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**ABSTRACT**

Using firm-, industry-, and country-level data, we document a link between family ownership and labor relations. Across countries, we find that family ownership is relatively more prevalent in countries in which labor relations are difficult, consistent with firm-level evidence suggesting that family firms are particularly effective at coping with difficult labor relations. Our cross-country results are robust to controlling for minority shareholder protection and various other potential determinants of family ownership. Our results also hold if we use strike data from the 1960s to predict cross-country variation in family ownership thirty years later. We address causality in two ways. First, we instrument our measure of the quality of labor relations using 'Labor Origin', a variable describing the extent to which the emerging European liberal states in the 18th and 19th centuries confronted guilds and labor organizations. Second, making use of within-country variation at the industry level, we show that - controlling for industry and country fixed effects - industries that are more labor dependent have relatively more family ownership in countries with worse labor relations.

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# 1 Introduction

Across countries, there is considerable variation in the extent to which firms are either family-owned or widely held. Some of this variation can be explained by poor legal protection of minority shareholders. In their study of 27 wealthy countries, La Porta, Lopez-de-Silanes, and Shleifer (1999) find that family ownership is relatively more prevalent in countries with poor minority shareholder protection.<sup>1</sup> And yet, explanations for the cross-country variation in family ownership based on differences in minority shareholder protection leave a significant fraction 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.

The evidence presented in this paper suggests that (i) family firms are particularly effective at coping with difficult labor relations, and, consistent with this picture, (ii) family ownership is relatively more prevalent in countries in which labor relations are difficult.

*Family firms are particularly effective at coping with difficult labor relations.* Our cross-country study shows that countries with hostile labor relations have relatively more family ownership than do countries with cooperative labor relations. To help understand why hostile labor relations might be particularly conducive to family ownership, we first attempt to shed light on the ‘micro-mechanism’ linking family ownership and labor relations. Going back in time, we describe how during the Gilded Age—in response to severe industrial violence and labor unrest—industrial pioneers and founding families successfully established generous corporate welfare programs to appease workers. From an economic viewpoint, ‘corporate (or welfare) paternalism’ is best understood as an implicit labor contract between the firm and its workers, and our reading of the historical literature on welfare paternalism points to two advantages of family firms with respect to such implicit contracts. First, controlling families are likely to have a longer time horizon than do professional managers.<sup>2</sup> Second, and equally important, the fact

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<sup>1</sup>See Shleifer and Wolfenzon (2002) and Burkart, Panunzi, and Shleifer (2003) for theoretical models along these lines. For an early empirical study on the determinants of corporate ownership structure within the United States, see Demsetz and Lehn (1985). The study does not address causality, however.

<sup>2</sup>In a similar vein, Morck and Yeung (2003) argue that—because of their longer time horizon—family firms have a comparative advantage in a repeated-game like situation: “Professional CEO’s careers are relatively brief.

that the controlling family has a large ownership stake implies that it can safeguard the implicit labor contract—and thus workers’ interests—against the “greedy demands” (Zahavi, 1988, p. 138) of (short-term oriented) minority stockholders.<sup>3</sup>

We subsequently provide firm-level evidence from France which is consistent with the notion that today’s family firms (still) practice a ‘mild version’ of 19th century welfare paternalism. In particular, family firms seem to provide more employment insurance to their workers than do widely held firms. Workers, in turn, seem to be more loyal to family firms, in the sense that family firms have fewer strikes and lower unionization rates. Overall, this evidence suggests that family firms have important benefits that are particularly valuable when labor relations are difficult. Given that there is likely to be a cost associated with family ownership—such as forgone diversification benefits—we might expect to find relatively more family firms in countries with difficult labor relations.

While the particular ‘micro-mechanism’ described here focuses on implicit labor contracts, it is not the only conceivable one. Like this paper, Roe (2000, 2003) argues that family firms are more effective at coping with labor pressure. Roe’s main argument is that weakly monitored managers will not fight as strongly for shareholders as will strongly monitored managers. Weakly monitored managers will too easily give in to labor pressure to avoid conflict, because they do not pay for the concessions they make to labor (shareholders do), but “they take a great deal of heat for resisting [labor pressure]” (Roe, 2003).<sup>4</sup> Hence, strong labor pressure exacerbates managerial agency costs inside the firm, demanding a stronger monitoring of managers, and thus favoring family ownership over widely held ownership.

*Countries with hostile labor relations have relatively more family ownership than do countries with cooperative labor relations.* Using survey-based measures to describe the ‘quality’ of a

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In contrast, family control endures, with patriarchs grooming scions, sometimes for decades”.

<sup>3</sup>A third argument is that controlling families are less well diversified than small stockholders, implying that they have a relatively stronger preference for ‘stability’—for instance, they suffer more from work disruptions due to labor conflict at one particular firm than do small stockholders—which lends their promise to maintain and safeguard the implicit labor contract more credibility. See Roe (2000), who argues that “incompletely diversified family stockholders ... prefer stability more strongly than diversified ... public firm stockholders.”

<sup>4</sup>For empirical evidence consistent with this view, see Bertrand and Mullainathan (1999, 2003).

country's labor relations, we find that family ownership is relatively more prevalent in countries with hostile labor relations. This result holds for different measures of family ownership as well as for different subsamples (e.g., Europe, Asia, Western countries). It also holds if we control for minority shareholder protection, law enforcement, stock market development, income inequality, labor regulation, union bargaining power, the pro-labor orientation of governments, and various other controls. Finally, the result holds if we replace our survey-based measures of the quality of labor relations with actual strike data from the 1960s. As it turns out, high strike activity in the 1960s can predict family ownership thirty years later.

Our robustness results suggest that it is important to distinguish between labor hostility and measures of 'formal' labor empowerment, such as labor union strength, labor regulation, and the pro-labor orientation of governments.<sup>5</sup> With regard to predicting family ownership, what seems to matter more than measures of 'formal' labor empowerment is the extent to which labor is hostile or cooperative, which—as we will argue below—is rooted in a country's historical experience (and, possibly, its culture). In fact, controlling for the quality of labor relations, measures of 'formal' labor empowerment are not significant in our regressions.

*The quality of labor relations has a causal effect on the extent of family ownership.* We address the issue of causality in two different ways. We first look into the historical causes for the observed differences in the quality of labor relations across countries. In his classic book, historian Colin Crouch (1993) documents the struggles by the emerging European liberal states in the 18th and 19th centuries to maintain a political monopoly, or more broadly, to claim what he calls 'political space'. The liberal states' exclusive claim to political space implied that they became 'jealous' of other organized interests who sought to claim political space, notably guilds and labor organizations. According to Crouch, there is substantial variation in the way the different

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<sup>5</sup>Compare, for example, Sweden and Italy. Employment protection is tighter, and the government is more pro-labor, in Sweden than it is in Italy (Table III in Botero et. al (2004) and Table 6.5 in Roe (2003), respectively). Moreover, labor unions are much stronger in Sweden. In 1994, for example, Sweden's trade union density was 91%, while in Italy it was only 39% (OECD, 1997). Likewise, the bargaining power of labor unions, as perceived by executives, is much higher in Sweden (Table 2a in this paper.) And yet, labor relations are much more hostile in Italy (Table 2a in this paper.) Hence, Sweden has strong yet cooperative labor unions, while Italy has—based on 'formal' measures—weaker yet hostile and, to a considerable degree, anti-capitalist labor unions.

liberal states dealt with the attempts of guilds to occupy political space, which, he argues, has had a lasting effect on the countries' industrial relations until the present. In some countries, the liberal states confronted guilds and labor organizations—even declaring them illegal—which led to the formation of highly oppositional labor movements. In other countries, the liberal states embraced the guilds as a 'social partner', since the states were dependent on the guilds' organizational resources to manage their own public affairs.

Depending on the nature of the encounter between liberalism and guild society in the 18th and 19th centuries, Crouch distinguishes between three broad categories: 'political inhibitors', 'political neutrals', and 'political facilitators'. Based on Crouch's classification, we introduce a new variable, 'Labor Origin', consisting of dummies indicating to which category a country belongs. When we instrument our survey-based measure of the quality of labor relations using Labor Origin, we find strong support for our previous OLS results, suggesting that the quality of labor relations has a causal effect on the extent of family ownership.

The second way to address causality makes use of within-country variation at the industry level, following the methodology suggested by Rajan and Zingales (1998). Using the United States as our benchmark, we compute labor shares to measure industries' labor dependence. The hypothesis we test is whether—controlling for industry and country fixed effects—industries that are more labor dependent have relatively more family ownership in countries with worse labor relations. In particular, the ability to correct for country fixed effects alleviates concerns about an omitted variable bias. Consistent with our previous OLS results, we find that the interaction term between industries' labor shares and the quality of countries' labor relations is negative and strongly significant.

The rest of this paper is organized as follows. Section 2 tries to shed light on the 'micro-mechanism' linking family ownership and labor relations. Section 3 presents the data. Section 4 presents our basic OLS regressions and considers the robustness of our results by controlling for various other potential determinants of family ownership. Section 5 addresses the issue of causality using an instrumental variables approach, while Section 6 addresses the issue of causality using industry level data. Section 7 uses actual strike data to predict cross-country variation in family ownership. Section 8 concludes.

## 2 Family Firms and Implicit Labor Contracts

To help understand why hostile labor relations might be particularly conducive to family ownership, we first attempt to shed light on the ‘micro-mechanism’ linking family ownership and labor relations. Going back in time, we describe how in the late 19th century—in response to severe industrial violence and labor militancy—industrial pioneers and founding families successfully established generous corporate welfare programs to appease workers. We subsequently provide firm-level evidence from France consistent with the notion that today’s family firms (still) practice a ‘mild version’ of 19th century welfare paternalism.

### 2.1 Welfare Paternalism during the Gilded Age

Labor conflicts turned so severe in the late 19th century that Charles Henderson, the famous University of Chicago industrial sociologist, warned that industrial warfare would destroy not only work relations but the very fabric of American society. Employers responded with repression. When in 1892 workers of the Carnegie Steel Company’s Homestead plant resisted wage cuts, the company sent Pinkerton detectives to assume control of the plant grounds. The ensuing showdown was vicious. By day’s end, nine steel workers and seven Pinkertons had died, and more than three hundred men, mostly Pinkertons, had been wounded.

While exceptional in the acuity of its violence, the Homestead affair was nevertheless symptomatic of the industrial violence that gripped the United States during the Gilded Age. Confronted with heightened industrial violence and labor militancy, industrial pioneers like George Pullman, Harold Patterson, Harold McCormick, and Henry John Heinz opted for a different solution: corporate (or welfare) paternalism.<sup>6</sup> As one labor historian put it, “setting aside their guns, employers strove to crush labor through kindness” (Tone, 1997, p. 3).<sup>7</sup> Proffering the carrot rather than the stick, employers built low-cost homes for their workers, established medical and relief departments that included surgical, dental, and sick relief services, promoted ath-

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<sup>6</sup> “The emergence of corporate paternalism was ultimately a product of conflict” (Zahavi, 1988, p. 2).

<sup>7</sup> After disaffected employees of the National Cash Register Company (NCR) set the factory on fire three times in the early 1890s, its president and founder, John Patterson, decided that “more interest would have to be taken in our employees to make them better workers.” In the ensuing decade, NCR became the nation’s leading example of corporate welfare work (Tone, 1997, p. 66).

letic programs, and provided countless other services, including lectures, art and dance classes, Sunday outings, and dining rooms serving low-cost lunches.

Employers did not disguise that their welfare programs were designed to maintain worker docility and to retain control over the work force. It was merely asserted that welfare work was a more effective means of control than was repression. Workers were officially viewed as part of one big family. At Endicott Johnson, the Binghamton, New York, shoe manufacturer, for example, new workers received a booklet declaring “You have now joined the Happy Family” (Zahavi, 1983, p. 605). The notion of being part of one big happy family connoted more than just a collegial corporate culture. It represented a *personal* bond between Endicott Johnson’s workers and the firm’s patriarch, George F. Johnson:

“The family connoted harmony, security, authority, and stability—all values that the corporation sought to develop and exploit. It was a powerful metaphor, an image both confining and comforting and one that promoted internal resolution of conflict. Furthermore, the deliberate transposition of George F. Johnson into a father figure, a role that suited his temperament, was aimed at *making industrial protest and rebellion the equivalent of patricide*” (Zahavi, 1983, p. 607, italics added).

Welfare paternalism is perhaps best understood as an implicit labor contract between the firm and its workers, whereby the firm provided its workers with basic family needs—medical care, relief, recreation, and housing—in exchange for the workers’ loyalty.<sup>8</sup> On the firm’s side, the guarantor that the firm would keep its promises was the patriarch, or controlling family, who provided for the workers’ welfare as a *personal* responsibility (Mandell, 2002). There are numerous anecdotes in which Endicott Johnson’s patriarch, George F. Johnson, personally fetched injured workers to a doctor, approved questionable appeals by workers for aid, and overruled decisions by his supervisors to lay off workers.<sup>9</sup>

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<sup>8</sup> “Welfare capitalism at Endicott Johnson existed as a compact ... built on *mutual* loyalties” (Zahavi, 1983, p. 605). Likewise, John Patterson, founder and president of NCR, described corporate welfare work as a “give-and-take proposition of mutual benefits and mutual responsibility” (Mandell, 2002, p. 19).

<sup>9</sup> “The employee in question was an older man with several children, and the act of letting go such a worker troubled Johnson’s conscience ... Johnson sent the following note to the supervisor who laid him off: This is not

To maintain the company's welfare program in the wake of the Great Depression, George F. Johnson even went as far as cutting common stock dividends, provoking the anger of his fellow stockholders.<sup>10</sup> When a stockholder complained about the use of company funds to finance relief efforts, Johnson replied: "As a stockholder, you have a perfect right to object the use of 'company funds', but unfortunately we cannot separate 'stockholder's money' from the working men's money" (Zahavi, 1988, p. 137). On a different occasion, when confronted with the demands of minority stockholders, Johnson's anger grew more intense: "As long as I am on earth to vote, I will never give the stockholders any more than I am willing to give the workers" (Zahavi, 1988, p. 138).

Our reading of the historical literature on welfare paternalism in the United States points to two important advantages of family firms with regard to implicit labor contracts. First, families are likely to have a longer time horizon than do professional managers, with the effect that workers may find it easier to establish a personal bond with, and develop loyalty to, the family (Tone, 1997; Mandell, 2002). Second, as we have shown above in the case of Endicott Johnson, the fact that the controlling family has a large ownership stake implies that it can safeguard the implicit labor contract—and thus the workers' interests—against the "greedy demands of [minority] stockholders" (Zahavi, 1988, p. 138).

Intended as an "antidote to late-nineteenth-century social conflict," [corporate] "welfare work promised to fight labor activism by weakening the attraction of unions and redirecting workers' loyalty to the company" (Mandell, 2002, p. 18 & 21). How effective was welfare paternalism in accomplishing its goals? According to historian David Brody, welfare paternalism managed to bring about a decline in union membership and a muting of labor militancy (Brody, 1993). At Endicott Johnson, for example, quit rates between 1930 and 1946—when systematic data are available—were 40% - 60% of the industry average (Zahavi, 1988, p. 53): "Workers were loyal workers. ... The vast majority of them repeatedly rejected unionization. Prolonged strikes were

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"cold-blooded business." ... Maybe you could run two or three days a week and not have to absolutely lay off so many people" (Zahavi, 1988, p. 127).

<sup>10</sup>While the Johnson family was the primary stockholder of Endicott Johnson, there were others, including company officers, who held about 17% of the firm's common stock. George F. Johnson estimated that the proposed dividend cut would cost him alone about \$100,000 of his personal wealth.

unheard of. By the criteria of unionists, radical critics, and labor historians, then, welfarism at Endicott Johnson was a success, creating and sustaining a labor loyalty to the corporation that endured even the Depression” (Zahavi, 1988, p. 119).<sup>11</sup>

## 2.2 Family Firms Today

In today’s world, family firms rarely provide the kind of generous welfare programs they used to provide in the age of welfare paternalism. Yet there is evidence consistent with the notion that today’s family firms (still) practice a ‘mild version’ of welfare paternalism. Like in the case of Endicott Johnson—where layoff rates were 24 times lower than the industry average (Zahavi, 1988)—family firms appear to provide more employment insurance to their workers than do widely held firms. Using French panel data, Sraer and Thesmar (2004) document that employment in family firms is less sensitive to industry shocks than it is in widely held firms, which the authors note is “consistent with the fact that, because of their different time horizons, heir-managed corporations have a comparative advantage when enforcing implicit insurance contracts with their labor force.” We find a similar result for the United States (not reported): Among the 1,000 largest publicly traded companies in the United States, those with a significant ultimate owner (5% or more) are less likely to reduce employment than are widely held firms.<sup>12</sup>

Similar to our historical discussion of welfare paternalism above, we may ask if providing employment insurance is an effective means of mitigating labor militancy and “weakening the attraction of unions and redirecting workers’ loyalty to the company” (Mandell, 2002, p. 18 & 21)?<sup>13</sup> To address this question, we match Sraer and Thesmar’s data with data from the ‘Enquête Réponses’, a survey of managers conducted in 1998 to study plant level work organization in France. Using Sraer and Thesmar’s classification, we classify a family firm as one in which the founder or a member of the founder’s family holds at least 20% of the voting rights. Two

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<sup>11</sup>In an election to unionize Endicott Johnson in 1940, the shoe workers’ union was soundly defeated by a margin of nearly five to one. Historian Gerald Zahavi concludes that “the unions were and remained “outsiders” in what most workers considered a family affair” (Zahavi, 1988, p. 169).

<sup>12</sup>The result is obtained after controlling for firm size, firm age, and industry fixed effects.

<sup>13</sup>Workers seem to pay a premium for receiving employment insurance: Controlling for workers’ skills and age, Sraer and Thesmar (2004) find that family firms pay lower wages than do widely held firms.

questions from the survey are of particular interest for us. One question asks whether there has been a strike in the three years prior to the survey; the other question asks for the percentage of workers that are unionized.

A first look at the data suggests that strikes are indeed less prevalent in family firms. While only 18% of family firms had witnessed strikes in the three years prior to the survey, the corresponding number for widely held firms is 40%. To verify that this result is not driven by family firms' clustering in particular industries, or by the (often smaller) size of family firms, we run a logit regression in which we control for industry dummies and number of employees. The results, which are displayed in column (i) of Table A, confirm that family firms are less likely to experience strikes than are widely held firms.

We obtain similar results if we use the percentage of unionized workers as our dependent variable. The results, which are displayed in column (ii) of Table A, show that—after controlling for industry fixed effects and number of employees—widely held firms appear to have a higher percentage of unionized workers than do family firms. That the two regressions—the one measuring strike incidence and the other measuring the percentage of unionized workers—yield similar results is perhaps not surprising. Given the radicalism of French labor unions, a strong union presence on the firm level is likely to imply a higher incidence of strikes.

Let us summarize. Welfare paternalism—the introduction of generous corporate welfare programs by industrial pioneers and founding families in the late 19th century—emerged in response to severe industrial violence and labor conflict. By the accounts of historians, welfare paternalism was highly successful in appeasing workers, reducing strikes, and keeping labor unions out. More than a century later, it seems as if family firms still practice a 'mild version' of 19th century welfare paternalism. French family firms appear to provide more employment insurance to their workers than do widely held firms and, in return, appear to have fewer strikes and lower unionization rates. Overall, these results suggest that family firms have important benefits that are especially valuable when labor relations are difficult, which is why we might expect to find more family firms in countries with difficult labor relations. The remainder of this paper tests this hypothesis.

## 3 Data

### 3.1 Ownership Data

#### Ownership of Publicly Held Companies

The main focus of our study 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), Gadhoun, 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, meaning ownership is traced back to the individual and family level. Each paper contains a discussion of the data sources and how the respective ownership measures have been constructed. For the sake of brevity, we shall not repeat this information here.

CDL provide ownership data for nine East Asian countries for the year 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. 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. Table 3a reports the correlation between these two measures. As is shown in Table 2a, with the exception of Japan, family control is pervasive in East Asia. While only 10% of Japanese firms are controlled by families, the fraction of family-controlled firms in the other countries ranges from 45% (Philippines) to 72% (Indonesia). A similar picture emerges with respect to the fraction of the total market capitalization controlled by the top 5 families. While the top 5 families in Japan control only 2% of the total market capitalization, the number for the other countries ranges from 20% (Singapore) to 43% (Philippines).

FL provide ownership data for 13 Western European countries for the period from 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. 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 that the United States ranks second after Japan as the country with the most widely dispersed (ultimate) 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 results using value-weighted measures 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.

There are 30 countries in total 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. Moreover, 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 make 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 of family control from CDL-FL-GLY: the fraction of firms controlled by families (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:<sup>14</sup>

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<sup>14</sup>As we will show later, our basic results are robust to dropping those countries for which we have only predicted values based on LLS.

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

where  $\text{Fam}_{i,j}$  is the particular measure  $j$  of family control for country  $i$  in CDL-FL-GLY, and where  $\text{LLS}_i$  is the vector of the three measures of family control for country  $i$  in LLS. For the first measure in CDL-FL-GLY—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 use state ownership as our dependent variable. Our measure of state ownership is constructed the same way as our measure 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 companies, Fogel’s sample includes both publicly and privately held business groups. Fogel constructs four measures of family control, which are all highly correlated. The particular measure we use in our regressions is the labor-weighted fraction of the 10 largest business groups controlled by families (20% cutoff), abbreviated by  $P_V$  in Fogel’s paper.

## 3.2 Labor Relations Data

### Cooperative Labor Relations

Our measures of the quality of labor relations are taken from two 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.

In 2003, for example, 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 data from 1996 onwards, the country rankings are highly correlated over time. 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 in over 50 countries. The question that is most relevant for our study asks the 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 country rankings for the years 1993, 1999, and 2003. While we have this data also for other years, the country rankings are again highly correlated over time. As is shown in Table 3d, the correlations between the 1993, 1999, and 2003 country rankings lie between 89% and 97%.

In 1999 the GCR asked a more nuanced question: The 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 strongly with the country rankings from the question asking whether “Labor/employer relations are generally cooperative”.

Not only are our measures of the quality of labor relations highly correlated over time, but there is also a strong correlation across the two 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 uncorrelated with 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 year, 1999, but the results are similar for other years. As is shown in Table 3d, there is 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 problems encountered in the construction of our ownership variables arises here. In fact, all the results we present here are robust to using any of the six measures from Table 2b. For brevity, we shall work with a single measure, the IMD measure from 2003. We call it ‘Cooperative Labor Relations’.

### **Strike Activity in the 1960s**

Our survey measures of the quality of labor relations reflect the opinions of executives. It would be good to know if these opinions also corresponded to more ‘readily observable’ measures of labor hostility, such as strike activity. The problem with strike data is that strike activity depends on many factors, notably unemployment. Given that we have a limited number of countries, controlling for all these factors would leave us with few degrees of freedom. An alternative approach is to consider a time 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 are such a period: unemployment was uniformly low across Western countries, while 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 (2004) document, there exists a significant negative relation between strike activity in the 1960s and the quality of labor relations in the 1990s. Indeed, the correlation between strike activity in the 1960s and our measure, ‘Cooperative Labor Relations’, is minus 63%, suggesting that high strike activity in the 1960s can predict hostile labor relations more than thirty years later.

## **4 Family Ownership and Labor Relations**

### **4.1 Basic OLS 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 are likely to control a greater fraction of the national stock market capitalization than the top 5 families in the United States. Therefore, we shall always include the log of the total population in 1995 as a control variable in our regressions. The basic equation we estimate is:

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

As columns (i) and (ii) of 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.

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 measures 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 our two measures of family control and use it as our main dependent variable. The first principal component, displayed in the last column in Table 2a, is normalized with a mean of zero and 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 seven countries for which we have only predicted values based on equation (1). Column (iii) of Table 4 shows the results for Asia, column (iv) shows the results for Western countries, excluding those countries for which we have only predicted values, and column (v) shows the results 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. 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 perhaps 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, suggesting that family ownership is 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 results are displayed in column (vi) of Table 4. Like in our previous regressions, Cooperative Labor Relations is negatively related to family control and significant at the 1% level.

Before we perform some 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 control variables in column (vi) of Table 4. Figure 1 plots the residuals of the 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-FLGLY 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 in Fogel's sample, we use this measure only here, and only as a robustness check. The results, which are displayed in column (vii) of Table 4, are consistent with the results from our previous regressions, namely, Cooperative Labor Relations is negatively related to family control and significant at the 1% level.

## 4.2 Robustness

Our results thus far suggest that the quality of labor relations is a potentially important determinant of family ownership. In this section, we consider various other potential determinants. In each case, we run a horse race between our measure, Cooperative 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 ownership and significant at the 1% level in all regressions. Moreover, the coefficient associated with Cooperative Labor Relations is quite stable.

### Minority Shareholder Protection

The leading explanation for the observed variation in family ownership across countries—due to La Porta, Lopez-de-Silanes, and Shleifer (1999)—is based on differences in minority shareholder protection. As the authors show, countries with poor minority shareholder protection have relatively more family ownership than do 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 focus on them. As column (i) of 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 particularly important determinants of family ownership. But so is Cooperative Labor Relations, which remains significant at the 1% level.

### Law Enforcement

La Porta et al. (1998) argue that a strong system of law 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. Two of these measures, ‘Efficiency of Judicial System’ and ‘Rule of Law’, pertain to law enforcement proper. As column (ii) of 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 with the government’s stance towards private contracting and property rights. Again, neither measure is significant in our regression (column (iii) of Table 5a). Interestingly, while including measures of law enforcement 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.

### **Stock Market Development**

While our sample consists only of publicly held firms, their ownership structure might nevertheless depend on stock market development, in the sense that countries with more developed stock markets might have institutions that—similar to the legal protection of minority shareholders—are more conducive to widely dispersed ownership. A common proxy for stock market development is the ratio of stock market capitalization to GDP (e.g., Demirgüç-Kunt and Levine, 1995; Fisman and Love, 2004). As column (iv) of Table 5a shows, this measure enters with the predicted (i.e., negative) sign, but is—unlike minority shareholder protection—not significant. One possible reason might be that stock market development matters only in less developed countries. To address this concern, we interact the ratio of stock market capitalization to GDP with a dummy for Asia (not reported). The results remain the same.

### **Income Inequality**

One might be worried that Cooperative Labor Relations proxies for income inequality, in the sense that countries with high income inequality might have worse labor relations. At the same time, the extent of family ownership might be related to income inequality, in the sense that countries with high income inequality might be countries in which a few families control a large fraction of the stock market. For certain countries, this argument might be true. Overall, however, it seems that it is not. As column (v) of Table 5a shows, income inequality (measured by the Gini coefficient) is not significant in our regressions. If anything, the magnitude of the

coefficient associated with Cooperative Labor Relations becomes larger when we control for income inequality.

### **Labor Union Power and Labor Regulation**

Both Roe (2000, 2003) and this paper argue that family firms are particularly effective at coping with labor pressure. The question is—and we will address this question solely from an empirical perspective—where does this labor pressure come from? Roe focuses on measures of ‘formal’ labor empowerment, such as labor regulation and governments’ pro-labor orientation. Another measure of ‘formal’ labor empowerment, which is not the focus of Roe’s work, is the bargaining power of labor unions. We begin by looking at labor regulation and union bargaining power; the role of governments’ pro-labor orientation is considered below.

To examine the effects of labor regulation and union bargaining power on family ownership, we include three additional variables in our regression: (i) a measure of employment protection, (ii) a measure of the collective bargaining power of labor unions, both from Botero et al. (2004), and (iii) a measure of the bargaining power of workers, as perceived by executives, from the 1999 GCR survey. As is shown in Table 3d, the correlation between this last measure and Cooperative Labor Relations is virtually zero. The results of our regression, which are displayed in column (i) of Table 5b, show that labor regulation and union bargaining power are not well suited to explain family ownership. Controlling for the quality of labor relations, none of the three measures is significant, neither collectively nor individually (not reported). Accordingly, it is not merely *some* aspect of labor pressure that matters for family ownership. What matters is the extent to which labor is hostile or cooperative, which—as we will argue in the following section—is rooted in a country’s historical experience (and, possibly, in its culture). In contrast, measures of ‘formal’ labor empowerment, such as labor regulation and union bargaining power, appear not to matter.

### **Political Theories**

Another measure of ‘formal’ labor empowerment relates to a country’s left-right political orientation. Countries at the left end of the political spectrum—“social democracies” in Roe’s (2003) terminology—are more likely to be more labor friendly. To examine the effect of a country’s pro-labor orientation on family ownership, we include the left-right political index from

Roe (2003) in our regression.<sup>15</sup> The results, which are displayed in column (ii) of Table 5b, show that a country’s left-right political orientation has no significant effect on the extent of family ownership. In related work, Pagano and Volpin (2005) develop a political theory of investor and employment protection, arguing that countries with proportional voting systems have weaker investor protection but stronger employment protection than do countries with majoritarian voting systems. To have an alternative measure of a country’s pro-labor orientation, we also include Pagano and Volpin’s voting index in our regression. The results, which are displayed in column (iv) of Table 5b, are similar to our previous results: While the voting index enters with the right sign, it is not significant.

While these results suggest that measures of countries’ political orientation have little explanatory power in predicting family ownership, it does not mean that politics do not matter. As columns (iii) and (v) of Table 5b show, these measures appear to be 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 our variable, Cooperative Labor Relations, is not significant.

### **Social Capital: Labor-Specific or General?**

While ‘social capital’ invokes notions of trust and cooperation—trust being either a facilitator of cooperation or the outcome of past cooperation—the question is: cooperation to pursue what objectives? Does a high level of trust in, e.g., the political or judicial system, or in people generally, also imply a high level of cooperation in labor relations? Put differently, is there only one ‘type’ of social capital, or is social capital context-specific, in the sense that there are different forms of social capital that are each important, or productive, in different social and economic contexts?<sup>16</sup> To address this question, we include five survey-based measures in our regression that all measure peoples’ trust and confidence—either generally or with regard to specific institutions.

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<sup>15</sup>For expositional brevity, we only consider aspects of politics related to labor issues. There may be other links between politics and (family) firms, such as lobbying and political connectedness. For work along these lines, see Faccio (2006), Fisman (2001), Morck, Stangeland, and Yeung (2000), and Morck and Yeung (2003).

<sup>16</sup>See Kumar and Matsusaka (2005) for a model along these lines.

The best known of these five measures is probably ‘General Trust’ (column (i) of Table 5c). This measure, which has been widely used in the literature, shows the percentage of survey respondents who answer that most people can be trusted.<sup>17</sup> ‘Importance of Family’ (column (ii)) shows the percentage of survey respondents who answer that family is very important, while ‘Confidence in Major Companies’ (column (iii)) shows the percentage of survey respondents who have either a great deal or quite a lot of confidence in major companies. Finally, ‘Trust in Politicians’ (column (iv)) measures the respondents’ confidence in the honesty of politicians, while ‘Trust in Judiciary’ (column (v)) measures the respondents’ confidence in the independence of the judiciary.

Table 2e reports the correlations of these five measures both with each other and our measure, Cooperative Labor Relations. As can be seen, some of these measures are correlated with ours. However, when we include them in our regressions, only one of them—‘Importance of Family’—is (barely) significant, while our measure, Cooperative Labor Relations remains significant at the 1% level in all regressions (columns (i) to (v) of Table 5c). We believe this is good news for advocates of social capital theories, for it means that we can distinguish among different forms of social capital that are each relevant, or productive, in different social and economic contexts.

## 5 Labor Origin

In this section, we attempt to address the issue of causality by looking into the historical causes for the observed differences in the quality of labor relations across countries. We will show that, for European countries, these differences can be traced back to differences in attitudes towards guilds and labor organizations by the European liberal states in the 18th and 19th centuries. Based on a classification by historian Colin Crouch, which groups countries into different categories according to their historical experiences, we obtain an instrument for ‘Cooperative Labor Relations’. We call this instrument ‘Labor Origin’.

In his classic book, Crouch (1993) documents the struggles by the emerging European liberal states in the 18th and 19th centuries to maintain a political monopoly, or more broadly, to

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<sup>17</sup>Perhaps most closely related to this paper, ‘General Trust’ has been used in La Porta et al. (1997), who show that it is positively related to the share of sales over GNP by the 20 largest firms in each country.

claim what he calls ‘political space’. As Crouch remarks, “it is a crucial feature of the classic liberal political economy that political space is monopolized by specialized political institutions: legislature, executive, and judiciary. ... That a form of political monopoly lies at the heart of liberalism may seem paradoxical, but it is part of the important truth that *laissez-faire* is not anarchism” (p. 297-298).<sup>18</sup>

The liberal states’ exclusive claim to political space implied that—to the extent that they had to struggle to assert this claim—the states became ‘jealous’ of organized interests who sought to claim political space, notably guilds and labor organizations:<sup>19</sup> “Industrial-relations organizations sought to exercise influence beyond the occupational sphere,” with the effect that “such organizations ‘moved out’ to occupy such [political] space” (p. 297). According to Crouch, there is substantial variation in the way the different liberal states dealt with the attempt of guilds and labor organizations to occupy political space—ranging from confrontation to co-optation—which has had a lasting effect on the countries’ industrial relations until the present. Crouch groups countries into three broad categories:

‘*Political Inhibitors*’: This group includes France, Italy, Portugal, and Spain. In these countries, the liberal states’ claim to a political monopoly inhibited the continuing role of labor organizations: “They found themselves on the ‘wrong side’ in the modernization struggle and either disappeared or became allied with anti-modernizing forces” (p. 300).

The paradigm case of the liberal states’ exclusive claim to political space is the French Republic: “French republicans from 1789 asserted the sovereignty and inaccessibility of the state, which stood above and outside society and its many claims” (p. 302). In an effort to assert their exclusive claims to political space, the French republicans passed the ‘*lois Le Chapelier*’ in 1791, a powerful law banning all guilds and trade unions. Until 1884, for almost a century, labor organizations were illegal in France.<sup>20</sup> Weak and ostracized from the beginning,

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<sup>18</sup>All quotes in this section are from Crouch (1993).

<sup>19</sup>“To the extent that the liberal state had to struggle to assert its autonomy ... it became exceptionally ‘jealous’ of political space, reluctant to share it, and thus exclusive in its claims to sovereignty” (p. 302).

<sup>20</sup>“It is indicative of French liberalism that, although the right to strike was recognized in 1864, unions as such remained illegal until 1884; organized interests were even more difficult for the French Republic to accept than overt protest” (p. 327).

the French labor movement became highly oppositional, which may help explain why it became anarchist in the early 20th century and later on communist:

“The [French] state rendering itself both inaccessible and dominant, the newly developing labour movement found little chance of influencing it and therefore became highly oppositional, much of it embracing first syndicalism and then communism. This in turn reinforced the existing tendency of the state, because labour rendered itself increasingly unattractive as a potential ‘social partner’ for either the state or capital; a process of cumulative social hostility was thus set in train” (p. 302).

Similar forces were at work in the other southern European countries: Italy, Spain, and Portugal. “In those countries guild structures had become irrevocably tied to reactionary or at least anti-modern forces and were therefore not part of modernizing coalitions” (p. 313).<sup>21</sup>

‘*Political Facilitators*’: This group includes Austria, Germany, the Netherlands, and Switzerland. In these countries, the liberal states did not confront guilds but rather sought to co-opt them into a ‘social partnership’, for the states were dependent on the guilds’ organizational resources to manage their own public affairs. Far from being excluded, labor organizations thus became part of the liberal states’ structure. The paradigm case here is Germany:

“While *Ständestaat* and guild structures are conventionally seen as hindrances to the realization of the ‘pure’ political forms of the modern nation-state, there are instances where, for various reasons, states have been dependent on the existence of such structures for their own strength. The most outstanding instance is Germany. ... The Prussian state did not confront guild structures” (p. 307).

Likewise, the Swiss state did not confront guilds as it depended on their organizational resources: “The Swiss state was so weak, so liberal, that it lacked the capacity to carry out its own basic functions and looked to functional interests—starting from guild structures that

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<sup>21</sup> “While in each case both the economies and the forces of liberalism were far weaker than in France—in Portugal exceptionally so—what liberal regimes there were had still found it necessary to assert a monopoly claim to political space” (p. 304)

again faced no major ... confrontation” (p. 308-309).<sup>22</sup>

*‘Political Neutrals’*: This group includes Belgium, Denmark, Finland, Ireland, Norway, Sweden, and the United Kingdom. In these countries, the liberal states did not depend on the guilds’ organizational resources to carry out their basic functions (like, e.g., in Austria), nor were the liberal states ‘jealous’ of the guilds’ attempts to occupy political space (like, e.g., in France):

“This implies a noncommittal neutralism towards organized interests, not the positive organicism of the unreformed Hapsburg state. This lack of ‘jealousy’ reduced the extent to which these states confronted guilds and subsequently provoked the formation of highly oppositional labour movements; the spiral of mutual rejection of the French case did not apply here” (p. 310)

Let us summarize. In countries classified by Crouch as ‘political inhibitors’, the encounter between guild society and liberalism provoked the formation of highly oppositional labor movements. In contrast, in countries classified as ‘political facilitators’, the liberal states embraced the guilds as a ‘social partner’, with the effect that the encounter between guild society and liberalism positively facilitated a continuing role for labor organizations. Finally, countries classified by Crouch as ‘political neutrals’ had broadly neutral experiences. Based on Crouch’s classification, we introduce a new variable, ‘Labor Origin’, consisting of dummy variables indicating to which category a country belongs. If it is correct that, as Crouch argues, the encounter between liberalism and guild society has had a lasting effect on the countries’ industrial relations until the present, then Labor Origin might provide us with an instrument that can help explain the observed differences in the quality of labor relations across countries today.

In Table 6 we instrument Cooperative Labor Relations using Labor Origin. Using the category of ‘political inhibitors’ as our default category, Labor Origin is represented by two dummies: ‘Neutral Labor Origin’, which takes the value one if a country belongs to the category of ‘political neutrals’, and ‘Cooperative Labor Origin’, which takes the value one if a country belongs

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<sup>22</sup>The same holds for the Netherlands: “The Dutch state has been more orthodox than the Swiss, but only partly so. Both countries ... have therefore this distinctive legacy of a state dependent on private groups for the management of public affairs” (p. 309). Likewise, it holds for the “Hapsburg territories, where state formation and indeed state maintenance made use of guilds” (p. 319).

to the category of ‘political facilitators’. 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 family ownership. For this reason, we shall include legal origin dummies as control variables in our regressions. We estimate the following basic equation:

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

where  $\text{Cooperative Labor Relations}_i^*$  is instrumented using  $\text{Labor Origin}_i$ , and where  $\text{Legal Origin}_i$  is a vector of two dummies representing English and German legal origin, respectively.<sup>23</sup>

The results of the first-stage regression, which are displayed in column (i) of Table 6, confirm that  $\text{Labor Origin}_i$  has a significant effect on the quality of labor relations today. Also interesting is the fact that larger countries have systematically worse labor relations than smaller countries. On the other hand, legal origin appears to have no significant effect on the quality of labor relations. 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 their different  $\text{Labor Origins}_i$ .

The results of the second-stage regression, which are displayed in column (ii) of Table 6, show that  $\text{Cooperative Labor Relations}_i$  is negatively related to family control and significant at the 1% level, suggesting that the quality of labor relations has a causal effect on the extent of family ownership. The coefficient associated with  $\text{Cooperative Labor Relations}_i$  is similar to that in our previous OLS regressions. Moreover, both legal origin dummies are significant and enter with the predicted sign (see La Porta et al., 1998).

Let us conclude with a brief discussion of the relation between  $\text{Labor Origin}_i$  and a country’s main religion. A quick look at Crouch’s categories shows that the four countries classified as ‘political inhibitors’ are all Catholic countries. Indeed, Crouch does not fail to remark that the

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<sup>23</sup>In La Porta et al. (1998) and La Porta, Lopez-de-Silanes, and Shleifer (1999) only French legal origin is significant in explaining family ownership. 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, using French legal origin as our default category. The Scandinavian legal origin dummy has been dropped for brevity as it is insignificant.

Catholic Church’s opposition to modernization caused the liberal states in Catholic countries to be especially ‘jealous’ of political space.<sup>24</sup> In unreported regressions, we use—instead of Labor Origin—either the fractions of Catholics or Protestants in 1900 as an instrument for Cooperative Labor Relations. The results are statistically significant, albeit they are weaker than when we use Labor Origin as our instrument.<sup>25</sup>

That the results become weaker should not surprise. First, there is no underlying theory—and Crouch does not argue along these lines—saying that the quality of labor relations should directly depend on religion. Religion plays, if anything, an indirect role insofar as the liberal states in Catholic countries had more reason to be ‘jealous’ of political space than their Protestant counterparts. But even this relation only holds for some Catholic countries, which implies that, at best, religion is a (noisy) proxy for Labor Origin. For example, a look at Crouch’s categories shows that Ireland, Belgium, and Austria—three of the most Catholic countries in Europe—are (only) classified as ‘political neutrals’ and ‘political facilitators’, respectively.<sup>26</sup> Likewise, the four Scandinavian countries—which each had less than one percent Catholics in 1900—are classified as ‘political neutrals’, while Germany, the Netherlands, and Switzerland—which all had a much higher fraction of Catholics in 1900—are classified as ‘political facilitators’.<sup>27</sup>

## 6 Family Ownership Across Industries and Countries

In the previous section, we attempted to address the issue of causality by looking into the historical causes for the observed differences in the quality of labor relations across countries. Rajan and Zingales (1998) suggest an alternative methodology to address causality in a cross-

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<sup>24</sup> “The Catholic Church ... became the central rallying point for all forces alienated from modernization” (p. 301). In contrast, in “Protestant states ... the churches (Lutheran and Anglican) made their peace with the state long before the birth of modernizing forces and created few if any challenges to its authority” (p. 310).

<sup>25</sup> The  $R^2$  of the second-stage regression drops by 23 percentage points, while Cooperative Labor Relations—if instrumented using either the fractions of Catholics or Protestants in 1900—is only significant at the 5% level, compared to the 1% level when we use Labor Origin as our instrument. The year 1900 is the earliest year for which we have the religion data available.

<sup>26</sup> The percentage share of Catholics in 1900 in these countries ranges from 88.7% (Ireland) to 97.4% (Belgium).

<sup>27</sup> The percentage shares of Catholics in 1900 in Germany, the Netherlands, and Switzerland were 35.7%, 35.1%, and 39.9%, respectively.

country context. The basic idea is to focus on within-country variation at the industry level. In Rajan and Zingales’ study, the question is whether financial development has a causal effect on economic growth. If this is true, the authors argue, then industries that are more dependent on external finance should have relatively higher growth rates in countries with more developed financial markets. That is, if the dependent variable is the growth rate in industry  $j$  and country  $k$ , then—controlling for country and industry fixed effects—the interaction term between industry  $j$ ’s dependence on external finance and country  $k$ ’s financial development should be positive. As Rajan and Zingales note, “such a finding could be the “smoking gun” in the debate about causality”. In particular, the ability to correct for country fixed effects—which is absent in a ‘plain’ cross-country regression—alleviates possible concerns about an omitted variable bias.

Following Rajan and Zingales’ methodology, we hypothesize that industries that are more labor dependent should have relatively more family ownership in countries with worse labor relations. When constructing our measure of industries’ labor dependence, we encounter the same conceptual issue as Rajan and Zingales do when constructing their measure of industries’ dependence on external finance: It is problematic to use data on the actual labor shares in each country, for this information already reflects an equilibrium outcome that is likely to depend on the qualities of countries’ labor relations. Like Rajan and Zingales do in their study, we therefore use the United States as our benchmark to compute labor shares for the various industries. Following standard practice, we compute the labor share of industry  $j$  as  $vl_j/(vl_j + vk_j)$ , where  $vl_j$  and  $vk_j$  denote the values of labor inputs and capital services, respectively, for industry  $j$  in 1995.<sup>28</sup> Column (i) of Table 7 reports the labor shares for each industry.

As Rajan and Zingales point out, the use of U.S. data as a proxy for industries’ dependence (here: on labor) in other countries rests on the assumption that there are technological reasons for why some industries are more labor dependent than others, and these technological differences are comparable across countries. We believe this is a reasonable assumption in our case, for the countries in our sample are all Western European countries whose industries are likely to have a similar level of technological development as their U.S. counterparts. Moreover, to the extent

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<sup>28</sup>The data to compute labor shares come from Dale Jorgenson’s website at Harvard. The year 1995 is the last available year in the dataset (35klem96.dat).

that our U.S.-based measure is a noisy proxy of industries' labor dependence in other countries, it will only create a bias against finding any significant results.

Our ownership data is based on Faccio and Lang's (2002) sample of 5,232 Western European firms. For 853 firms we lack the industry classification, leaving us with a final sample of 4,379 firms from 13 Western European countries.<sup>29</sup> Columns (ii) and (iii) of Table 7 report the number of firms and the mean fraction of firms controlled by families (20% cutoff), respectively, for each industry. For any given industry  $j$  and country  $k$ , we compute the mean fraction of firms controlled by families in the respective industry and country. Since we have 19 industries and 13 countries, this implies a total of 247 potential observations. In 17 cases there are no firms in a given industry and country, implying that our final sample consists of 230 observations. Column (iv) of Table 7 reports the averages of the country means for each industry.

The first equation we estimate includes both industry- and country-level controls but no fixed effects. It is:

$$\text{Fam}_{jk} = \alpha + \beta' \text{Controls}_{j,k} + \gamma \text{Labor Share}_j \times \text{Cooperative Labor Relations}_k + \varepsilon_{jk}, \quad (4)$$

where  $\text{Fam}_{jk}$  is the mean fraction of firms controlled by families in industry  $j$  and country  $k$ , and where  $\text{Controls}_{j,k}$  includes—besides  $\text{Labor Share}_j$  and  $\text{Cooperative Labor Relations}_k$ —the log of the total population in 1995. Standard errors are clustered at the country level.<sup>30</sup> As column (i) of Table 8 shows, the interaction term between  $\text{Labor Share}_j$  and  $\text{Cooperative Labor Relations}_k$  is negative and significant at the 1% level, implying that industries that are more labor dependent have relatively more family ownership in countries with worse labor relations. Also noteworthy is that the coefficient associated with  $\text{Labor Share}_j$  is positive and significant, implying that industries that are more labor dependent have more family ownership. This last result is not surprising. After all, the origins of the widely held firm in the United States go back to the enormous financing needs by heavily capital-intensive industries—in particular utilities and textile manufacturing—in the early 19th century. The breakthrough, of course, came in the mid 19th century with the growth of the railroad industry (Berle and Means, 1932).<sup>31</sup>

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<sup>29</sup>We are grateful to Mara Faccio for providing us with the industry classifications.

<sup>30</sup>The results are similar if we cluster standard errors at the industry level.

<sup>31</sup>“Railroad construction, involving a heavy initial outlay of capital, almost necessitated recourse to the cor-

Before we proceed, let us quickly verify that the magnitude of the coefficient associated with Cooperative Labor Relations is consistent with our previous results. When we rerun the regression displayed in column (i) of Table 4—which has the fraction of firms controlled by families (20% cutoff) as the dependent variable—for the 13 Western European countries in Faccio and Lang (2002), we obtain a point estimate of -0.072 for the coefficient associated with Cooperative Labor Relations. As can be easily computed from Table 7, the average labor share across all industries, weighted by the number of firms in each industry, is approximately 0.632. Hence, we can compute the total coefficient associated with Cooperative Labor Relations from column (i) of Table 8 as  $0.066 + 0.632 \times (-0.207) \approx -0.065$ , which is close to our previous estimate of -0.072.<sup>32</sup>

The possibility that there might be omitted variables—at either the country or industry level—that drive both our dependent and our main independent variable (i.e., the interaction term) is major concern in the debate about causality. Correcting for industry and country fixed effects alleviates this concern. The next regression we run therefore includes—instead of specific industry- and country-level controls—industry and country fixed effects, implying that the only effects that are identified are those relative to variables that vary both across countries and across industries. The equation we estimate is:

$$\text{Fam}_{jk} = \alpha + \beta \text{Labor Share}_j \times \text{Cooperative Labor Relations}_k + \eta_j + \xi_k + \varepsilon_{jk}, \quad (5)$$

where  $\eta_j$  and  $\xi_k$  are industry and country dummies, respectively. As column (ii) of Table 8 shows, the interaction term between  $\text{Labor Share}_j$  and  $\text{Cooperative Labor Relations}_k$  is again negative and significant at the 1% level, confirming that our previous results are robust to including fixed effects. Note that the magnitude of the coefficient associated with the interaction term is similar to that in column (i), while the  $R^2$  is naturally higher given that we have corrected for industry and country fixed effects. Overall, we believe these results are—in conjunction with our previous instrumental variables results—supportive of the fact that the quality of labor relations has a causal effect on the extent of family ownership.

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porate form” (Berle and Means, 1932, p. 13).

<sup>32</sup>The coefficients in Table 8 are rounded to two decimals; hence  $0.066 \approx 0.07$  and  $-0.207 \approx -0.21$ .

## 7 Strike Activity

### 7.1 Quebec versus the Rest of Canada

While our measure of the quality of labor relations can explain some of the observed variation in family ownership across countries, it is a survey-based measure. It would be interesting to know if similar results also obtained using more ‘readily observable’ measures of labor hostility, such as strike activity. We begin this final part of our study by looking at Canada. Canada is particularly interesting for our purposes, because Quebec has a French tradition, while the rest of Canada has an Anglo-Saxon tradition. Hence, we can see if our previous results also hold for different regions within a country. According to Crouch’s (1993) classification (see Section 5), France is a ‘political inhibitor’, while the United Kingdom is a ‘political neutral’. Hence, we would expect to find more labor hostility in Quebec than in the rest of Canada. And if our previous cross-country results extend to different regions within a country, then we would also expect to find that Quebec has more family ownership than the rest of Canada.

We have strike data from 1953 until 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 look at the data confirms that the average strike activity in Quebec is significantly higher than in the rest of Canada.<sup>33</sup> As for the extent of family ownership, Attig and Gadhoum (2003) provide ultimate ownership data both for Quebec separately and for Canada as a whole for the year 1996. Their sample includes 1,112 publicly held companies, 155 of which are headquartered in Quebec. Consistent with our basic hypothesis, Attig and Gadhoum find that family ownership is more pervasive in Quebec than in the rest of Canada. While 57% of all firms in Quebec are controlled by families (20% cutoff), only 38% of the firms in the rest of Canada are controlled by families. The difference is significant at the 1% level.

While these results are supportive of our basic argument, 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 rather unlikely that the observed differences in family ownership are

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<sup>33</sup>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.

due to differences in minority shareholder protection. As Attig and Gadhoun (2003) point out, “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.”

## 7.2 Strike Activity in the 1960s

We now finally return to our original cross-country study, except that we use actual strike data instead of survey-based measures of labor relations. The problem with using strike data is that strike activity commonly depends on many factors, notably unemployment. Given that we have a limited number of countries, controlling for all these factors would leave us with few degrees of freedom. Fortunately, in the 1960s many of the factors that commonly affect strike activity—including unemployment and TFP growth—were relatively uniform across Western countries, which makes this period ideal for our study. Our measure of strike activity is adopted from Blanchard and Philippon (2004), who elaborate further on the advantages of using strike data from the 1960s. Greece, Portugal, and Spain have been excluded from our sample: All three countries were dictatorships in the 1960s, and strikes were illegal.

The results of our regression, which are displayed in column (i) of Table 9, confirm our previous findings using survey-based measures of the quality of labor relations: Strike activity in the 1960s is positively related to the extent of family ownership thirty years later, and the result is significant at the 5% level.<sup>34</sup> Prima facie, reverse causality should not be a major concern, as our dependent variable is from the 1990s, while our independent variable is from the 1960s. And yet, given that the dependent variable may be persistent, we cannot rule out reverse causality. To address this concern, we instrument strike activity in the 1960s using Labor Origin (see Section 5). The results of the first-stage regression, which are displayed in column (ii) of Table 9, show that Labor Origin has a significant effect on strike activity in the 1960s. More importantly, the results of the second-stage regression, which are displayed in column (iii), confirm our previous OLS results that strike activity in the 1960s has a positive effect on the extent of family ownership thirty years later.

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<sup>34</sup>In fact, it is significant at the 2% level.

## 8 Conclusion

Why do some countries have more family ownership than others? One explanation, which is supported by the empirical evidence, is that family ownership is an optimal response to insufficient legal protection of minority shareholders (La Porta, Lopez-de-Silanes, and Shleifer, 1999). This argument is consistent with the widely held view that the ownership structure of firms is chosen to minimize the agency costs arising from conflicts between shareholders and management (Jensen and Meckling, 1976).

Rather than focusing on the shareholder-manager conflict, this paper focuses on labor conflict to explain cross-country differences in family ownership. Using survey-based measures of the quality of labor relations, we find that countries with hostile labor relations have relatively more family ownership than do countries with cooperative labor relations. This result holds for different measures of family ownership as well as different subsamples (e.g., Asia, Europe, Western Countries). The result also holds if we control for minority shareholder protection, law enforcement, stock market development, income inequality, labor regulation, union bargaining power, and other potential determinants of family ownership, including measures of social capital. Finally, the result holds if—instead of using survey-based measures of the quality of labor relations—we use actual strike data from the 1960s. As it turns out, strike activity in the 1960s can predict cross-country variation in family ownership thirty years later.

We address causality in two different ways. First, we look into the historical causes for the observed differences in the quality of labor relations across countries. Based on differences in the way the emerging European liberal states in the 18th and 19th centuries dealt with guilds and labor organizations, we obtain an instrument for our survey-based measure of the quality of labor relations. The instrumental variables results support our previous OLS results. The second way to address causality is to make use of within-country variation at the industry level. We find that—controlling for industry and country fixed effects—industries that are more labor dependent have relatively more family ownership in countries with worse labor relations, which, again, supports our previous OLS results.

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Table A: Strike Activity and Union Density in Publicly Listed French Firms

	(i)	(ii)
Dependent Variable	Strike Activity	Union Density
Widely Held Firm	<b>1.14</b>	<b>6.85</b>
	4.35	2.53
Log(Employees)	<b>0.42</b>	<b>0.10</b>
	3.50	0.07
Industry Fixed Effects	YES	YES
N	408	278
R <sup>2</sup>		0.10

Notes: Logit (column (i)) and OLS (column (ii)) regressions. Coefficients are in bold, z- and t-statistics, respectively, are listed below the coefficients. 'Strike Activity' is a dummy taking the value zero if the firm witnessed no strike in the three years prior to 1998, when the Enquête Réponses survey was conducted. 'Union Density' is the percentage of firm employees that are unionized. 'Widely Held Firm' is a dummy taking the value zero if the founder or a member of the founder's family holds at least 20% of the voting rights. For a description of the firm data, see Sraer and Thesmar (2004).

Table 1: Description of Variables

Variable	Description and Data Source
Fraction of Firms Controlled by Families	See Section 3.1 for a description. Sources: Claessens, Djankov, and Lang (2000), Tables 6 and 9; Faccio and Lang (2002), Tables 3 and 10; Gadhoun, Lang, and Young (2005), Table 1.
Fraction of Total Market Capitalization Controlled by Top 5 Families	
Fraction of Medium-Sized Firms Controlled by Families	See Section 3.1 for a description. Source: La Porta, Lopez-de-Silanes, and Shleifer (1999), Tables II, III, and V.
Fraction of Value of Top 20 Firms Controlled by Families	
Fraction of Top 20 Firms Controlled by Families	
Fraction of Top 10 Business Groups Controlled by Families	See Section 3.1 for a description. Source: Fogel (2005), Table I.
State Ownership	See Section 3.1 for a description. Sources: Faccio and Lang (2002), Tables 3; Gadhoun, 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 <a href="http://post.economics.harvard.edu/faculty/shleifer/Data/gbk_allvar.xls">http://post.economics.harvard.edu/faculty/shleifer/Data/gbk_allvar.xls</a> .
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 <a href="http://post.economics.harvard.edu/faculty/shleifer/Data/labor_dataset_4_01_03.xls">http://post.economics.harvard.edu/faculty/shleifer/Data/labor_dataset_4_01_03.xls</a> .
Labor Share	See Section 6 for a description, and Jorgenson and Stiroh (2000) for a further discussion of the data. Source: <a href="http://post.economics.harvard.edu/faculty/jorgenson/data/35klem.html">http://post.economics.harvard.edu/faculty/jorgenson/data/35klem.html</a> .

Labor Origin	See Section 5 for a description. Source: Crouch (1993), Chapter 9.
Income Inequality	Gini coefficient from early 1990s. See La Porta et al. (1998) for a description. Source: "gini" from <a href="http://post.economics.harvard.edu/faculty/shleifer/Data/trustvar.xls">http://post.economics.harvard.edu/faculty/shleifer/Data/trustvar.xls</a> .
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: <a href="http://post.economics.harvard.edu/faculty/shleifer/Data/l&amp;fweb.xls">http://post.economics.harvard.edu/faculty/shleifer/Data/l&amp;fweb.xls</a> .
Efficiency of Judicial System	
Repudiation of Contracts by Government	
Risk of Expropriation	
Collective Bargaining Index	See Botero et al. (2004) for a description. Sources: 'index_col_barg1' and 'index_emp_prot1', respectively, from <a href="http://post.economics.harvard.edu/faculty/shleifer/Data/labor_dataset_4_01_03.xls">http://post.economics.harvard.edu/faculty/shleifer/Data/labor_dataset_4_01_03.xls</a> .
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 trusted. Source: item A165 in the 2000 World Values Survey (Inglehart et al., 2004).
Importance of Family	Measures the extent to which people believe that family is important. Source: item A001 in the 2000 World Values Survey (Inglehart et al., 2004).
Confidence in Major Companies	Measures the extent to which people have confidence in major companies. Source: item E081 in the 2000 World Values Survey (Inglehart et al., 2004).
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: <a href="http://post.economics.harvard.edu/faculty/shleifer/Data/qgov_web.xls">http://post.economics.harvard.edu/faculty/shleifer/Data/qgov_web.xls</a> .

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 account for the missing entries in the two 'FL & CDL' columns. See Section 3.1 for further details.

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: Family Ownership 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: Family Ownership 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: Family Ownership 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

3e: 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: Family Ownership and Labor Relations

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Dependent Variable	Fraction of Firms Controlled by Families	Fraction of Total Market Capitalization Controlled by Top 5 Families	Principal Component of Family Control	Fraction of Top 10 Business Groups Controlled by Families			
Sample	All Countries	All Countries	Asia	FL + US	West	All Countries	All Countries
Cooperative Labor Relations	<b>-0.09</b>	<b>-0.05</b>	<b>-0.68</b>	<b>-0.91</b>	<b>-0.86</b>	<b>-0.71</b>	<b>-0.13</b>
	-4.00	-3.30	-3.81	-3.59	-3.49	-5.10	-2.74
Log(Population)	<b>-0.06</b>	<b>-0.02</b>	<b>-0.99</b>	<b>-0.58</b>	<b>-0.55</b>	<b>-0.47</b>	<b>-0.1</b>
	-2.65	-1.35	-4.41	-2.81	-2.83	-3.05	-1.88
Log(GNP_Per_Capita)			<b>-0.72</b>	<b>1.22</b>	<b>0.55</b>		
			-3.29	1.64	0.84		
Asia Dummy						<b>12.90</b>	<b>1.68</b>
						3.00	1.15
Asia Dummy * Log(Population)						<b>-0.53</b>	<b>-0.03</b>
						-1.92	-0.29
Asia Dummy * Log(GNP_Per_Capita)						<b>-0.70</b>	<b>-0.14</b>
						-2.80	-1.62
N	30	30	9	14	21	30	30
R <sup>2</sup>	0.38	0.30	0.90	0.46	0.48	0.70	0.42
Adj. R <sup>2</sup>	0.33	0.24	0.84	0.36	0.38	0.64	0.30

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 Gadhoun, 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, and New Zealand. 'All Countries' includes all countries from Table 2a.

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

	(i)	(ii)	(iii)	(iv)	(v)
Dependent Variable	Principal Component of Family Control				
Cooperative Labor Relations	<b>-0.65</b>	<b>-0.62</b>	<b>-0.63</b>	<b>-0.64</b>	<b>-0.76</b>
	-5.79	-3.16	-4.17	-3.70	-5.22
Log(Population)	<b>-0.36</b>	<b>-0.48</b>	<b>-0.37</b>	<b>-0.42</b>	<b>-0.49</b>
	-2.86	-2.87	-2.25	-2.39	-3.17
Asia Dummy	<b>18.14</b>	<b>11.87</b>	<b>11.29</b>	<b>15.38</b>	<b>10.73</b>
	4.59	2.54	2.32	2.80	2.28
Asia Dummy * Log(Population)	<b>-0.95</b>	<b>-0.56</b>	<b>-0.54</b>	<b>-0.70</b>	<b>-0.45</b>
	-3.79	-2.00	-1.99	-1.94	-1.56
Asia Dummy * Log(GNP_Per_Capita)	<b>-0.77</b>	<b>-0.57</b>	<b>-0.57</b>	<b>-0.76</b>	<b>-0.58</b>
	-3.19	-1.81	-1.77	-2.86	-2.12
Oppressed Minorities Mechanism (LLSV)	<b>-1.19</b>				
	-3.99				
Preemptive Right to New Issues (LLSV)	<b>-0.42</b>				
	-1.54				
Percentage of Share Capital to Call Extraordinary Shareholder Meeting (LLSV)	<b>-6.28</b>				
	-2.21				
Rule of Law (LLSV)		<b>0.06</b>			
		0.46			
Efficiency of Judicial System (LLSV)		<b>-0.16</b>			
		-1.26			
Repudiation of Contracts by Government (LLSV)			<b>0.48</b>		
			1.20		
Risk of Expropriation (LLSV)			<b>-0.77</b>		
			-1.66		
Stock Market Capitalization/GDP				<b>-0.34</b>	
				-0.74	
Income Inequality					<b>0.03</b>
					1.10
N	29	30	30	30	30
R <sup>2</sup>	0.84	0.73	0.74	0.71	0.72
Adj. R <sup>2</sup>	0.77	0.64	0.66	0.63	0.64

Notes: OLS Regressions. Coefficients are in bold, t-statistics are listed below the coefficients. 'LLSV' is La Porta et al. (1998). The samples include all countries from Table 2a, except for column (i) (Philippines missing).

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

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

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

Dependent Variable	(i)	(ii)
	Cooperative Labor Relations	Principal Component of Family Control
Cooperative Labor Relations		<b>-0.89</b>
		-4.31
Log(Population)	<b>-0.66</b>	<b>-0.66</b>
	-3.35	-3.29
English Legal Origin	<b>0.72</b>	<b>-0.9</b>
	1.3	-2.56
German Legal Origin	<b>-0.12</b>	<b>1.37</b>
	-0.21	4.09
Neutral Labor Origin	<b>0.96</b>	
	1.8	
Cooperative Labor Origin	<b>1.92</b>	
	2.66	
	2SLS (First Stage)	2SLS (Second Stage)
N	15	15
R <sup>2</sup>	0.84	0.89

Notes: Coefficients are in bold, t-statistics are listed below the coefficients. The sample includes the 13 countries from Faccio and Lang (2002) plus 2 additional countries with predicted values using data from La Porta, Lopez-de-Silanes, and Shleifer (1999): Denmark and the Netherlands.

Table 7: Family Ownership Across Industries and Countries - Summary Statistics

	(i)	(ii)	(iii)	(iv)
Variable	Labor Share	Number of Firms	Fraction of Firms Controlled by Families (All Firms)	Fraction of Firms Controlled by Families (Average of Country Means)
Mining, Oil, and Gas	0.39	126	0.41	0.53
Construction	0.89	174	0.41	0.45
Food	0.57	209	0.59	0.63
Wood, Lumber, and Paper	0.68	140	0.56	0.63
Printing and Publishing	0.76	88	0.58	0.66
Chemicals	0.55	168	0.49	0.43
Rubber, Plastics, Stone, Glass, and Concrete	0.79	182	0.60	0.67
Primary Metals	0.76	91	0.45	0.39
Fabricated Metals	0.71	107	0.43	0.43
Industrial, Commercial Machinery, and Computer Equipment	0.79	234	0.51	0.49
Electronic, Electrical, and Measuring Equipment	0.70	240	0.48	0.47
Transportation Equipment	0.81	121	0.48	0.55
Miscellaneous Manufacturing	0.65	190	0.60	0.74
Transportation Services	0.76	167	0.52	0.53
Communication and Entertainment	0.46	117	0.42	0.46
Electric, Gas, and Sanitary Services	0.35	140	0.35	0.30
Wholesale and Retail Trade	0.78	573	0.46	0.61
Finance, Insurance, and Real Estate	0.43	1023	0.32	0.38
Miscellaneous Business Services	0.72	289	0.45	0.53

Notes: 'Labor Share' is computed as  $v_l/(v_l+v_k)$ , where  $v_l$  and  $v_k$  denote the values of labor inputs and capital services, respectively, for the United States in 1995. See Jorgenson and Stiroh (2000) for a description of the data. The sample is based on the 5,232 firms and 13 Western European countries from Faccio and Lang (2002). For 853 firms the industry classification is unavailable, reducing the final sample to 4,379 firms.

Table 8: Family Ownership Across Industries and Countries

Dependent Variable	(i)	(ii)
	Fraction of Firms Controlled by Families	Fraction of Firms Controlled by Families
Labor Share * Cooperative Labor Relations	<b>-0.21</b>	<b>-0.19</b>
	-3.18	-2.90
Cooperative Labor Relations	<b>0.07</b>	
	1.00	
Labor Share	<b>1.60</b>	
	3.77	
Log(Population)	<b>-0.01</b>	
	-0.18	
Country Fixed Effects	NO	YES
Industry Fixed Effects	NO	YES
N	230	230
R <sup>2</sup>	0.12	0.42

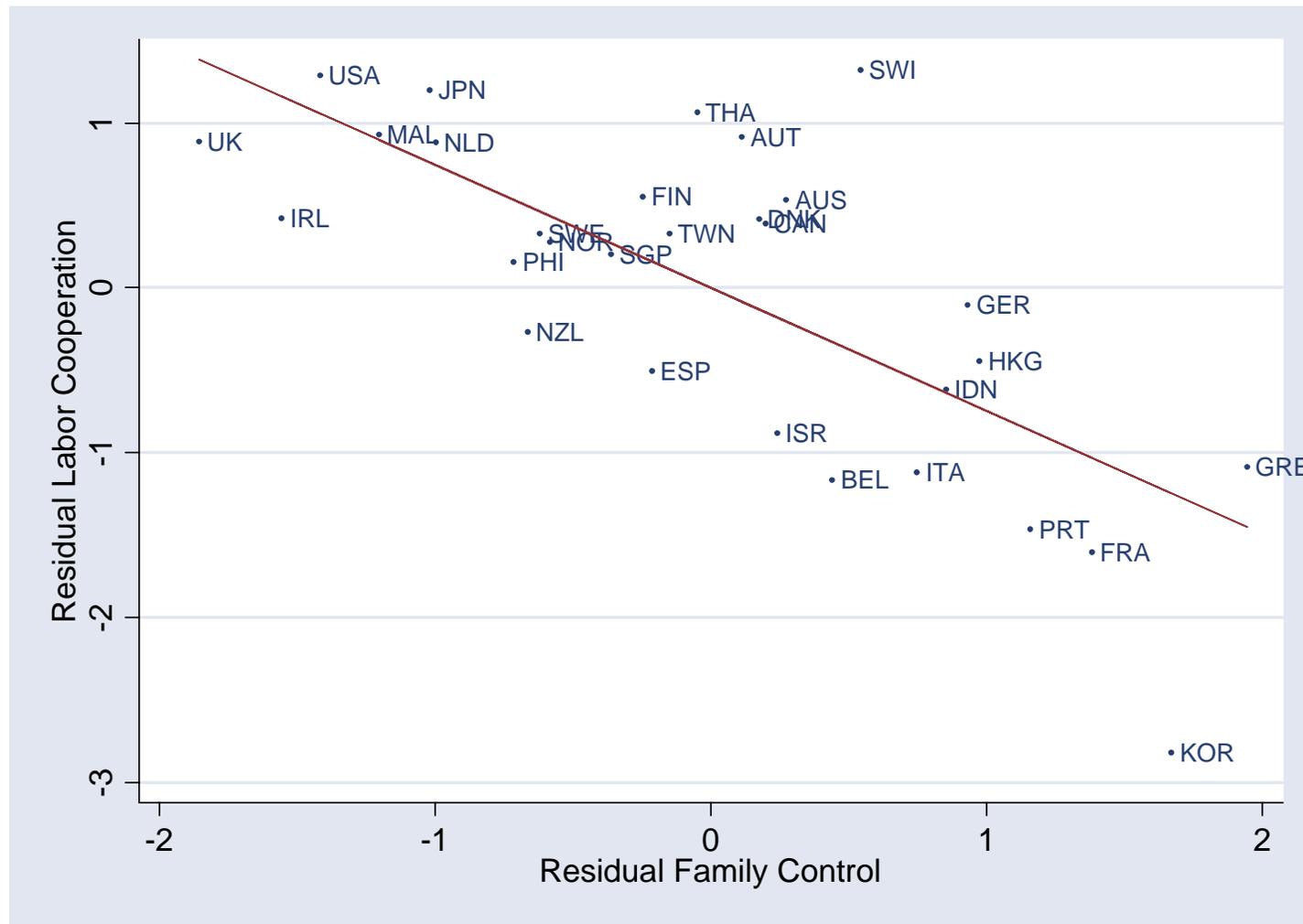
Notes: OLS regressions. Coefficients are in bold, t-statistics are listed below the coefficients. Standard errors are clustered at the country level. The sample is based on the 4,379 firms, 19 industries, and 13 Western European countries from Table 7. An observation is the mean fraction of firms controlled by families in industry j and country k; hence there are 13 x 19 = 247 potential observations. There are 17 missing observations, i.e., there is no firm in a particular industry and country, reducing the final sample to 230 observations.

Table 9: Strike Activity in the 1960s and Family Ownership in the 1990s

Dependent Variable	(i)	(ii)	(iii)
	Principal Component of Family Control	Strike Activity in the 1960s	Principal Component of Family Control
Strike Activity in the 1960s	<b>0.61</b>		<b>0.52</b>
	2.82		2.72
Log(Population)	<b>-1.45</b>	<b>-0.08</b>	<b>-0.05</b>
	-1.04	-1.29	-0.37
English Legal Origin	<b>-0.96</b>	<b>0.85</b>	<b>-1.83</b>
	-2.72	5.15	-4.85
German Legal Origin	<b>0.94</b>	<b>0.14</b>	<b>0.85</b>
	2.01	0.64	2.35
Neutral Labor Origin		<b>-2.6</b>	
		-12.26	
Cooperative Labor Origin		<b>-2.8</b>	
		-11.49	
	OLS	2SLS (First Stage)	2SLS (Second Stage)
N	17	13	13
R <sup>2</sup>	0.62	0.98	0.82

Notes: Coefficients are in bold, t-statistics are listed below the coefficients. In column (iii) 'Strike Activity in the 1960s' is instrumented using Labor Origin. The sample in column (i) includes the 13 countries from Faccio and Lang (2002), except for Portugal and Spain, plus the United States from Gadhoom, Lang, and Young (2005), plus 5 additional countries with predicted values using data from La Porta, Lopez-de-Silanes, and Shleifer (1999): Australia, Canada, Denmark, the Netherlands, and New Zealand. The samples in columns (ii) and (iii) include the 15 countries from Table 6, except for Portugal and Spain. Portugal and Spain have been excluded because they were dictatorships in the 1960s, and strikes were illegal.

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.