relations is instrumented using the fraction of Protestants in 1900, while in column (ii) it is instrumented using the fraction of Catholics in 1900. Consistent with Crouch's theory, the fraction of Protestants in 1900 is positively related to Cooperative Labor Relations, while the fraction of Catholics in 1900 is negatively related. Both instruments are significant at the 1% level. Also interesting is the fact that larger countries have systematically worse labor relations 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, differences in the quality of labor relations between France and Sweden are well explained by the different sizes of the two countries and the different fractions of Protestants or Catholics in 1900. On the other hand, the English and German legal origin dummies are positively related to Cooperative Labor Relations, capturing the fact that Germany, England, and the United States, despite their large country sizes, have all good labor relations. The R^2 in both first-stage regressions is well above 70%.

The results of the second-stage regressions suggest that Cooperative Labor Relations has a causal effect on the extent of family control. In both columns (i) and (ii), Cooperative Labor Relations is negatively related to family control and significant at the 5% level. Moreover, the coefficient associated with Cooperative Labor Relations is remarkably similar to those in our previous OLS regressions. Note also that these results are robust to dropping countries for which we have only predicted values based on equation (1).

In both columns (i) and (ii), we have excluded the instrument from the second-stage regression. This restriction relies on the assumption that if the fraction of Protestants or Catholics

[16] In La Porta et al. (1998) and La Porta, Lopez-de-Silanes, and Shleifer (1999), only French legal origin is statistically significant in explaining ownership concentration. Rather than including a dummy for French legal origin, we include dummies for English, German, and Scandinavian legal origin to allow for systematic differences between the three legal origins, treating French legal origin countries as the control group. The Scandinavian legal origin dummy has been dropped as it is insignificant.

in 1900 affects ownership concentration today, it does so only through the quality of labor relations. While we have a theory, based on the historical accounts of Crouch, why the quality of labor relations might depend on a country's religious affiliation, we are not aware of any theory arguing that ownership concentration should—either directly or through some channel other than labor relations—depend on a country's religion.

Perhaps the most obvious place to look for such a theory is Weber's (1905) *Protestant Ethic and the Spirit of Capitalism*. While Weber's thesis remains controversial until today, it offers, more importantly, no guidance as to how one should think about a possible link between the 'Protestant work ethic' and ownership concentration. To the extent that the term work ethic refers to workers' willingness to cooperate and to have good employment relations, we should—when agonizing over the validity of the exclusion restriction—not be concerned, for it merely implies that we have found another argument, in addition to that by Crouch, why Protestant countries should have better labor relations. But as Fukuyama (1995) points out, "the term work ethic, Protestant or otherwise, is actually something of a misnomer," referring primarily to entrepreneurial values such as frugality (the propensity to save), innovativeness, rationality, and openeness to risk, and less to the "propensity of the working population to get up early in the morning." And yet again, if true, this might tell us something about entrepreneurial activity and the creation of new firms, but not why entrepreneurs in Protestant countries should be more willing to give up control and sell their ownership stakes to small shareholders than entrepreneurs in Catholic countries. In fact, if the Weberian work ethic connotes higher entrepreneurial risk taking, as Fukuyama argues, should we then not see *more* entrepreneurial wealth tied up in individual firms in Protestant countries, implying Protestant countries should have a *higher* fraction of family-owned firms?

Arguably, religion may operate through channels other than the Weberian one. While it is impossible to address all conceivable channels, Guiso, Sapienza, and Zingales (2006) address some of them. Importantly, they find that Protestants and Catholics have approximately the same level of trust in other people, similar preferences for thriftiness—which they note is inconsistent with the Weberian hypothesis—and similar preferences for redistribution.[17] But even if

[17] Some of these results depend on whether the comparison is between Protestants and Catholics within the

Protestants and Catholics were to differ with respect to certain traits, this does not mean that these channels matter for ownership concentration and, moreover, that the predicted coefficient has the 'right' sign (i.e., Catholicism predicting more family ownership). For instance, as we have previously shown, many of the alternative channels through which religion might possibly operate are statistically unrelated to ownership concentration.

In light of this discussion, it is also important to bear in mind that Crouch's theory is not about religion proper. It is about political struggles between the emerging liberal states and the church, which happened to occur in Catholic countries. But not in all of them. In fact, two of the most Catholic countries, Ireland and Austria, are exceptions to the rule:

> "Ireland was at the time completely subsumed under British authority," implying that "the Irish did not have an opportunity to develop a polity consistent with their religious preferences." In Austria, on the other hand, "secularizing forces took Germany as their model," implying that the "state and church reached their *modus vivendi* with little need for the state to assert its rights."

Based on these arguments, we construct a new instrument that is closer in spirit to Crouch's theory, which, as we have noted, is not about religion proper. The instrument is the same as the fraction of Catholics in 1900, except for Ireland, where we replace the original value with that from the United Kingdom, and for Austria, where we replace the original value with that from Germany. We call this new instrument 'Crouch Instrument'.

Coming back to the discussion about the validity of the exclusion restriction, if there was indeed a direct (positive) link—i.e., one that does not operate through labor relations—between the fraction of Catholics in 1900 and ownership concentration today, then replacing the fraction of Catholics in 1900 with the Crouch instrument should only *weaken* our results. This is because we have replaced the (high) percentage shares of Catholics in two of the most Catholic countries,

United States or across countries. For instance, Protestants and Catholics within the United States have almost identical trust in other people—a result reported in an earlier version of Guiso, Sapienza, and Zingales' (2006) paper—while across countries Protestants appear to be more trusting than Catholics. See also Table 4 in Guiso, Sapienza, and Zingales (2003), showing that some of these results depend additionally on peoples' *religiousness*. For example, 'actively religious' Protestants and Catholics have similar trust in other people, while 'currently religious' Protestants are more trusting than 'currently religious' Catholics.

Ireland and Austria, with the much lower values from the United Kingdom and Germany, respectively.[18] And yet, as column (iii) in Table 6 shows, our results become much stronger, both economically and statistically, which is difficult to reconcile with the notion that the fraction of Catholics in 1900 has a positive direct effect on ownership concentration today. In fact, Cooperative Labor Relations is now significant at the 1% level, while it was previously only significant at the 5% level.

Given the evidence we have just presented, reverse causality is not a 'concern'. It would merely imply that the causality goes both ways, i.e., from Cooperative Labor Relations to ownership concentration, and vice versa, which is precisely what we would expect. To examine whether the causality goes both ways, we instrument Cooperative Labor Relations using the Crouch instrument while instrumenting family control using legal origin, based on the discussion in La Porta et al. (1998) and La Porta, Lopez-de-Silanes, and Shleifer (1999). The result is shown in Table 7. Equation 1 confirms our previous results that Cooperative Labor Relations has a negative causal effect on family control. Equation 2 examines whether there is a feedback effect from family control to Cooperative Labor Relations. Contrary to what we had expected, we find no evidence for a feedback effect: while the Crouch instrument is significant at the 1% level, the coefficient associated with family control is not significant.

Despite finding no evidence for a feedback effect, it might be premature to conclude that the effect goes only in one direction. As we have argued in the Introduction, there might exist different channels, with opposite signs, through which family control affects the quality of labor relations, which merely happen to offset each other. More research, ideally at the firm level, will be needed before we can reach a conclusion.

5 Ownership Concentration and Strike Activity

5.1 Strike Activity in the 1960s

While our survey-based measure of the quality of labor relations can successfully explain some of the variation in ownership concentration across countries, it reflects the opinions of executives.

[18] In 1900, the fraction of Catholics in Ireland was 88.7%, while in the United Kingdom it was only 6.4%. Likewise, the fraction of Catholics in Austria was 91.6%, while in Germany it was only 35.7%.

As we have argued in Section 2, in a sense this is not so bad. Given that the ownership structure of firms is chosen by shareholders, not by workers, the opinions of executives—provided they are sufficiently aligned with those of shareholders—are relevant for our purposes. And yet, it would be useful to know if these opinions also correspond to some observable measure of labor hostility, e.g., strike activity.

The issue with using strike data is that strike activity commonly depends on many factors, notably unemployment. In the 1960s, however, many of the macroeconomic factors that commonly affect strike activity—including unemployment—were relatively uniform across Western countries, which makes this period ideal for our study. Our measure of strike activity in the 1960s is adopted from Blanchard and Philippon (2004), who elaborate further on the advantages of using strike data from the 1960s. The measure is a combination of the number of days lost due to strikes and the number of workers involved in strikes, normalized by employment. We use the same specification and the same sample of Western countries as in our previous IV regressions, except that we replace Cooperative Labor Relations with our measure of strike activity in the 1960s, and except that we exclude Greece, Portugal, and Spain from our sample. All three countries were dictatorships in the 1960s, and strikes were illegal.

The results are reported in Table 8. Column (i) confirms our previous results using survey-based measures of the quality of labor relations: strike activity in the 1960s is positively related to family control, and the result is significant at the 5% level.[19] Prima facie, reverse causality is not a major concern, as the dependent variable is from the 1990s while our measure of strike activity is from the 1960s. And yet, given that the dependent variable may be persistent, we cannot completely rule out reverse causality. To see whether strike activity in the 1960s has a causal effect on the extent of family ownership thirty years later, we instrument strike activity in the 1960s using the Crouch instrument. The first-stage regression, displayed in column (ii), shows that the Crouch instrument is significant and positively related to strike activity in the 1960s. More importantly, the second-stage regression, displayed in column (iii), confirms the impression from our previous OLS regression that strike activity in the 1960s has a significant causal effect on the extent of family ownership thirty years later.

[19] In fact, the result is significant at the 2% level.

5.2 Canada

Canada is particularly interesting for our purposes, for two reasons. First, we have historical data on the evolution of corporate ownership in Canada, allowing us to examine whether strike activity and ownership concentration co-move over time. Second, Quebec has a French-Catholic tradition, while the rest of Canada has an English-Protestant tradition. By comparing Quebec with the rest of Canada, we can see whether Crouch's (1993) argument also applies to different provinces within a country.

Quebec versus the Rest of Canada

Based on our previous results, we might expect that strike activity in French-Catholic Quebec is higher—and ownership is more concentrated—than in the rest of Canada. We have strike data from 1953 to 2002, both for Quebec separately and for Canada as a whole, where strike activity is defined as the number of person-days lost due to strikes and lockouts. A quick look at the data confirms that the average strike activity in Quebec is higher than in the rest of Canada.[20] As for ownership concentration, Attig and Gadhoum (2003) provide ultimate ownership data both for Quebec separately and for Canada as a whole for 1996. The sample includes 1,112 publicly held companies, 155 of which are headquartered in Quebec. Consistent with our hypothesis, the authors find that ownership is more concentrated in Quebec. While 57% of the firms in Quebec are controlled by families (20% cutoff), only 38% of the firms in the rest of Canada are family-controlled. The difference is significant at the 1% level.

While this evidence is consistent with our hypothesis, it should be noted that Quebec, like France, has a Civil Law code, while the remaining Canadian provinces have a Common Law code. And yet, the relevant corporation law is the same for firms in Quebec and in the rest of Canada, which makes it less likely that the differences in ownership concentration are due to differences in minority shareholder protection. As Attig and Gadhoum (2003) emphasize, "traded firms in Quebec and in the rest of Canada are created under the same law: *Canada Business Corporations Act*. In addition, stock market regulations in the different provinces of Canada are not remarkably different."

[20] To account for the different numbers of workers in Quebec and in the rest of Canada, we normalize the number of person-days lost due to strikes by the number of salaried workers.

Evolution of Corporate Ownership in Canada

We have data on the evolution of corporate ownership in Canada from 1902 to 1998, which implies our matched sample (ownership and strike data) extends from 1953 to 1998. The ownership data is described in detail in Morck et al. (2005).[21] One of the main findings of their study, illustrated in Figure 2, is that the fraction of Canadian firms that are widely held varied considerably during the 20th century.[22] While in 1960 almost half of the firms in Canada were widely held, this number declined steadily during the 1960s and 70s, falling below 20% in the early 1980s, only to rise again thereafter.

What caused these wide swings in ownership concentration? According to Morck et al., some obvious candidate explanations can likely be ruled out. One is business cycle activity: "While merger activity corresponds to business-cycle peaks, no clear pattern emerges relating ownership structure to either." Indeed, while the 1960s and 70s witnessed many booms and busts, the fraction of Canadian firms that are widely held decreased steadily during that period. Other candidate explanations that can likely be ruled out are changes in competition policy, shareholder rights, and labor regulation.

While Morck et al. caution that there may exist no simple explanation for the observed pattern, they note that two arguments, one related to succession taxes and the other related to political rent-seeking, are broadly consistent with it. As for the succession tax argument, the authors concede that "this too is hardly a complete explanation." The succession tax was abolished by Trudeau in 1972, but as can be seen from Figure 2, the decline of the widely held firm in Canada began already in the early 1960s. The rent-seeking argument, based on Morck and Yeung (2004), rests on the notion that family-controlled corporate groups have superior political rent-seeking skills. In times when political influence was particularly valuable, like under Trudeau in the 1970s, "family-controlled group firms eclipsed freestanding widely held firms." For one thing, under Trudeau's Liberals many subsidies were up for grasps. Furthermore, nationalist sentiment during the Trudeau era discouraged foreign ownership of Canadian companies, leading "probably to Canadian family groups' serving as white knights to safeguard widely held firms

[21] We are grateful to Bernie Yeung for providing us with this data.

[22] To emphasize the marked co-movement with strike activity, the graph in Figure 2 depicts *one minus* the fraction of widely held firms.

from foreign acquirers."

In light of our previous results, we might expect that the changes in ownership concentration co-move with strike activity. As Figure 2 shows, they do. Strike activity increased sharply in the mid 1960s, at about the same time when the widely held firm in Canada began its 20-year long decline. And while the graph for strike activity is not as smooth as the one depicting the widely held firm, there is a clear downwards trend in strike activity since 1977. Only a few years later, in 1980, the widely held firm was on the rise again.

To confirm the visual impression from Figure 2, we run the following regression:

$$y_t = \alpha + \beta \text{ Strike Activity}_t + \gamma \ y_{t-1} + \varepsilon_t, \tag{4}$$

where y_t is either the fraction of family-controlled firms or the fraction of widely held firms.[23] We include as controls the lagged fraction of family-controlled and widely held firms, respectively, as the series in levels is strongly auto-correlated.[24] As is shown in Table 9, strike activity is positively related to changes in the fraction of family-controlled firms and negatively related to changes in the fraction of widely held firms. In either case, the result is significant at the 1% level. This result is robust to controlling for unemployment (not reported), which is not surprising given that the changes in ownership concentration are not driven by business cycle activity. The result is also robust to controlling for changes in the number of unionized workers (not reported), which is consistent with our earlier distinction between labor hostility and labor union power.[25]

For lack of a suitable instrument, we cannot firmly establish that there is a causal relation between strike activity and changes in ownership concentration. However, based on the available historical evidence, we believe that the correlation in Figure 2 is not, at least not to a large degree, driven by reverse causality. That is, we would argue that increases in strike activity are not primarily the consequence of changes in ownership concentration, but rather that they are largely caused by other factors.

[23] The two fractions do not add up to one as there are additionally state- and foreign-owned firms as well as firms for which the ownership structure is unknown. See Morck et al. (2005) for details.

[24] Instead of including lagged variables as controls, we could alternatively use changes in the fractions of family-controlled and widely held firms, respectively, as our dependent variable. The results are qualitatively the same.

[25] Neither unemployment nor union membership is significant in the regressions in question.

Consider, for example, the sharp increase in strike activity in the mid 1960s. Some of this increase in labor hostility was due to homegrown problems. In Quebec, for instance, the labor movement was frustrated with the fact that the 'Quiet Revolution' did not live up to its promises.[26] And yet, "ideological currents that originated outside Quebec also had a influence, especially the rise of radicalism and the challenge to the system in France in May 1968 and in the United States under Richard Nixon. In fact, the Quebec situation can be seen as one instance of a general crisis of values that occurred throughout the West at the time" (Linteau et al. (1991)). Like in other countries, Quebec labor unions became increasingly radical and, in many instances, Marxist. In the early 1970s, each labor union issued its own Marxist manifesto, calling for a "fight for a radical change in social relations and against the enemy of the workers, the capitalist system" (Milner and Milner (1973)).

All this is difficult to reconcile with the notion that strike activity is merely a response to Canadian firms becoming more concentrated. To a sizeable degree, labor militancy in the 1960s and 70s was caused by the same "ideological currents" that swept other Western countries. What is more, labor unions' objectives at the time had often little to do with workplace conditions. As Smith (1979) argues, unions developed "aspirations which transcend simple collective bargaining." In Quebec, for instance, union leaders initiated a 'second front' "to work in common fronts with other progressive forces to combat unemployment and poverty and to fight manipulative finance companies and other social parasites" (Milner and Milner (1973)). Finally, labor militancy was not confined to the private sector. In Quebec, for instance, one of the ugliest labor conflicts occured in 1972 after negotiations in the public and para-public sectors quickly turned into confrontation, culminating in the jailing of three union leaders.[27]

Like Morck et al. (2005), we can only speculate as to the precise mechanism that caused the decline of the widely firm in Canada in the 1960s and 70s. One possible explanation—which

[26] The Quiet Revolution followed the accession to power of the Liberal party under Jean Lesage in 1960. It involved both economic nationalism and major reforms aimed at moderninzing the structures of Quebec society.

[27] "For one solid week, Quebec was paralyzed by a series of walkouts, strikes and occupations that shook the very foundations of the system" (Milner and Milner (1973)). Negotiations often degenerated into conflict and even violence, as was the case with the strikes at Seven-Up (1967-68), La Presse (1971), Firestone (1973-74), and United Aircraft (1974-75). In the mid 1970s, "the province by far led the country—if not the world—for the annual number of days lost due to labour conflicts" (Fortin (2001)).

is akin to the one suggested by Morck et al.—is that Canadian family groups served as 'white knights' to safeguard widely held firms. In our version of that story, however, the safeguarding became necessary due to an increasingly radical labor movement, based on the argument in the Introduction that family firms might have a comparative advantage in dealing with conflictual labor relations. Importantly, the story suggested by Morck et al. and our version of it are not mutually exclusive. In fact, there is some evidence that foreign-owned companies, especially U.S. multinationals, experienced more strikes in the 1960s and 70s than domestic Canadian companies.[28] After all, U.S. multinationals were the epitome of capitalism.[29] Hence, Canadian family groups may have served as 'white knights' when labor relations turned confrontational, which was especially a problem for foreign-owned companies.

6 Conclusion

Why is family ownership more prevalent in some countries than in others? One explanation, which is supported by the empirical evidence (La Porta, Lopez-de-Silanes, and Shleifer (1999)), is that family ownership is an optimal response to inadequate minority shareholder protection. This argument is consistent with the 'classic' view in corporate finance—at least since Jensen and Meckling (1976)—that the ownership structure of firms is chosen to minimize the agency costs arising from conflicts between shareholders and management.

This paper has a different focus. It focuses on the relationship between firms and workers, or their representatives, labor unions. The basic argument is that the *quality* of this relationship matters for whether firms are family-owned or widely held. As we argued in the Introduction, controlling families might have a comparative advantage in dealing with conflictual labor relations. Empirically, we find that there is a strikingly robust relationship between the quality of labor relations and the extent of family ownership, in the sense that countries with hostile labor relations tend to have more family ownership than countries with cooperative labor relations.

[28] Strike incidence in Canada between 1965 and 1985 was 20.3% in domestic firms compared to 25.5% in foreign-owned firms (Budd (1994)). Controlling for industry effects, this difference is insignificant, however.

[29] Milner and Milner (1973) write: "Among the many important strikes of this period, one that stands out symbolically is that against Seven-Up. Because of its American ownership [...] Seven-Up became a target for the whole union movement."

This relationship holds separately for Asian, European, and Western countries, as well as for different measures of ownership concentration. It also holds when we include control variables associated with potential alternative determinants of ownership concentration, including minority shareholder protection, and when we replace our survey measure of labor relations with actual strike data from the 1960s. Finally, the relationship holds for Canadian time series data, for which we document a markedly strong correlation between strike activity and changes in ownership concentration during the second half of the 20th century.

An important issue is that of causality. Based on the historical accounts of Crouch (1993), we instrument our survey measure of the quality of labor relations using either the fraction of Catholics or Protestants 1900. Again, we find that the quality of labor relations has a significant negative effect on the extent of family ownership. While do not find any evidence for a feedback effect, it might be premature to conclude that the effect goes only in one direction. More research, ideally at the firm level, will be needed before we can reach a conclusion.

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Table 1: Description of Variables

Variable	Description and Data Source
Fraction of Firms Controlled by Families Fraction of Total Market Capitalization Controlled by Top 5 Families	See Section 2.1 for a description. Sources: Clasessens, Djankov, and Lang (2000), Tables 6 and 9; Faccio and Lang (2002), Tables 3 and 10; Gadhoum, Lang, and Young (2005), Table 1.
Fraction of Medium-Sized Firms Controlled by Families Fraction of Value of Top 20 Firms Controlled by Families Fraction of Top 20 Firms Controlled by Families	See Section 2.1 for a description. Source: La Porta, Lopez-de-Silanes, and Shleifer (1999), Tables II, III, and V.
Fraction of Top 10 Business Groups Controlled by Families	See Section 2.1 for a description. Source: Fogel (2005), Table I.
State Ownership	See Section 2.1 for a description. Sources: Faccio and Lang (2002), Tables 3; Gadhoum, Lang, and Young (2005), Table 1; La Porta, Lopez-de-Silanes, and Shleifer (1999), Table III.
Stock Market Capitalization/GDP	Ratio of stock market capitalization to GDP in 1995. Source: 'smv_g95s' from http://post.economics.harvard.edu/faculty/shleifer/Data/gbk_allvar.xls.
Cooperative Labor Relations	Measures the extent to which labor relations are hostile or cooperative based on a survey of 4,256 executives in 59 countries conducted by the International Institute for Management Development (IMD) in 2003. Source: item 3.2.06 in the 2003 World Competitiveness Yearbook.
Strikes are rare and always quickly resolved with minimum economic losses	Measures the frequency and severeness of strikes based on a survey of 4,000 executives in 59 countries conducted by the World Economic Forum. Source: item 7.08 in the 1999 Global Competitiveness Report.
Collective Bargaining Power of Workers is High	Measures the bargaining power of workers based on a survey of 4,000 executives in 59 countries conducted by the World Economic Forum. Source: item 7.10 in the 1999 Global Competitiveness Report.
Strike Activity in the 1960s	A combination of the number of person days lost due to strikes and the number of workers involved in strikes, normalized by employment. See Blanchard and Philippon (2004) for a description.

Log(GNP_Per_Capita)	Natural logarithm of GNP per capita in 1997. Source: 'ln_gnppc97' from http://post.economics.harvard.edu/faculty/shleifer/Data/labor_dataset_4_01_03.xls.
Income Inequality	Gini coefficient from early 1990s. See La Porta et al. (1998) for a description. Source: "gini" from http://post.economics.harvard.edu/faculty/shleifer/Data/trustvar.xls.
Oppressed Minorities Mechanism	
Preemptive Right to New Issues	
Percentage of Share Capital to Call Extraordinary Shareholder Meeting	
Rule of Law	See La Porta et al. (1998) for a description. Source: http://post.economics.harvard.edu/faculty/shleifer/Data/l&fweb.xls.
Efficiency of Judicial System	
Repudiation of Contracts by Government	
Risk of Expropriation	
Private Benefits of Control	Mean block premium as a percentage of firm equity. Source: Table II in Dyck and Zingales (2004).
Collective Bargaining Index	See Botero et al. (2004) for a description. Sources: 'index_col_barg1' and 'index_emp_prot1', respectively, from http://post.economics.harvard.edu/faculty/shleifer/Data/labor_dataset_4_01_03.xls.
Employment Protection Index	
Left-Right Political Index	Source: Table 6.5 in Roe (2003).
Proportionality of Voting System	Measures the extent to which voting systems are proportional or majoritarian. Source: Table 2 in Pagano and Volpin (2005).
General Trust	Measures the extent to which people believe that most people can be trused. Source: item A165 in the 2000 World Values Survey.
Importance of Family	Measures the extent to which people believe that family is important. Source: item A001 in the 2000 World Values Survey.
Confidence in Major Companies	Measures the extent to which people have confidence in major companies. Source: item E081 in the 2000 World Values Survey.
Trust in Judiciary	Measures the independence of the judiciary based on a survey of 4,000 executives in 59 countries conducted by the World Economic Forum. Source: item 8.05 in the 1999 Global Competitiveness Report.
Trust in Politicians	Measures the financial honesty of politicians based on a survey of 4,000 executives in 59 countries conducted by the World Economic Forum. Source: item 8.19 in the 1999 Global Competitiveness Report.

Legal Origin	See La Porta et al. (1999) for a description. Source: http://post.economics.harvard.edu/faculty/shleifer/Data/qgov_web.xls.
Percentage of Protestants in 1900 Percentage of Catholics in 1900	Source: 2001 World Christian Encyclopedia.
Crouch Instrument	Equal to the percentage of Catholics in 1900, except for Austria (replaced with the value for Germany) and Ireland (replaced with the value for the UK).
Fraction of Family-Controlled and Widely Held Firms in Canada	See Morck et al. (2005) for a description. Source: Bernard Yeung.
Strike Activity in Canada	Number of person-days lost due to strikes. Source: Canadian Department of Human Resources Management (HRDC).

Table 2a: Ownership Data

Variable	Code	Sample Used	Number of Firms	Fraction of Total Market Capitalization Controlled by Top 5 Families	Fraction of Firms Controlled by Families	Fraction of Medium-Sized Firms Controlled by Families	Fraction of Value of Top 20 Firms Controlled by Families	Fraction of Top 20 Firms Controlled by Families	Principal Component of Family Control
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

Notes: 'CDL' is Claessens, Djankov, and Lang (2000); 'FL' is Faccio and Lang (2002); 'LLS' is La Porta, Lopez-de-Silanes, and Shleifer (1999); '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 2b: Labor Relations Data

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; '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 3: Correlation Matrices

3a: Ownership Concentration in Asia. N = 9, CDL (2000)

Fraction of Total Market Capitalization Controlled by Top 5 Families	1.00	
Fraction of Firms Controlled by Families	0.58	1.00

3b: Ownership Concentration in Europe. N = 13, FL (2002)

Fraction of Total Market Capitalization Controlled by Top 5 Families	1.00	
Fraction of Firms Controlled by Families	0.54	1.00

3c: Ownership Concentration in Developed Countries. N = 25, LLS (1999)

Fraction of Medium-Sized Firms 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

3d: Survey Measures of Labor Relations and Workers' Bargaining Power. N = 30

Cooperative Labor Relations (GCR 1993)	1						
Cooperative Labor Relations (GCR 1999)	0.97*	1					
Cooperative Labor Relations (GCR 2003)	0.89*	0.90*	1				
Strikes Are Rare and Quickly Resolved (GCR 1999)	0.86*	0.91*	0.88*	1			
Collective Bargaining Power of Workers (GCR 1999)	0.05	-0.03	-0.01	-0.16	1		
Cooperative Labor Relations (IMD 1999)	0.94*	0.94*	0.87*	0.88*	0.02	1	
Cooperative Labor Relations (IMD 2003)	0.85*	0.83*	0.91*	0.82*	0.06	0.90*	1

2e: Survey Measures of Labor Relations and Social Capital. N = 26-30

Cooperative Labor Relations (IMD 2003)	1					
General Trust (WVS 2000)	0.39*	1				
Importance of Family (WVS 2000)	-0.25	-0.16	1			
Confidence in Major Companies (WVS 2000)	0.07	0.18	0.33	1		
Trust in Politicians (GCR 1999)	0.68*	0.47*	-0.32	0.2	1	
Trust in Judiciary (GCR 1999)	0.64*	0.43*	-0.31	0.09	0.78*	1

Note: * denotes significance at the 5% level or higher.

Table 4: Ownership Concentration and Labor Relations

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)
Dependent Variable	Fraction of Firms Controlled by Families	Fraction of Total Market Capitalization 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	Fraction of Top 10 Business Groups Controlled by Families	Stock Market Capitalization/GDP
Sample	All Countries	All Countries	Asia	FL + US	West	All Countries	All Countries	All Countries
Cooperative Labor Relations	**-0.09**	**-0.05**	**-0.68**	**-0.91**	**-0.86**	**-0.71**	**-0.13**	**0.21**
	-4.00	-3.30	-3.81	-3.59	-3.49	-5.10	-2.74	3.45
Log(Population)	**-0.06**	**-0.02**	**-0.99**	**-0.58**	**-0.55**	**-0.47**	**-0.1**	**0.164**
	-2.65	-1.35	-4.41	-2.81	-2.83	-3.05	-1.88	2.38
Log(GNP_Per_Capita)			**-0.72**	**1.22**	**0.55**			
			-3.29	1.64	0.84			
Asia Dummy						**12.90**	**1.68**	**7.22**
						3.00	1.15	3.8
Asia Dummy * Log(Population)						**-0.53**	**-0.03**	**-0.49**
						-1.92	-0.29	-4.01
Asia Dummy * Log(GNP_Per_Capita)						**-0.70**	**-0.14**	**-0.18**
						-2.80	-1.62	-1.59
N	30	30	9	14	21	30	30	30
R^2	0.38	0.30	0.90	0.46	0.48	0.70	0.42	0.72
Adj. R^2	0.33	0.24	0.84	0.36	0.38	0.64	0.30	0.66

Notes: OLS Regressions. Coefficients are in bold, t-statistics are listed below the coefficients. 'Principal Component' is the first principal component of the two measures of family control in columns (i) and (ii). 'Asia' includes the 9 countries from Claessens, Djankov, and Lang (2000). 'FL + US' includes the 13 European countries from Faccio and Lang (2002) plus the United States from Gadhoum, Lang, and Young (2005). 'West' includes the 'FL + US' sample 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. 'All Countries' includes all countries from Table 2a.

Table 5a: Alternative Determinants of Ownership Concentration (I)

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Dependent Variable	Principal Component of Family Control	Stock Market Capitalization/GDP	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**	**0.20**	**-0.60**	**-0.62**	**-0.63**	**-0.76**
	-5.79	3.24	-4.33	-3.16	-4.17	-5.22
Log(Population)	**-0.36**	**0.14**	**-0.46**	**-0.48**	**-0.37**	**-0.49**
	-2.86	2.06	-3.06	-2.87	-2.25	-3.17
Asia Dummy	**18.14**	**6.23**	**12.38**	**11.87**	**11.29**	**10.73**
	4.59	2.91	3.22	2.54	2.32	2.28
Asia Dummy * Log(Population)	**-0.95**	**-0.36**	**-0.47**	**-0.56**	**-0.54**	**-0.45**
	-3.79	-2.66	-1.88	-2.00	-1.99	-1.56
Asia Dummy * Log(GNP_Per_Capita)	**-0.77**	**-0.22**	**-0.71**	**-0.57**	**-0.57**	**-0.58**
	-3.19	-1.66	-3.19	-1.81	-1.77	-2.12
Oppressed Minorities Mechanism (LLSV)	**-1.19**	**0.31**				
	-3.99	1.94				
Preemptive Right to New Issues (LLSV)	**-0.42**	**0.24**				
	-1.54	1.64				
Percentage of Share Capital to Call Extraordinary Shareholder Meeting (LLSV)	**-6.28**	**1.54**				
	-2.21	1.00				
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 Contracts by Government (LLSV)					**0.48**	
					1.20	
Risk of Expropriation (LLSV)					**-0.77**	
					-1.66	
Income Inequality						**0.03**
						1.10
N	29	29	27	30	30	30
R^2	0.84	0.78	0.77	0.73	0.74	0.72
Adj. R^2	0.77	0.69	0.70	0.64	0.66	0.64

Notes: OLS Regressions. Coefficients are in bold, t-statistics are listed below the coefficients. 'LLSV' is La Porta et al. (1998); 'DZ' is Dyck and Zingales (2004). The samples in columns (i) to (vi) include all countries from Table 2a, except for columns (i)-(ii) (Philippines missing) and column (iii) (Belgium, Greece, and Ireland missing).

Table 5b: Alternative Determinants of Ownership Concentration (II)

	(i)	(ii)	(iii)	(iv)	(v)
Dependent Variable	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)	**-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				
Collective Bargaining Index (BDLLS)	**-0.13**				
	-0.17				
Employment Protection Index (BDLLS)	**0.98**				
	0.75				
Collective Bargaining Power of Workers is High (GCR)	**-0.17**				
	-0.75				
Left-Right Political Index (Roe)		**-0.06**	**-0.05**		
		-0.13	-2.07		
Proportionality of Voting System (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

Notes: OLS Regressions. Coefficients are in bold, t-statistics are listed below the coefficients. 'BDLLS' is Botero et al. (2004); 'GCR' is Global Competitiveness Report (1999); 'Roe' is Roe (2003); 'PV' is Pagano and Volpin (2005). The sample in column (i) includes all countries in Table 2a. The samples in columns (ii) to (v) are matched samples of the countries in Table 2a and those in 'PV' and 'Roe', respectively.

Table 5c: Alternative Determinants of Ownership Concentration (III)

	(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	**-0.68**	**-0.71**	**-0.64**	**-0.80**	**-0.70**
	-4.05	-4.78	-3.54	-4.84	-3.53
Log(Population)	**-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)	**-0.58**				
	-0.48				
Importance of Family (WVS)		**-5.46**			
		-1.84			
Confidence in Major Companies (WVS)			**-2.45**		
			-1.18		
Trust in Politicians (CGR)				**0.18**	
				0.96	
Trust in Judiciary (CGR)					**-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	0.63	0.68	0.67	0.64	0.63

Notes: OLS regressions. Coefficients are in bold, t-statistics are listed below the coefficients. 'GCR' is Global Competitiveness Report; 'WVS' is World Values Survey. The samples in columns (iv) and (v) include all countries in Table 2a. The samples in columns (i) to (iii) are matched samples of the countries in Table 2a and those in the respective 'WVS' entries.

Table 6: Instrumenting Cooperative Labor Relations

	(i)	(ii)	(iii)
Second Stage: Dependent variable is Principal Component of Family Control			
Cooperative Labor Relations	**-0.81**	**-0.71**	**-0.94**
	-2.48	-2.27	-3.44
Log(Population)	**-0.51**	**-0.46**	**-0.59**
	-2.18	-1.98	-2.8
English Legal Origin	**-0.38**	**-0.48**	**-0.26**
	-0.8	-1.02	-0.58
German Legal Origin	**1.12**	**1.01**	**1.26**
	1.92	1.75	2.31
N	20	20	20
R^2	0.66	0.66	0.66
First Stage: Dependent variable is Cooperative Labor Relations			
Log(Population)	**-0.49**	**-0.52**	**-0.36**
	-3.81	-4.29	-3.21
English Legal Origin	**0.78**	**0.64**	**0.18**
	2.3	1.92	0.56
German Legal Origin	**1.15**	**1.13**	**0.74**
	2.75	2.81	2.12
Percentage of Protestants in 1900	**0.01**		
	3.25		
Percentage of Catholics in 1900		**-0.01**	
		-3.55	
Crouch Instrument			**-0.02**
			-4.88
N	20	20	20
R^2	0.74	0.76	0.83

Notes: 2SLS Regressions. Coefficients are in bold, t-statistics are listed below the coefficients. The samples in columns (i) to (iii) include 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 data from La Porta, Lopez-de-Silanes, and Shleifer (1999): Australia, Canada, Denmark, Greece, the Netherlands, New Zealand.

Table 7: Instrumenting Cooperative Labor Relations and Family Control

Equation 1: Dependent variable is Principal Component of Family Control

	Coefficient	Standard Error	z	p-value
Cooperative Labor Relations	-0.97	0.23	-4.14	0.00
English Legal Origin	-0.17	0.38	-0.44	0.66
German Legal Origin	1.38	0.46	2.98	0.00
Log(Population)	-0.61	0.18	-3.39	0.00
N	20			
R^2	0.65			

Equation 2: Dependent variable is Cooperative Labor Relations

	Coefficient	Standard Error	z	p-value
Principal Component of Family Control	0.56	0.52	1.07	0.29
Crouch Instrument	-0.03	0.01	-2.77	0.01
Log(Population)	-0.16	0.21	-0.76	0.45
N	20			
R^2	0.55			

Notes: 3SLS Regression. Coefficients are in bold, t-statistics are listed below the coefficients. In Equation 1 'Cooperative Labor Relations' is instrumented using the 'Crouch Instrument'; in Equation 2 'Principal Component of Family Control' is instrumented using English and German legal origin. The sample is the same as in Table 6.

Table 8: Strike Activity in the 1960s and Ownership Concentration (in the 1990s)

	(i)	(ii)	(iii)
Dependent Variable	Principal Component of Family Control	Strike Activity in the 1960s	Principal Component of Family Control
Strike Activity in the 1960s	**0.61**		**1.06**
	2.82		2.41
Log(Population)	**-1.45**	**0.09**	**-0.27**
	-1.04	0.58	-1.4
English Legal Origin	**-0.96**	**0.48**	**-0.97**
	-2.72	1.11	-2.35
German Legal Origin	**0.94**	**-0.68**	**1.31**
	2.01	-1.41	2.11
Crouch Instrument		**0.02**	
		2.41	
	OLS	2SLS (First Stage)	2SLS (Second Stage)
N	17	17	17
R^2	0.62	0.52	0.48

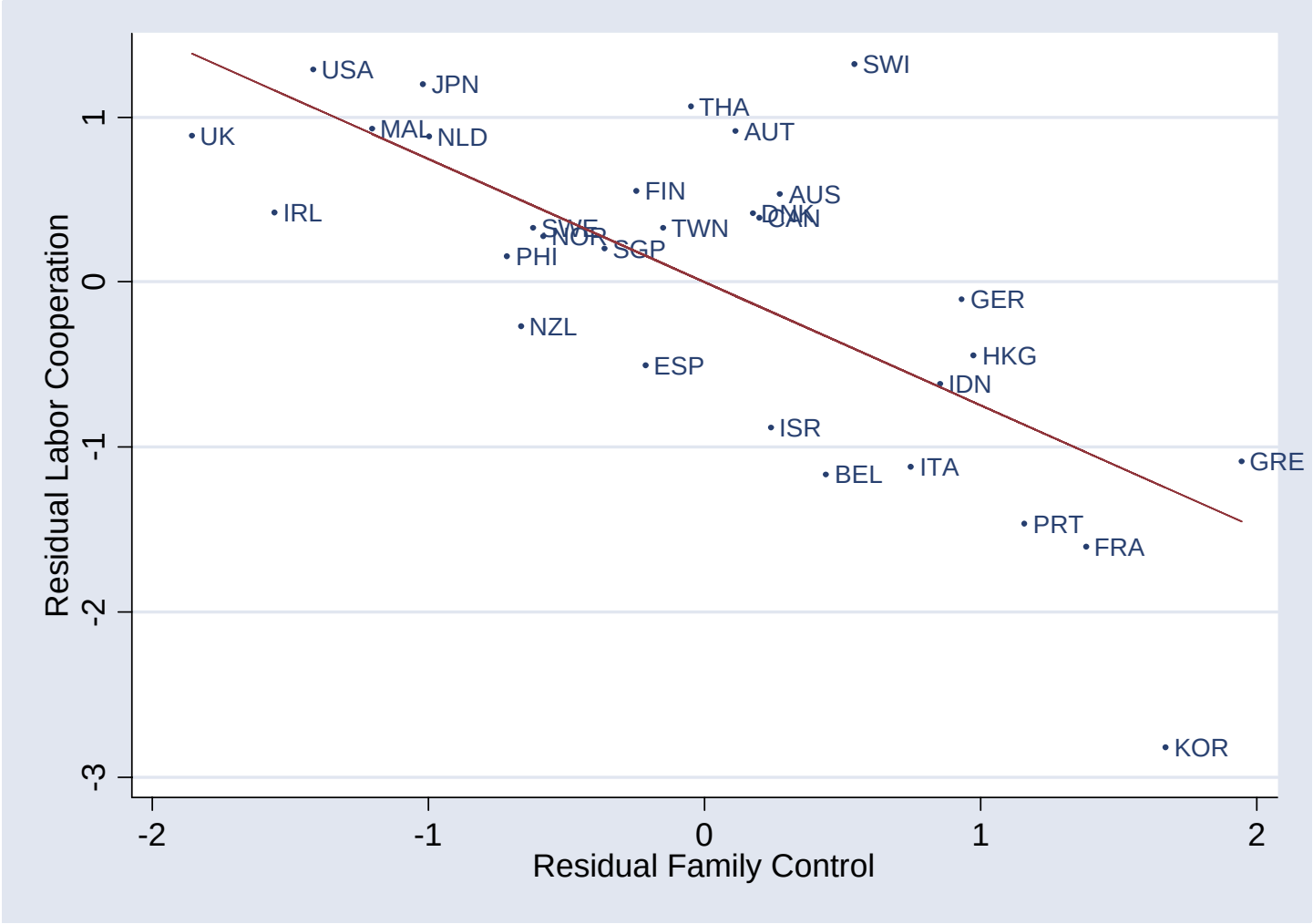
Notes: Coefficients are in bold, t-statistics are listed below the coefficients. In column (iii) 'Strike Activity in the 1960s' is instrumented using the 'Crouch instrument'. The sample is the same as in Tables 5 and 6, except that Greece, Portugal, and Spain and Greece have been excluded. All three countries were dictatorships in the 1960s, and strikes were illegal.

Table 9: Strike Activity and Changes in Ownership Concentration in Canada

	(i)	(ii)
Dependent Variable	Fraction of Family-Controlled Firms	Fraction of Widely Held Firms
Strike Activity	**0.18**	**-0.44**
	3.55	-6.23
Lagged Fraction of Family-Controlled Firms	**0.99**	
	35.64	
Lagged Fraction of Widely Held Firms		**0.91**
		50.34
N	45	45
R^2	0.97	0.99

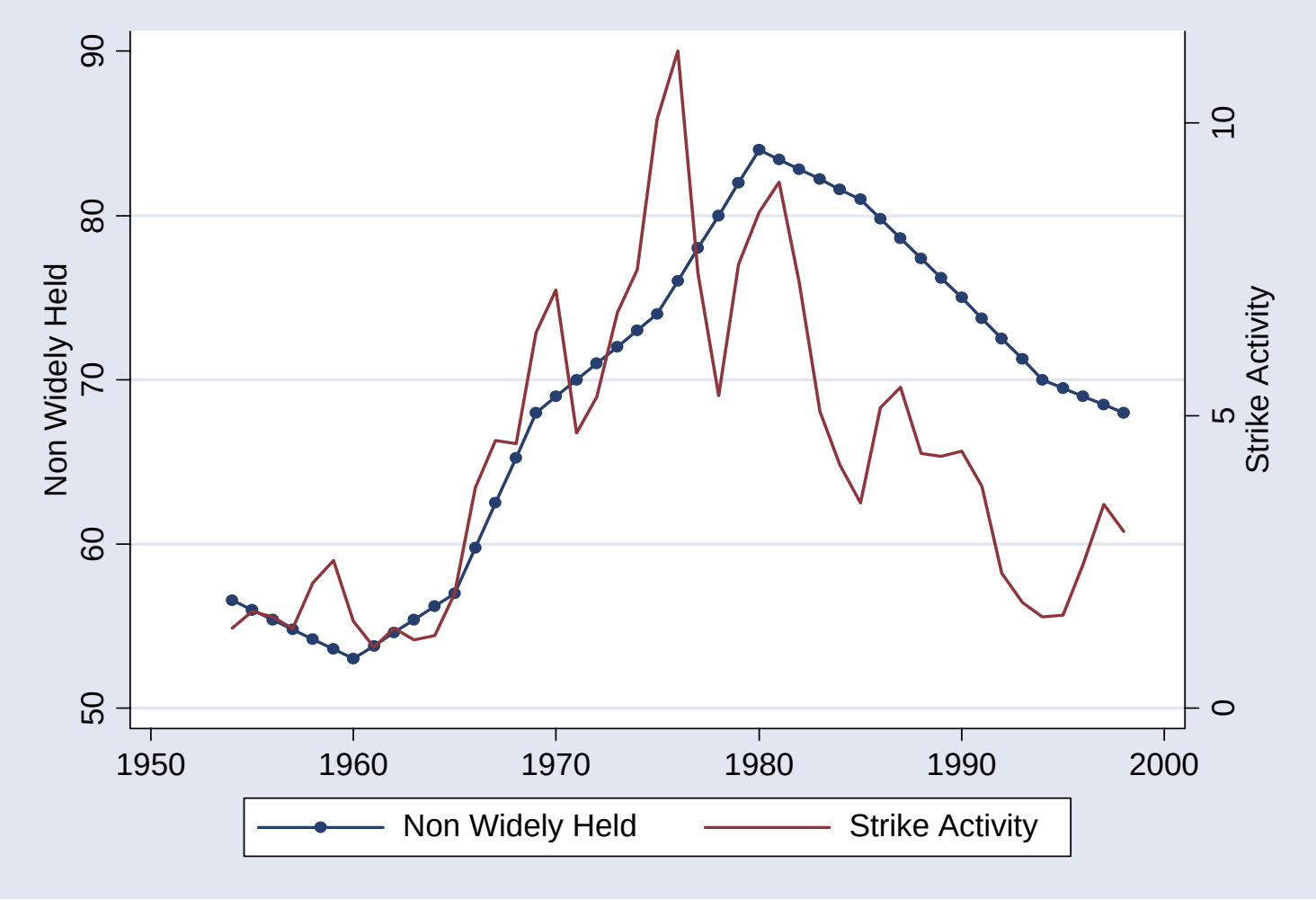
Notes: OLS regressions. Coefficients are in bold, t-statistics are listed below the coefficients.

Figure 1: Residual Labor Cooperation and Residual Family Control



Notes: Plot of residuals from regression (vi) in Table 4. 'Cooperative Labor Relations' and 'Principal Component of Family Control' are regressed separately on Log(population), Log(GNP_Per_Capita), Asia Dummy, Asia Dummy * Log(Population), and Asia Dummy * Log(GNP_Per_Capita). The sample includes all countries in Table 2a.

Figure 2: Strike Activity and Changes in Ownership Concentration in Canada



Notes: The fraction of non widely held firms equals one minus the fraction of widely held firms. Strike activity is measured by the number of person-days lost due to strikes (in millions). Sources: Morck et al. (2004) and Canadian Department of Human Resources Development (HRDC).