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Do Investors Value Insider Trading Laws? International Evidence

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Abstract

The article presents a simple agency model of the relationship between corporate valuation and insider trading laws. The article then investigates the model's three testable hypotheses using firm-level data from a cross-section of developed countries. I find that more stringent insider trading laws and enforcement are associated with greater corporate valuation among the sample firms in common countries, while they are generally irrelevant to corporate valuation for the sample firms in civil law countries. This puzzling dichotomy is robust to various alternative specifications and to controlling for a wide range of potentially omitted variables. The result for the firms in common law countries is consistent with the claim that insider trading laws can help to reduce corporate agency costs. I also find that insider trading laws and cash flow ownership appear to be complementary means to reduce agency costs, contrary to my hypothesis that they are substitute mechanisms for controlling agency costs; however, this result is generally statistically insignificant. Finally, I confirm prior findings of an "incentive effect" of greater cash flow ownership by controlling shareholders.

JEL Class: G30, G38, K22

Key Words: Corporate Finance and Law, Governance, Valuation, Capital Budgeting, Investment policy, Comparative Law, International Business

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I. Introduction

Insider trading has long been debated in the law and economics literature. The main issue in the debate is whether insider trading is efficiency improving or efficiency reducing, either at the firm level or for the stock market as a whole. At the firm level, the debate concerns the agency implications of insider trading; that is, the effect of insider trading on agency costs *within* the firm. At the market level, the debate concerns the effect of insider trading on characteristics of the stock market, such as stock market liquidity and volatility and stock price efficiency or accuracy. This study focuses on the agency implications of insider trading; thus, the inquiry here occurs at the *firm level*.

The debate about the agency implications of insider trading is at bottom a debate about whether insider trading should be publicly regulated or left as a matter for *private contracting*. There are three main positions in the debate. The first position, held by some opponents of insider trading laws, is that insider trading is efficient and thus a mandatory prohibition is inefficient (e.g., Manne 1966; and Carlton and Fischel 1983). The second position, held by proponents of insider trading laws, is that insider trading is inefficient and thus a mandatory prohibition is efficiency-enhancing (e.g., Cox 1986; Manove 1989; Kraakman 1991; and Klock 1994). Those who hold the third position believe that insider trading may be efficient or inefficient depending on the firm and, in either event, prefer private contracting over regulation because they believe that private parties are more capable than the government of assessing the effect of insider trading on the corporation (see, e.g., Haddock and Macey 1987; Epstein 2004). Scholars who take the third position believe that if insider trading is detrimental to a firm, the firm's shareholders will privately prohibit insider trading.

The impact of insider trading on agency costs is thus an interesting empirical question with important policy implications. However, until recently, the insider trading debate was not informed by empirical evidence, although law and economics scholars have stressed the need for empirical evidence (see, e.g., Carlton and Fischel 1983 and Easterbrook 1985).¹ The main evidence adduced in the law and economics debate was

¹ Recent empirical studies on insider trading laws and enforcement include Ackerman and Maug (2006); Beny (2005, 2007); Bhattacharya and Daouk (2002, 2005); Bris (2005); and Durnev and Nain (2005). All of these studies provide evidence on the cross-country implications of insider trading laws and enforcement.

the historical survival of insider trading in the United States, prior to the enactment of prohibiting legislation, without any apparent attempt by private parties to prohibit insider trading. Carlton and Fischel (1983) argue that this evidence suggests that shareholders did not perceive insider trading to increase agency costs because, if they had, they would have prohibited insiders to trade via private contracting. In contrast, Easterbrook (1985) argues that the historical survival of insider trading without the emergence of private contracts prohibiting insider trading could simply have meant that the costs of such contracting was too high (see also Cox 1986).

Now that insider trading is illegal in virtually every country with a public stock market (Bhattacharya and Daouk 2002), it is impossible to test whether private contracting is superior to a mandatory ban. However, we may assess the debate empirically within the current regulatory environment by exploiting international variation in the strength of insider trading laws and enforcement.² This article does that. Using firm level data for firms from a cross-section of firms from twenty seven wealthy countries, I examine the relationship between insider trading laws and corporate valuation, a proxy for agency costs (Morck, Shleifer, and Vishny 1988).³ The article has two main results. The first result is that insider trading laws and enforcement are associated with higher corporate valuation for the sample firms in common law countries, but not for the sample firms in civil law countries. The second result is that cash flow ownership and insider trading laws do not appear to be substitute means to control agency costs within the firm, as I hypothesize.⁴

The studies that are most closely related to this one include La Porta et al. (2002) and Bhattacharya and Daouk (2002). La Porta et al. (2002) assess the agency implications of legal investor protections by examining the relationship between investor protection and corporate valuation at the firm level across twenty seven developed countries. They find that corporate valuation is higher for firms in countries whose

² This is not possible at the domestic level unless, like Canada, a country exhibits state/provincial variation in its insider trading laws and enforcement.

³ In contrast, it is only an indirect test of the agency implications of insider trading per se.

⁴ If anything, my evidence suggests that insider trading laws and ownership are complementary ways to mitigate agency costs, although this result is generally statistically insignificant.

corporate laws are more protective of minority investors.⁵ La Porta et al.'s (2002) main measures of investor protection are common law (versus civil law) legal origin and their index of anti-director rights. In this article, I use La Porta et al.'s (2002) firm level data and supplement it with an index of formal insider trading law (Beny 2005, 2007) and other data. Bhattacharya and Daouk (2002) study the effect of enactment and enforcement of insider trading laws on the cost of capital across countries. They find that the cost of equity in a country decreases significantly after its insider trading laws have been enforced for the first time, while merely enacting the law has no impact on the cost of equity. Bhattacharya and Daouk (2002) use country-level stock market indices. That distinguishes their study from mine, since my inquiry concerns the firm-level (agency) implications of insider trading laws.

Three recent empirical studies investigate the implications of insider trading laws across countries (Durnev and Nain 2005; Bris 2005; and Maug 2006). All of these studies use Beny's (2005) insider trading law index. Durnev and Nain (2005) examine the effect of insider trading laws on the amount of private information trading. They find that insider trading laws reduce private information trading, but less "so when control rights are concentrated" (p. 2). Bris (2005) uses event study methodology to investigate the effect of insider trading laws and enforcement on the incidence and profitability of insider trading across countries. Paradoxically, he finds that both the (imputed) frequency and profitability of insider trading on private information about an impending acquisition increase after a country has enforced its insider trading laws for the first time, a result that he attributes to the fact that enforcement of insider trading laws makes the market more efficient.⁶ However, Bris (2005) also finds that more stringent formal insider trading laws (as measured by Beny 2005) reduce the profitability of insider trading on private information about an impending acquisition. Finally, Ackerman and Maug (2006) find "that insider trading laws are associated with a significant shift in the informational environment surrounding acquisition announcements [and] this impact is

⁵ They also find that corporate valuation is higher for firms in which the controlling shareholder owns a larger share of the firm's equity.

⁶ According to Bris (2005), because the stock market is more efficient after insider trading laws have been enforced, the announcement effect (measured as the abnormal return on the announcement date relative to total cumulative abnormal return in a 100 day window preceding announcement of the acquisition) is larger after insider trading laws have been enforced for the first time.

often fully realized...before the law has been enforced for the first time.”⁷ However, this result holds only for countries with strong legal systems. In countries with weak legal systems “only subsequent enforcement” – not the mere enactment of insider trading laws – changes the informational environment (Ackerman and Maug 2006, pp. 2-3).⁸

The foregoing recent studies are distinguishable from this article in that they do not directly address the agency implications of insider trading laws (although they might help shed light on some of the results, as I discuss below). The remainder of the article is organized as follows. Part II reviews the existing law, economics and finance literature that conceives of insider trading as an agency issue. Part III presents a simple agency model of the relationship between corporate valuation and insider trading laws and three testable hypotheses. Part IV describes the data and reports summary statistics. Part V presents the regression results. Finally, Part VI concludes.

II. Insider Trading as an Agency Issue: Existing Literature

A. The Law and Economics Literature

Manne (1966) argues that insider trading is valuable to the firm because it motivates insiders to be more entrepreneurial. According to Manne (1966), “entrepreneurs” within the firm and their productive output are difficult to identify in advance. This makes *ex ante* compensation contracts inefficient. Insider trading enables entrepreneurs to be rewarded in direct proportion to and contemporaneously with their innovations. Since it maximizes their incentives to innovate, insider trading is the best way to compensate entrepreneurs, Manne (1966) argues.

Carlton and Fischel (1983) frame Manne’s (1966) efficient compensation thesis within agency and contract theory. They argue that insider trading is efficient because it reduces agency costs. In their view, relying on capital and product markets to incentivize managers is insufficient because these markets work imperfectly. *Ex ante* compensation contracts are also inadequate, in their view, because these contracts often require costly “periodic renegotiations *ex post* based on (imperfectly) observed effort and output”

⁷ In particular, they find “that...[p]assing insider trading laws reduces predictability [of announcement returns] to almost zero” (Ackerman and Maug 2006, p.2).

⁸ Ackerman and Maug (2006) explain this difference: “market participants anticipate future enforcement actions by regulatory authorities...this effect is concentrated in countries with high quality legal systems [where] investors change their behavior after insider trading laws have been enacted

(Carlton & Fischel, 1983, p. 869). In contrast, insider trading enables managers continually to update their compensation in light of new information without incurring renegotiation costs. In this manner, insider trading increases managers' incentives by linking their "fortunes more closely to those of the firm" (Carlton and Fischel 1983, p. 877). Carlton and Fischel (1983) also argue that insider trading improves the managerial labor market by reducing screening and monitoring costs because the most capable and least risk averse managers will self-select into the firms that permit insider trading. In turn, lower screening and monitoring costs imply lower agency costs.

Law and economics proponents of insider trading regulation argue that rather than aligning shareholders' and manager's interests, insider trading might exacerbate agency costs. Kraakman (1991) argues that insider trading might worsen agency costs by distorting the managerial wage-setting process. By engaging in insider trading, managers might be able ex post to undo an efficient ex ante compensation contract and thereby sabotage performance-based compensation schemes intended to calibrate pay to productivity (Kraakman 1991). Cox (1986) argues that it is very difficult in practice to ensure that those who produce valuable information (i.e., entrepreneurial innovations) are the only ones who are able to profit from it. And, Haft (1982) argues, this could lead to information hoarding where the firm's true entrepreneurs hold their information close to their chests in order to maintain a monopoly on insider trading profits, thus reducing productive efficiency.

Some law and economics scholars claim that allowing managers to trade on inside information might give them incentives to take on too much risk or to undertake value-reducing projects (Kraakman 1991; Klock 1994). Since insider trading is more profitable the more volatile are stock prices, it might encourage managers to engage in excessively risky investment behavior by undertaking overly risky projects that create private opportunities for profitable insider trading but that reduce corporate value (Kraakman 1991). In addition, since managers can profit from insider trading whether the firm is performing poorly or well, insider trading increases managers' incentives to underperform by making them indifferent between whether the firm is doing well or poorly

and...before they have been enforced [while i]n countries with less effective legal systems laws may have no impact as investors anticipate that they will not be enforced" (Ackerman and Maug 2006, pp. 2-3).

(Anabtawi 1989; Kraakman 1991; Klock 1994). If corporate insiders are permitted to sell the firm's shares short, the potential problems of excessive risk-taking and compensation unbundling induced by insider trading may be exacerbated (Klock 1994). In response, some legal scholars argue that insider trading mitigates managers' excessive risk-aversion (Carlton and Fischel 1983).

Finally, some law and economics scholars concede that even if insider trading might in some cases be harmful to the firm, a one-size fits all prohibition is inferior to private contracting and therefore firms should be permitted to devise their own insider trading policies (Haddock and Macey 1987; Epstein 2004).

B. The Economics and Finance Literature

Like the legal literature, the economics literature contains conflicting accounts of the agency cost implications of insider trading. Consistent with Manne (1966) some economic studies suggest that insider trading is associated with greater corporate valuation. For example, Dye (1984) shows that insider trading may be beneficial to shareholder wealth, by functioning as a mechanism for improving upon earnings-contingent contracts. In the context of principal-agent models, Bebchuk and Fershtman (1993, 1994) show that insider trading might be value enhancing by increasing managers' effort levels (Bebchuk and Fershtman, 1993) or by causing insiders to select riskier investment projects that they would reject if they were not allowed to trade on inside information (Bebchuk and Fershtman, 1994). Finally, Noe (1997) suggests that even if insider trading does not increase insiders' effort levels, it might still be cheaper (i.e., involve lower managerial rents) than standard compensation contracts that involve above-reservation payments to managers.

Other economic studies suggest that insider trading might be detrimental to corporate value. Manove (1989) demonstrates that adverse selection caused by insider trading might reduce firm value by discouraging corporate investment, since corporate insiders "with private information are able to appropriate some part of the returns to corporate investments made at the expense of other shareholders" (Manove 1989, p. 823). Douglas (1989) also shows that the information asymmetry due to insider trading transfers wealth from shareholders to insiders. Finally, Bebchuk & Fershtman (1990) show that insider trading may increase managers' incentives to "waste" corporate value,

by giving them incentives to make decisions based on maximizing their trading profits rather than corporate value.

Some studies address the relationship between insider trading and large shareholders' incentives to monitor corporate insiders.⁹ By virtue of their greater ownership stake, large shareholders have greater access to inside information and are able to make superior trading profits relative to other shareholders. These profits compensate large shareholders for monitoring and the risks attendant to holding undiversified portfolios (Demsetz, 1986; Bhidé, 1993). Restricting such compensation by limiting or outright prohibiting insider trading might reduce their incentives to monitor (Demsetz, 1986; Bhidé, 1993), by raising the costs and liabilities of an active shareholding (Bhidé, 1993).

In contrast, Maug (2002) suggests that large shareholders might use their dominance in the service of their own interests at the expense of outside shareholders if they are permitted to engage in insider trading.¹⁰ Maug (2002) shows how insider trading legislation might distort large shareholders' choice between monitoring and expropriating outside investors. In his model, managers may bribe dominant shareholders not to monitor the firm when it is performing badly by sharing private information with them. If the firm's stock is sufficiently liquid, trading on such information is profitable and large shareholders would rather trade on this information than monitor the firm. In summary, Maug (2002) demonstrates that, conditional on the stock's liquidity, when insider trading is legal, dominant shareholders are more likely collude with managers at the expense of minority shareholders in exchange for trading profits, whereas when insider trading is illegal, dominant shareholders are more likely to monitor managers than to trade.

This article differs from the prior literature on insider trading and agency costs in several respects. First, both the model and the empirical tests developed below explicitly

⁹ See generally Demsetz (1986), Shleifer and Vishny (1986) and Bhidé (1993) on the potential value-enhancing monitoring role played by large shareholders.

¹⁰ Along similar lines, La Porta et al. (1999) suggest that the primary agency problem in firms with controlling shareholders "is not the failure of the Berle and Means (1932) professional managers to serve minority shareholders, but rather the...expropriation of such minorities...by controlling shareholders." La Porta et al. (1999), pp. 3-4. The implication is that the law should be concerned not only with preventing managerial value diversion but also with containing expropriation by large shareholders (see, e.g., La Porta et al., 1998; La Porta et al., 1999; and Bukart and Panunzi, 2006).

consider insider trading law as a determinant of insiders' incentives to maximize corporate value. In addition, responding to Easterbrook's (1985) early call for empirical studies to help resolve the ambiguity of agency theories of insider trading, the study is the first empirical study of the relationship between corporate valuation and insider trading laws across countries.¹¹ It builds upon La Porta et al.'s (2002) empirical study of the relationship between investor protection and corporate valuation.

III. Model and Testable Hypotheses

This part presents a simple agency model of insider trading and corporate valuation that generates three testable hypotheses. The model is similar to standard agency models of corporate value diversion (e.g., Jensen and Meckling, 1976; La Porta et al., 2002). The corporate insider (manager or controlling shareholder) makes the firm's investment decisions. The range of investment projects among which she must choose are associated with different levels of risk, effort, and return. With perfect monitoring by outside shareholders, the insider would choose the projects associated with the effort, risk, and return profiles that maximize firm value.

However, if she is allowed freely to trade and monitoring is imperfect, the insider might make investment decisions that do not optimize firm value. This might involve choosing investment projects with non-optimal risk profiles (Bebchuk and Fershtman, 1994), exerting sub-optimal levels of effort (Bebchuk and Fershtman, 1993), or choosing lower-valued projects for any given level of risk and effort (Bebchuk and Fershtman, 1990). In the model here, I focus on the latter case, i.e., the case in which the lure of insider trading profits might induce the insider to choose lower valued projects, holding constant effort and risk levels as in Bebchuk and Fershtman (1990).¹² Bebchuk and Fershtman (1990) refer to this as "wasting" or "throwing away" corporate value. When insiders can freely trade, they may have an incentive to "waste" corporate value, either by

¹¹ As noted above, Bhattacharya and Daouk (2002) is distinguishable in that they investigate the relationship between the enactment/enforcement of insider trading laws and the *aggregate* cost of capital across countries. Moreover, while Masson and Madhavan (1991) examine the relationship between executives' insider trading and the marginal value of the firm, their study differs from the present study in several important respects: it is based solely on U.S. data, it considers only legal (not illegal) insider trading, and it does not address the role of insider trading law/enforcement as a potential constraint upon executives' incentives to trade.

¹² I focus on this narrow case merely to simplify the model. In reality, insider trading is likely to affect both insiders' choice among projects of different risk profiles (Bebchuk and Fershtman, 1994) and their choice of effort level (Bebchuk and Fershtman, 1993).

foregoing value enhancing investments or by deliberately failing to avoid value decreasing investments. The incentive to waste comes from the trading profits that the insider might realize by exploiting the (pre-public disclosure) difference between the ‘true’ stock value, which is likely to change as a result of her investment decision, and the market price.

Several factors mitigate the insider’s incentives to divert value through insider trading. One of these factors is the extent to which the insider experiences the resulting changes in corporate value, which in turn depends on her compensation contract and her ownership stake in the firm. Insider trading sanctions and enforcement also constrain the insider’s incentives to divert value through trading. The model incorporates both of these mitigating factors.

A. Firm Value

Outside shareholders assess the value of the firm net of the insider’s share, α . Corporate value, V , is given by the following:

$$V = (1 - \alpha)(S - c(t, L)) \quad (1)$$

where t is the amount of trading by the insider, S = sales (or return on investments), and c is the effect of insider trading which depends on the level of trading, t , and the insider trading law, L .¹³

B. The Insider’s Utility

The insider chooses the amount of trading, t , that maximizes her utility which is defined as:

$$U = U(S, t, L) = \alpha(S - c(t, L)) + R(t, L) \quad (2)$$

where, as defined above, t is the amount of insider trading engaged in by the insider, c is the effect of insider trading on firm value, and R is the insider’s gross return from insider

¹³ The set-up here is similar to Masson and Madhavan (1991), where firm value is an additive function of sales net of the effect of insider trading.

trading, which depends on both trading volume, t , and the stringency of the insider trading prohibition, L .

Equation 2 demonstrates that the insider's utility consists of two elements. The first component of her utility is the part that is affected by changes in corporate value. The relative importance of this element to her overall utility depends on her cash flow stake in the firm. The greater her ownership stake, the more dependent her utility on corporate value. The second component of the insider's utility depends on her profits from insider trading, which in turn depend on the difference between the market price and 'true' value that only she knows prior to public disclosure.

I make the following assumptions about c : $c_L > 0$, $c_t > 0$, $c_{tt} > 0$, $c_{Lt} > 0$. When insider trading is costly (i.e., c is positive) these assumptions imply that the cost of trading increases as the law becomes more prohibitive; the cost of trading increases as the volume of inside trading increases; the marginal cost of trading increases as the volume of inside trading increases; and the marginal cost of trading increases as the law becomes more prohibitive, respectively.¹⁴

In addition, the following assumptions about R hold: $R_L < 0$, $R_t > 0$, $R_{tL} < 0$ and $R_{tt} < 0$. Respectively, these assumptions imply that the insider's gross return from insider trading is decreasing in the stringency of insider trading legislation and increasing in her trading volume; and her marginal gross return from insider trading is decreasing in the stringency of the law and her trading volume.¹⁵

The insider solves the following maximization problem for t :

$$\text{Max}_t [U = \alpha(S - c(t, L)) + R(t, L)] \quad (3)$$

This yields the following first order condition.

$$\frac{\partial R(t, L)}{\partial t} = \alpha \frac{\partial c(t, L)}{\partial t} \quad (4)$$

¹⁴ However, $c(t)$ may also be negative. In that case, insider trading is beneficial to the firm, and the coefficient on insider trading law should be negative in the regressions below, assuming that the law effectively discourages insider trading.

Equation 4 implies that when $\alpha < 1$, $c_t > R_t$. In other words, when the insider does not fully own the firm (i.e., $\alpha < 1$), she bears only a fraction of the costs of insider trading and experiences the full private gains from insider trading. In contrast, the minority shareholders bear a fraction $1 - \alpha$ of the costs of insider trading and experience none of the private gains. This suggests that the insider will engage in too much inside trading, since she does not internalize all of the costs. Result 6 below confirms this.

C. Comparative Statics and Testable Hypotheses

Differentiation of the first order condition (Equation 4) yields a few testable predictions. Differentiating Equation 4 with respect to t yields:

$$\frac{\partial t^*}{\partial L} = \frac{\alpha R_{tt} - c_{Lt}}{c_{tt} - \alpha R_{tt}} \quad (5)$$

The sign of this derivative is negative, given my assumptions about the first and second derivatives of c and R . This means that, other things equal, the insider engages in less insider trading when the law on insider trading is more stringent. This makes intuitive sense, since as the law becomes more prohibitive, insider trading becomes more costly. The costs might include litigation costs, monetary penalties, potential criminal sanctions, and reputational harm.

Equation 5 implies the following empirical hypothesis.

Hypothesis 1 (“IT Law”) (H1): More prohibitive insider trading laws and enforcement increase firm value, by reducing the insider’s incentives to divert corporate value through insider trading.

Differentiating the first order condition (Equation 4) with respect to α yields:

¹⁵ Bris (2005) finds that the profitability of insider trading is decreasing in Beny’s (2005) insider trading law index.

$$\frac{\partial t^*}{\partial \alpha} = -\frac{c_t}{\alpha c_{tt} - R_{tt}} \quad (6)$$

This result implies that the insider engages in less insider trading as her ownership stake in the firm increases. Her incentive to trade falls as she owns more of the firm because, as her ownership stake increases, she bears a greater share of the costs that insider trading imposes on the firm.¹⁶

Equation 6 yields the following testable hypothesis.

Hypothesis 2 (“Cash Flow Ownership”) (H2): Firm value increases as the insider owns a greater share of the firm’s cash flows, since she has less incentive to divert value through insider trading.

Insider trading law and cash flow ownership might be substitute mechanisms for controlling value diversion through insider trading (see, e.g., Easterbrook, 1991).¹⁷ **H1** predicts that more stringent insider trading laws deter insider trading and are therefore associated with higher valuation. Similarly, **H2** predicts that greater cash flow ownership reduces the insider’s incentive to ‘waste’ corporate value through insider trading. To the extent that the law mitigates the agency problem, cash flow ownership might be a less important agency-cost-control device the more restrictive is the law.¹⁸

This implies a third testable hypothesis.

Hypothesis 3 (“Substitution Thesis”) (H3): The more effective is the law at preventing trading, the lower is the marginal effect of the insider’s ownership stake on corporate value.

The three hypotheses are summarized in Table 1.

¹⁶ This is consistent with the established insight that greater cash flow ownership by corporate insiders (managers, large shareholders, etc.) lowers their incentives to divert corporate wealth from outside investors. For example, see Jensen and Meckling (1976); Shleifer and Vishny (1986).

¹⁷ Note, however, that Masson and Madhavan (1991) demonstrate that (legal) insider trading lowers the marginal value of the firm, even taking insiders’ ownership into account.

¹⁸ On the potential substitutability between laws and other agency cost control devices see Easterbrook (1985), who addresses substitution between insider trading laws and other agency cost control devices, and Bukart and Panunzi (2006), who discuss substitution between investor protection laws and alternative agency cost control devices.

IV. Data and Summary Statistics

A. The Data

Most of the firm-level data in this article come from La Porta et al. (2002). Their data consist of valuation and ownership information on the twenty largest firms (based on market capitalization) in twenty-seven wealthy countries (based on 1993 per capita income). La Porta et al. (2002) focus on large firms because it is more difficult to detect the beneficial impact of investor protection on corporate value for large firms.¹⁹ The sample of firms excludes foreign-affiliates as well as banks and other financial institutions. Most of the data are for 1995 and 1996, but a few come from 1997 and two observations are from before 1995 (La Porta et al. 2002).

Like La Porta et al. (2002), I consider only firms that have a controlling owner. I focus on these firms because controlling shareholders have superior access to inside information relative to dispersed outside investors and are thus able to engage in insider trading. Controlling shareholders also have the ability to monitor and/or extract private benefits. Furthermore, controlling shareholders' incentives are likely to be affected by both insider trading laws (Bhide 1993; Maug 2002) and their ownership stake in the firm (Morck, Shleifer, and Vishny 1988). Like La Porta et al. (2002), I consider a shareholder to have control over the firm if the shareholder owns over ten percent of the firm's voting shares. I also use La Porta et al.'s (2002) definition of cash flow ownership of the controlling shareholder (α), which is the proportion of the firm's cash flow rights directly and indirectly owned by the controlling shareholder.

As a proxy for corporate valuation, I use Tobin's Q, the ratio of the market value of the firm to the replacement cost of its assets.²⁰ A larger Tobin's Q means that the market is optimistic concerning the firm's future prospects, possibly due to good management, lower agency costs, favorable market conditions and/or a high level of goodwill. A lower Tobin's Q implies lower corporate valuation. I use La Porta et al.'s

¹⁹ As La Porta et al. (2002) point out, large firms have several alternative means to constrain expropriation of minority investors, "including public scrutiny, reputation-building, foreign shareholdings, or listings on international exchanges." La Porta et al. (2002), p. 16. Consequently, the benefits of legal constraints should be harder to detect in large firms.

²⁰ Tobin's Q is not a perfect measure of firm valuation, since the numerator partly reflects the market value of intangible assets, but the denominator does not include the firm's investments in intangible assets. See Demsetz and Villalonga (2001) for a more thorough discussion of the pros and cons of Tobin's Q relative to alternative valuation measures.

(2002) measure of Tobin's Q, which they construct as "the book value of assets minus the book value of equity minus deferred taxes plus the market value of common stock" (i.e., the market value of assets) divided "by the book value of assets" (La Porta et al. 2002, p. 1156).²¹ In the regressions, I control for sales growth using La Porta et al.'s (2002) measure, which is the "[g]eometric average annual percentage growth in lagged (net) sales for up to three years depending on data availability," where sales are expressed in U.S. dollars (La Porta et al. 2002, p. 1157).

I use two measures of insider trading law and enforcement. The first measure, *ITL*, comes from Beny (2005). *ITL* is an index of five substantive elements of each country's insider trading law: (1) whether the law prohibits insiders from tipping outsiders; (2) whether the law prohibits trading by tippees²²; (3) whether the law provides a private right of action to aggrieved investors; (4) whether violation of the law potentially leads to damages that are a multiple of the insider's trading profits; (5) and whether violation of the law is a criminal offense.²³ Each element takes the value zero or one, and the total *ITL* index is the sum of the individual elements. Thus, *ITL* equals five in countries with the most prohibitive insider trading laws (e.g., the United States), and *ITL* equals one in countries with the least prohibitive insider trading laws (e.g., Mexico and Norway).²⁴

As a proxy for enforcement, I use *Enf94*, a dummy variable that is equal to one if the country's insider trading laws have been enforced at least once prior to 1994, and zero otherwise. The enforcement data come from Bhattacharya and Daouk (2002). Whether or not the law has been enforced at least once by 1994 is arguably a poor proxy for the

²¹ I check the results by replacing *Tobin's Q* with the cash flow to price ratio, which is also from La Porta et al. (2002). The cash flow to price ratio measures investors' assessment of a firm's prospects. The numerator is the average cash flow over the three preceding fiscal years. The denominator equals the market value of common equity at the most recent fiscal year's end. A higher (lower) cash flow to price ratio implies lower (higher) valuation. La Porta et al. (2002) note that the cash flow to price ratio is ambiguous, since its interpretation depends upon whether cash flows are reported before or after value diversion occurs. Because of this ambiguity, I do not report the results for the cash flow to price ratio measure of valuation in the tables below.

²² Tippees are outsiders who receive material non-public information from corporate insiders who are prohibited from trading on the basis of such information themselves.

²³ In Beny (2005) I explain in more detail the rationale for including each element of the law in the insider trading law index.

²⁴ All of the countries in the sample had insider trading laws on the books as of 1994. In fact, most stock markets have insider trading laws, but the rate and timing of enforcement varies considerably across markets. See Bhattacharya and Daouk (2002) and Beny (2006).

law's effectiveness or credibility, since deterrence depends upon both the substantive law and its enforcement. For example, a low enforcement rate in a particular country could result from the fact that the potential sanctions are so high that they reduce the incidence of insider trading, rather than from the fact that the regulators are not serious about enforcing the law. Thus, I also consider the interaction between *ITL* and *Enf94* ($ITL*Enf94$), as a proxy for the law's effectiveness or credibility. Table 2 provides a detailed description of the variables.

B. Summary Statistics

Table 3 presents the mean and median values of several key variables for the full sample and for each individual country in the sample. I divide the sample into two regimes: Low ITL and High ITL. The cutoff between High ITL and Low ITL is the median value of the interaction term, $ITL*Enf94$, which equals two. Countries with a value of $ITL*Enf94$ that is greater than two are classified as High ITL regimes, while those with a value of $ITL*Enf94$ that is less than or equal to two are classified as Low ITL regimes. The High ITL countries have higher mean and median values of *Tobin's Q* than the Low ITL countries, consistent with **H1**. The t-test statistic reveals that the difference in mean *Tobin's Q* between the High ITL and the Low ITL countries is statistically significant at the 1% level. However, the difference in median *Tobin's Q* between the High ITL and the Low ITL countries is not statistically significant. Table 3 also shows that the controlling shareholder tends to own a larger fraction of the firm's cash flows in the Low ITL countries than in the High ITL countries. The differences in both mean and median cash flow ownership between the two regimes are statistically significant at the 1% level. Finally, mean and median sales growth are both higher in the High ITL countries than in the Low ITL countries and the difference is statistically significant at the 10% and 1% levels, respectively. This suggests that the firms in the High ITL countries tend to have greater investment opportunities than the firms in the Low ITL countries.

Table 4 presents the means by legal origin. The common law countries in the sample have a greater average value of *ITL* than the civil law countries in the sample and the difference is statistically significant at the 1% level. Nearly half of the common law countries have enforced their insider trading laws at least once, compared to only 25% of

the civil law countries and the difference is statistically significant at the 1% level. Average *Tobin's Q* is higher for the firms in civil law countries than for the firms in common law countries and the difference is statistically significant at the 1% level. Finally, mean sales growth, a proxy for investment opportunities, is not significantly different between the common law and civil law firms.

Table 5 presents simple correlations, highlighting the correlations between *Tobin's Q* and several key variables. *Tobin's Q* is positively correlated with *ITL* (correlation coefficient of 0.09 and 5% statistical significance) and *Enf94* (correlation coefficient of 0.11 and 1% statistical significance). Although they are not large, these correlations are consistent with **H1**, which predicts a positive relationship between insider trading law and corporate valuation (see Table 1). *Tobin's Q* is also positively correlated with sales growth (correlation coefficient of 0.23 and 1% statistical significance). While the magnitudes of the foregoing correlation coefficients are not large, they are consistent with what one would expect ex ante. Multivariable regression analysis will reveal whether the positive association between *Tobin's Q* and insider trading laws withstands multiple controls.

V. Regression Results

I use random effects maximum likelihood estimation. The rationale for random effects regressions is that the errors are not independent within countries and this methodology takes both within and between country variation into account, adjusting the standard errors to reflect the correlation among observations from the same country. In all of the regressions reported below, the dependent variable is the log of 1 plus *Tobin's Q* (i.e., $\log(1+Tobin's Q)$), where *Tobin's Q* is industry-adjusted *Tobin's Q* from La Porta et al. (2002). Industry-adjusted *Tobin's Q* equals the raw measure of *Tobin's Q* minus the world-wide median *Tobin's Q* for the firm's industry, where "[i]ndustry is defined at the three-digit SIC level whenever there are at least five *WorldScope* nonsample firms in the control group and at the two-digit SIC level" otherwise (La Porta et al. 2002, note 7) (see Table 2 for definitions). I take the log of *Tobin's Q* because its distribution is skewed to the right and a log transformation of *Tobin's Q* yields a more normal

distribution. In all of the regressions, I control for the firm's past sales growth, a proxy for the firm's investment opportunities (see Table 2 for definition).

A. Basic Results

Table 6 presents the results of random effects regressions. The regressions in Panel A use the insider trading law index, *ITL*, while the regressions in Panel B use the interaction term, *ITL*Enf94*. In all of the regressions in both panels, the coefficient on sales growth is positive and significant. In column (1) of Panel A, the coefficient on *ITL* is positive, consistent with **H1** (see Table 1); however, it is statistically insignificant. The coefficient on cash flow ownership of the controlling shareholder is positive and significant (at 10% level) in Panel A, column (2), consistent with **H2** (see Table 1). In column (3) of Panel A, the coefficient on the interaction, *ITL*Enf94* and cash flow ownership is positive and significant at the 10% level, suggesting that cash flow ownership and insider trading laws are complementary. This result is inconsistent with **H3** (the “**Substitution Thesis**”), which predicts a negative coefficient on the interaction between *ITL* and cash flow ownership (see Table 1). Finally, none of the coefficients on the independent variables are statistically significant when I include them jointly in a single regression in column (4) of Panel A.²⁵ The regressions in Panel B, which replace *ITL* with *ITL*Enf94* but are otherwise identical to the regressions in Panel A, yield similar results to those in Panel A.

It is arguably inappropriate to lump all of the firms together, as in Table 6, without allowing for heterogeneity – that is, systematic differences in the effect of insider trading laws on agency costs – among the sample firms. Legal origin is a likely locus of heterogeneity. Prior research has shown that financial markets and corporate governance structures differ significantly between common law and civil law countries (see, e.g., La Porta et al. 1997, 1998). Consistent with this, I find significant differences by legal origin among the firms and countries in my sample. The common law firms have a significantly lower deviation between equity ownership and control (“control wedge”) of the controlling shareholder, a significantly greater prevalence of corporations (e.g., as opposed to families, the state, and financial institutions) as controlling owners, and significantly more liquid shares, relative to the civil law firms. And, the common law

²⁵ This could be due to multicollinearity among these variables.

countries have significantly greater investor protections (as measured by La Porta et al.'s (1998) original anti-director rights index), a significantly greater incidence of insider trading law enforcement (as measured by *Enf94*), significantly more liquid stock markets, and a significantly greater incidence of corporate acquisitions, relative to the civil law countries.

Therefore, I allow for unobserved heterogeneity between the common law firms and the civil law firms by interacting the variables of interest with common law origin in a new set of regressions.²⁶ I also address multicollinearity between *ITL* and the interaction terms by centering *ITL* around its mean. The dependent variable is still the log of $1 + \text{Tobin's } Q$. The independent variables are sales growth, cash flow ownership, centered-*ITL*, and several interaction terms between common law origin and various other variables, which I explain as I present the results. The results are reported in Table 7.

In column (1) of Table 7, the coefficient on centered-*ITL* is negative but insignificant, while the coefficient on the interaction between centered-*ITL* and common law is positive and significant at the 1% level. The regression in column (2) is the same as the regression in column (1), except that in column (2) I control for common law origin. This has two effects. First, the coefficient on centered-*ITL* becomes significant at the 10% level. Second, the net effect of cash flow ownership becomes negative for the common law firms.

In columns (3) and (4) of Table 7, I replace centered-*ITL*, with the interaction between centered-*ITL* and *Enf94*. The results in columns (3) and (4) are consistent with those in columns (1) and (2). The coefficients on the centered-*ITL***Enf94* are negative (albeit insignificant) in columns (3) and (4), while the coefficients on the interaction between centered-*ITL***Enf94* and common law origin are positive and significant at the 1% and 5% levels, respectively, for the firms in common law countries.²⁷ The regressions in Table 7 also suggest that although cash flow ownership is generally

²⁶ I do not split the sample into common law and civil law firms because that would reduce the variation among the independent variables. Below, I discuss the effect of controlling explicitly for several factors that one might expect to differ systematically between the common and civil law countries and firms.

²⁷ The regression in column (4) differs from column (3) only in that it controls for common law origin.

associated with greater corporate valuation, i.e., the incentive effect, this effect is stronger for the firms in civil law countries than for the firms in common law countries.²⁸ The coefficients on the interaction terms between cash flow ownership and the insider trading measures are positive (see rows (8) – (11)), suggesting that cash flow ownership and insider trading laws are complements rather than substitutes, inconsistent with **H3**. However, these coefficients are never significant.

In summary, the results in Table 7 suggest that **H1** accurately describes the firms in common law countries but that **H1** does not accurately describe the firms in civil law countries. Insider trading laws are positively associated with corporate valuation for the firms in common law countries (see rows (4) and (5) of Table 7). In contrast, for the firms in civil law countries, insider trading laws are (at best) irrelevant to corporate valuation (see row (3) of Table 7) and (at worst) negatively associated with corporate valuation (see row (2) of Table 7). While cash flow ownership of the controlling shareholder is generally positively associated with corporate valuation for the firms in civil law countries, the results on cash flow ownership are mixed for the firms in common law countries. Finally, there does not appear to be a substitution effect between insider trading law and the controlling shareholder's equity stake in the firm, which is inconsistent with **H3**. To the contrary, the coefficients in rows (8) through (11) in Table 7 suggest that, if anything, there is a complementary relationship between cash flow ownership and insider trading law. However, this relationship is statistically insignificant.

B. Robustness

In this section, I address several potential robustness concerns. First, are the results robust to controlling for industry? The regressions in Tables 7 and 8 do not control for industry. However, corporate valuation might vary systematically by industry (see, e.g., Demsetz and Lehn, 1985). Industry variation in corporate valuation could be due to the fact that some industries are inherently more prone to private benefits extraction, or to what Demsetz and Lehn (1985) call “amenity potential”. Another reason for industry variation in valuation might stem from the fact that different industries are at

²⁸ This result is consistent with Durnev and Kim (2005), who find that the incentive effect of cash flow ownership is more important when investor protection is weaker.

different stages of growth (La Porta et al. 2002). Whatever the causes of industry variation in corporate valuation, a common approach in the literature is to control for industry in corporate valuation regressions (see, e.g., Demsetz and Lehn, 1985; Morck, Shleifer, and Vishny, 1988; and Claessens, Djankov, Fan, and Lang 2002).

Second, are the results biased by the endogeneity of corporate ownership? I have thus far implicitly assumed that the controlling shareholder's ownership stake, α , is exogenous. This is unlikely to be true for at least two reasons. First, α probably has a country-specific component. La Porta et al. (1998) show that ownership tends to be more concentrated in countries with weaker investor protections, proxied by anti-director rights and common law legal origin. Similarly, Beny (2005, 2007) shows that ownership concentration is greater in countries with more lax insider trading laws and lower in countries with more stringent insider trading laws, controlling for legal origin, anti-director rights, and other factors relevant to ownership concentration. Thus, to the extent that the controlling shareholder's cash flow stake is endogenous to the legal rules governing financial markets, the results in Table 7 may be biased. In addition to a country-specific component, α might have a firm-specific component that is simultaneously determined with corporate valuation (Demsetz 1983; Demsetz and Villalonga 2001; and Pindado and de la Torre 2004). Demsetz (1993) argues that "[t]he structure of ownership that emerges is an endogenous outcome of competitive selection in which various cost advantages and disadvantages are balanced to arrive at an equilibrium organization of the firm" (Demsetz 1983, p.384). Consistent with Demsetz' (1983) "equilibrium" theory of ownership structure, Demsetz and Villalonga (2001) find no significant relationship between corporate ownership structure and performance when they control for simultaneity between ownership and performance.

I address the first two robustness issues – industry variation and endogenous ownership – by adding industry dummies from La Porta et al. (2002) to the regressions and by using La Porta et al.'s (2002) industry adjusted sales growth variable in place of the raw sales growth measure. La Porta et al. (2002) use industry dummies defined at the three-digit SIC level when possible, and at the two-digit SIC level otherwise. La Porta et al. (2002) define industry adjusted growth of sales as the difference between the firm's sales growth and the world median sales growth among firms in the same industry.

Using industry adjusted sales growth instead of raw sales growth allows for the possibility “that different industries might be at different stages of maturity and growth that determine their valuations” (La Porta et al. 2002, p. 1159). I also address endogenous ownership in the same manner as La Porta et al. (2002), who address this issue by concentrating “on within-country variation in cash-flow ownership (fixed effects estimation), which is arguably more exogenous to the legal regime” (La Porta et al. 2002, p. 1166). La Porta et al. (2002) replace the raw measure of the controlling shareholder’s cash flow ownership with the difference between the controlling shareholder’s cash flow ownership at the firm level and the country average of the same variable.²⁹

The results of the foregoing adjustments are presented in Table 8. A comparison of Tables 7 and 8 reveals that the results are essentially the same after I make these adjustments. The major differences between Tables 7 and 8 are that: (1) most of the statistically significant coefficients in Table 7 become more significant; (2) the coefficients on centered-*ITL* and centered-*ITL*Common Law* become slightly smaller (compare rows (2) and (4), respectively, between Tables 7 and 8); (3) the coefficients on centered-*ITL*Enf94*Common Law* increase in magnitude (compare row (5) between Tables 7 and 8); and (4) the positive coefficient on cash flow ownership (row (6) in Tables 7 and 8) becomes significant at the 5% level in every regression in Table 8, in contrast to Table 7, where the coefficient on cash flow ownership (row (6)) is insignificant in column (1) and significant at only the 10% level in column (2). Otherwise, the results in Tables 7 and 8 are substantively the same.

Another robustness concern is whether the results are affected by omitted variable bias. As discussed above, heterogeneity in the relationship between insider trading laws and corporate valuation among the sample firms might be due to systematic differences between common law and civil law countries in factors relevant to the relationship between insider trading laws and corporate valuation. These factors include various financial, market, regulatory and institutional characteristics. In Table 7, I addressed this issue by interacting the insider trading law and ownership variables with common law

²⁹ This is only a partial solution because it does not address the second type of ownership endogeneity, described by Demsetz (1983); Demsetz and Villalonga (2001); and Pindado and de la Torre (2004). However, I am not aware of any suitable instruments for the controlling shareholder’s ownership stake.

origin. However, it is arguably preferable to directly control for the relevant factors that might systematically differ between the common law and civil law countries in my sample.

Thus, I address omitted variable bias by explicitly controlling for several potentially relevant financial, market, regulatory and institutional characteristics of the sample countries and firms, including: (1) the enforcement/s environment and judicial efficiency; (2) firm and stock market liquidity; (3) the quality of corporate disclosure; (4) market participants' perception of the severity of insider trading in the stock market; (5) the firm's control structure and the strength of the country's corporate laws; (6) the market for corporate control; and (7) the controlling shareholder's identity. I explain the rationale and effect of controlling for each of these factors in turn.³⁰

First, the main result could be caused by countries' enforcement, rule of law, or judicial environments. This is especially likely if countries that have more stringent insider trading laws also tend to have higher quality enforcement regimes, rule of law environments and more efficient judiciaries.³¹ I alternately control for each of these country characteristics using the following variables: the dummy variable *Enf94*, which is a dummy variable equal to one if the country had enforced its insider trading law for the first time by 1994; a measure of the rule of law from La Porta et al. (1998); and an index of judicial efficiency from La Porta et al. (1998). Table 2 describes these variables in greater detail. The main results are robust to controlling for each of these variables.

Second, the differential relationship between insider trading laws and valuation between the common law and civil law firms might be due to liquidity differences. Georgakopoulos (1993) and Maug (2002) emphasize that insider trading legislation becomes socially valuable (efficient) once the stock market becomes sufficiently liquid. The reason is that insider trading is more profitable and thus more likely to occur the more liquid is the stock market, other things equal.³² Maug (2002) argues that the controlling shareholder's opportunity cost of monitoring (as opposed to trading) increases in the stock's liquidity. Georgakopoulos (1993) argues that it is only when the stock

³⁰ I do not present the results in the interest of brevity.

³¹ Beny's (2005) evidence suggests that this is the case.

³² And, stock markets tend to be more liquid in countries with more stringent insider trading laws and enforcement (Bhattacharya and Daouk, 2002; Beny (2005, 2007).

market becomes sufficiently liquid that there is adequate social demand for insider trading regulation.³³ Beny's (2006) finding that countries with more liquid stock markets are more likely to pass and enforce insider trading laws than countries with less liquid stock markets is consistent with both of these arguments.³⁴ The results might also be due to differences in liquidity between the individual stocks of the common law and the civil law firms.³⁵ If the stocks of the civil law sample firms are relatively illiquid, this might explain why there is an insignificant relationship between insider trading laws and valuation among these firms, since illiquid shares offer fewer opportunities for insider trading. Conversely, insider trading regulation might be more valuable for common law firms because their shares tend to be more dispersed and thus more liquid, yielding greater opportunities for profitable insider trading.

La Porta et al. (2002) address the liquidity issue indirectly by investigating whether the sample firms that have American Depository Receipts (ADRs) traded in the U.S. have higher valuation than those that do not have ADRs.³⁶ They find a small positive effect of ADRs for the common law firms but not for the civil law firms, which "is...inconsistent with the view that liquidity drives [their] results, since, on that theory, the benefit of an ADR for valuation should be higher in less liquid markets (in civil law countries)" (La Porta et al. 2002, p. 1165). I directly investigate the effect of liquidity by controlling for both stock market liquidity and individual firm liquidity using data from the World Bank and Datastream. Both liquidity measures are described in detail in Table 2. These data confirm that both stock markets and individual firm stocks are more liquid in the common law sample countries.³⁷ As expected, the coefficients on both stock

³³ La Porta et al. (2002) cite a liquidity premium as another potential reason why stock market liquidity might be positively associated with corporate valuation: "Firms may find it costly to raise external financing in countries with small capital markets for agency reasons we emphasize or, alternatively, because investors require a premium to compensate for lower liquidity in smaller financial markets" (La Porta et al. (2002), p. 1165).

³⁴ But see Bhide (1993), who argues that causality runs from insider trading laws to liquidity, rather than the reverse (Bhide 1993).

³⁵ The civil law firms' shares might be relatively illiquid because ownership is more concentrated among these firms. According to Bhide (1993), "when stockholding is fully diffuse, the firm's stock is likely to be the most liquid." (Bhide, 1993), pp. 45-46. Consistent with this, Eleswarapu and Krishnamurti (1999) show that ownership concentration and liquidity are inversely related among Indian firms.

³⁶ ADRs presumably increase the liquidity of foreign shares (La Porta et al. 2002; G. Karolyi, 2004; Karolyi and Foerster, 1999).

³⁷ Ownership (of the controlling shareholder) is also more concentrated among the civil law firms (see Table 4).

market liquidity and firm liquidity are positive and significant in the Tobin's Q regressions. However, the main results are robust to controlling for both liquidity measures.

Third, the regressions in Table 7 do not control for the quality of corporate disclosure. Academics and lawmakers have long noted the close relationship between disclosure rules and insider trading laws. More punctual and higher quality disclosure should reduce insiders' opportunity to trade profitably relative to the rest of the market (Baiman and Verrecchia 1996; Fried 1997; Maug 2002; Shin 1996).³⁸ I control for the quality of both voluntary and mandatory disclosure. For voluntary disclosure, I use an index of the quality of accounting standards from La Porta et al. (1998); this index ranks countries according to the quality of their corporate disclosure practices as of 1990. For mandatory disclosure, I use a measure of legal disclosure requirements from La Porta et al. (2006); this index measures how much corporate governance-relevant information firms are legally required to include in their offering prospectuses. I describe both disclosure variables in more detail in Table 2. Alternately controlling for these disclosure variables has no effect on the main results of Table 7.

Fourth, the results might be due to the fact that I do not control for the perception of insider trading. If investors perceive a differential incidence of insider trading between common law and civil law stock markets, that might explain the different relevance of insider trading laws to firms in common and civil law countries. The results are consistent with a market perception that insider trading is more severe in common law stock markets than in civil law stock markets; however, the opposite is true for the countries in my sample.³⁹ To address this issue, I control for the perception of insider trading, using a measure from the World Economic Forum's Global Competitiveness Report (1996), described in Table 2. Controlling for the perception of insider trading does not alter the main results.

³⁸ Indeed, an important pillar of U.S. insider trading legislation is the "disclose or abstain" rule, which requires that insiders either disclose material nonpublic information or refrain from trading on the basis of such information. Several other countries effectively follow the "disclose or abstain" approach.

³⁹ They are also consistent with the argument that insider trading laws are less effective in civil law countries, holding constant the incidence or market perception of insider trading. I discuss this issue in more detail below.

Fifth, the results might be due to systematic differences in controlling shareholders' incentives and ability to extract private benefits. Such differences could result from systematic differences in corporate control structures, corporate laws, or some combination thereof, between civil law and common law countries. Consider Maug's (2002) theoretical framework in which large shareholders face a tradeoff between monitoring and engaging in insider trading.⁴⁰ Other things equal, the greater the controlling shareholder's incentives and ability to extract private benefits, the more likely she is to trade rather than to monitor at the margin.⁴¹ Two characteristics that have a strong influence on the controlling shareholder's incentives and ability to extract private benefits are the firm's control structure and the country's corporate laws.⁴² I therefore control for both of these characteristics.

I use one firm-specific and one country-specific proxy for the controlling shareholder's incentives and ability to extract private benefits. As a proxy for the controlling shareholder's incentives to extract private benefits, I use the control wedge, which is the divergence between the controlling shareholder's control and ownership stakes from La Porta et al. (2002).⁴³ The larger the control wedge, the greater the deviation from one-share-one-vote, and thus the greater the controlling shareholder's incentives and ability to extract private benefits at the expense of minority shareholders (Grossman and Hart 1998; Morck, Shleifer, and Vishny 1988; Harris and Raviv 1988; Shleifer and Vishny 1997; Bebchuk, Kraakman, and Triantis 2000; and La Porta et al. 2002). Consistent with this, empirical research has shown that there is a tradeoff between

⁴⁰ Managers may bribe large shareholders not to monitor by giving them private information on which they can profitably trade (Maug 2002). If large shareholders' marginal payoffs from trading are greater than their marginal payoffs from monitoring, at the margin they will choose trading over monitoring (Maug 2002).

⁴¹ However, for this logic to explain the results in Tables 7 and 8, it should be the case that controlling shareholders have greater incentives to expropriate private benefits in the common law countries. But that does not describe the empirical reality portrayed in the law and finance literature.

⁴² La Porta et al. (2002) find that common law origin and stronger anti-director rights are associated with higher corporate valuation for the same sample of firms. My results therefore might be driven by these aspects of the legal order rather than by insider trading laws, particularly if countries that have stricter anti-self-dealing corporate laws also tend to have more stringent insider trading laws. Indeed, they do for this sample. The correlation coefficients are 0.36 (significance 1%) between the original anti-director rights index (La Porta et al. (1998)) and *ITL*; 0.27 (significance 1%) between the revised anti-director rights index (Djankov et al. (2006)) and *ITL*; and 0.44 (significance 1%) between the anti-self-dealing (Djankov et al. (2006)) index.

⁴³ I use two measures of the control wedge, the arithmetic difference and the ratio between the controlling owner's control and ownership stakes. The results are the same with either measure.

ownership and control, with corporate valuation increasing in the controlling shareholder's cash flow ownership (the *incentive effect*) and decreasing in the controlling shareholder's voting control (the *entrenchment effect*) (Morck, Shleifer, and Vishny 1988; Claessens et al. 2002; Morck, Stangeland, and Yeung 2000; and Durnev and Kim 2005).

As a proxy for the ability to extract private benefits, I use three measures of the stringency of a country's corporate laws: La Porta et al.'s (1998) original anti-director rights index; (2) Djankov et al.'s (2006) revised anti-director rights index; and (3) Djankov et al.'s (2006) anti-self-dealing index. Alternately controlling for the control wedge and each investor protection variable does not alter the main results. In fact, the insider trading law variables overcome La Porta et al.'s (1998) original anti-director rights index and Djankov et al.'s (2006) revised anti-director rights and anti-self-dealing indices. The coefficients on the insider trading law variables remain positive and significant for the common law sample firms, while the coefficients on the latter variables are insignificant.

The sixth robustness concern is that it might be inappropriate to ignore the market for corporate control, as I do in Table 7. Corporate takeovers provide a fertile (and common) context for insider trading.⁴⁴ The more competitive the market for corporate control, the greater the potential profits from trading on the basis of private information about an impending takeover, since greater competition increases takeover premia (Burkart et al. 1998). The market for corporate control is less competitive when control is more closely held, as it tends to be among firms in civil law countries (see, e.g., Dyck and Zingales 2004; and Nenova 2003). In addition, hold-out problems are less severe when ownership is more concentrated, as it tends to be in firms in civil law countries, driving down the price of corporate acquisitions. For these reasons, corporate takeovers might present less lucrative trading opportunities in civil law countries, other things equal. In short, if the market for corporate control is less competitive in civil law

⁴⁴ Two recent studies that document insider trading around corporate takeovers are Bris (2005), who studies the relationship between the profitability of insider trading around corporate takeovers and insider trading law and enforcement, and Ackerman and Maug (2006), who study the relationship between insider trading laws and enforcement and the predictability of takeover announcement returns. Both Bris (2005) and Ackerman and Maug (2006) use Beny's (2005) index of insider trading law and find that there is less private information trading in stock markets governed by more stringent insider trading laws.

countries than in common law countries, this might partly explain the apparent irrelevance of insider trading laws to corporate valuation in the sample civil law firms.⁴⁵

Therefore, I control for three measures of the market for corporate control. First, I control for the average percent of acquisitions that were successful between January 1, 1990 and December 31, 1999 from Bris (2005). Second, I control for the ratio of the average per capita market value of acquisitions in constant U.S. dollars between January 1, 1990 and December 31, 1999 from Bris (2005) to GDP in 1995 U.S. dollars. Finally, I control for the average percent of acquisitions that were hostile between January 1, 1990 and December 31, 1999 from Bris (2005). In addition to the preceding measures of the market for corporate control, I also use the mean and median values of the block premium as a percentage of firm equity value from Dyck and Zingales (2004). Dyck and Zingales (2004) use the block premium to infer the private benefits of control across countries. The block premium might also be a proxy for the degree of competition in the market for corporate control, a higher (lower) block premium suggesting less (more) competition in the market for corporate control. Bris' (2004) corporate control and Dyck and Zingales' (2004) block premia data are described in greater detail in Table 2. Alternately controlling for these measures of the market for corporate control and the block premium does not disturb the main results.⁴⁶

Seventh, the identity of the controlling shareholder might be relevant insofar as different controlling shareholders might have different incentives to extract private benefits of control. For example, a controlling shareholder that is a family might have stronger incentives to engage in insider trading than a controlling shareholder that is a corporation.⁴⁷ Perhaps civil law and common law countries have a differential prevalence of types of controlling shareholders. Thus, I control for the controlling

⁴⁵ Bris' (2005) data suggest that the likelihood of a corporate takeover is greater in common law countries, although the relative market value of a corporate takeover seems to be larger in civil law countries. Query which way this information cuts.

⁴⁶ None of the coefficients on Bris' (2005) acquisition measures is significant. However, the coefficients on Dyck and Zingales' (2004) block premia measures – mean block premium and median block premium – are negative and significant at the 1% and 5% levels, respectively.

⁴⁷ Hung and Trezevant (2004) find that insiders of Southeast Asian firms that are controlled by the wealthiest families seem to be especially aggressive in trading on inside information. Their data are for firms in Indonesia, Malaysia, the Philippines, and Thailand. My sample does not include firms from any of these countries.

shareholder's identity using La Porta et al.'s (2002) data (see Table 2). This does not change the main results.

The results are also robust to controlling for GDP per capita. In fact, the civil law countries of my sample have slightly higher average GDP per capita than the common law countries, although the difference is statistically insignificant. Finally, I check whether any country drives the results by sequentially dropping each country from the regressions in Table 7. No country drives the results.

C. Summary and Discussion

For the sample firms in common law countries, insider trading laws and enforcement are strongly associated with higher valuation, consistent with **H1**. This evidence supports the notion that insider trading laws and their enforcement may help to mitigate agency costs for firms in common law countries. In contrast, the relationship between valuation and insider trading law is negative and generally insignificant for the sample firms in civil law countries. My findings also support **H2**, which predicts that greater cash flow ownership by the controlling owner is associated with higher valuation. This result substantiates the notion that a greater ownership stake reduces the controlling shareholder's incentives to divert corporate value through various methods, including insider trading. Finally, the results do not support **H3**, which predicts that cash flow ownership and insider trading laws are substitute means to control agency costs. If anything, the evidence suggests that insider trading laws and ownership are complementary ways to mitigate agency costs, although this result is statistically insignificant (with the exception of the results in Table 6).

The result that insider trading laws are positively salient to corporate valuation in the common law but not in the civil law sample countries, notwithstanding the fact that I control for many relevant characteristics that might systematically differ between common and civil law countries, is puzzling. There are at least two possible explanations for this result. The first potential explanation is an economic (i.e., a corporate governance) rationale. Demsetz (1986) and Bhide (1993) suggest that insider trading laws have a perverse effect on corporate value because they eliminate a source of compensation (insider trading profits) for large shareholders who engage in corporate monitoring. For example, Bhide (1993) argues that banning insider trading "impair[s]

governance by encouraging diffuse stockholding and discouraging active investing” (Bhide 1993, p. 43). However, my results indicate that the negative relationship between insider trading laws and corporate valuation among the civil law firms is generally statistically insignificant. If Demsetz' (1986) and Bhide's (1993) hypothesis accurately described the civil law sample firms, this relationship would be statistically significant. Instead, my results seem more consistent with Maug's (2002) hypothesis that insider trading laws have a positive impact on corporate governance (and thus valuation), at least for the firms in common law countries.

The second potential explanation is a legal/institutional rationale. The differential results between the sample firms in common and civil law countries could reflect the possibility that insider trading laws are relatively ineffective in civil law countries. A few recent studies suggest that insider trading laws are less effective in countries where investor protection is weak. Durnev and Nain (2005) argue that when controlling shareholders are prohibited from trading, they might compensate for their lost trading profits by engaging in various covert forms of expropriation if investor protection is sufficiently weak. In addition, they find that if investor protection is sufficiently weak, “private information trading may remain unchanged and even increase in the presence of insider trading restrictions” (Durnev and Nain 2005, p. 22).⁴⁸ Similarly, Grishchenko et al. (2002) find that “stocks that provide better investor protection and information disclosure exhibit less private information trading.” Furthermore, Bhattacharya and Daouk (2005) show that the cost of equity rises when a country merely enacts, but does not enforce, insider trading legislation. In contrast, Durnev and Nain (2005) find that insider trading laws unambiguously reduce private information trading “in countries where shareholder rights are well protected” (Durnev and Nain 2005, p. 22).⁴⁹

The problem with the legal/institutional explanation is that the common law-civil law dichotomy that I find is robust to controlling for various legal and institutional differences among the countries in my sample. Nevertheless, the robustness of the

⁴⁸ According to Durnev and Nain (2005), “[t]he opaque informational environment that often accompanies covert activities of controlling shareholders can, in turn, increase the information acquisition activity of market professionals who trade at the expense of uninformed investors” (Durnev and Nain 2005, p. 25).

dichotomy might be due to the fact that the existing legal and institutional measures are not good variables. If that is the case, comparative law and finance scholars should construct more direct measures of the legal order and particularly the securities regulatory and enforcement environment (see La Porta et al. 2005 for a comparative study of securities laws and enforcement).

VI. Conclusion

Over the past two decades, there has been a concerted international effort to encourage countries to adopt insider trading laws and to vigorously enforce such laws (Haddock and Macey, 1986; Gevurtz, 2002). However, the results of this article suggest that insider trading laws are not uniformly associated with corporate valuation (a proxy for agency costs) across countries. Indeed, the results suggest that insider trading laws are not an effective means to reduce agency costs in civil law countries. Moreover, the costs of insider trading laws might well exceed their benefits in civil law countries. Consequently, this article's results could be read to support contractualists who oppose a one-size-fits-all approach (i.e., a mandatory prohibition) to insider trading (Carlton and Fischel 1983; Haddock and Macey 1987; and Epstein 2004).

Nevertheless, such a reading of the results of this article would be too hasty. If the contractualists are to bear the burden of proving that mandatory insider trading laws exacerbate agency costs, they must show that more stringent insider trading laws have a significantly negative impact on corporate valuation. The evidence in this article does not support such a claim. In addition, private contracting approaches to insider trading are inherently problematic due to transaction costs, uncertainty, and externalities⁵⁰ (see, e.g., Easterbrook 1985; Cox 1986). Furthermore, the apparent insignificance of insider trading laws to firms in civil law countries might stem from relatively lax enforcement of these laws in civil law countries. If that is the case, the appropriate policy response might

⁴⁹ Similarly, Ackerman and Maug's (2005) evidence suggests that insider trading laws have a greater impact "in countries with more effective" judicial systems. But there is no reason to expect judiciaries to be more efficient in common law countries than in civil law countries.

⁵⁰ Negative externalities are an especially important consideration in the insider trading debate, which both this article and much of the agency literature on insider trading abstract from. Studies that address some potential negative external effects of insider trading include Baiman and Verrechia (1996); Beny (2005, 2007); Bhattacharya and Daouk (2002); Bushman et al. (2005); Cox (1986); Du and Wei (2004); Fishman and Hagerty (1992); Georgakopoulos (1993); Goshen and Parchomovsky (2001); Klock (1994); Kraakman (1991); and Shin (1996). Glaeser et al. (2001) address the general issue of public versus private regulation of stock markets.

be more stringent enforcement and sanctions, not repeal of insider trading laws, in the latter countries.

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Table 1: Summary of Testable Hypotheses

Hypothesis	Dependent Variable	Hypothesized Relationship to Corporate Value
H1	Insider Trading Law	Positive
H2	Cash Flow Ownership of the Controlling Shareholder	Positive
H3	Insider Trading Law*Cash Flow Ownership of the Controlling Shareholder	Negative

Table 2: Description of Variables

<i>Description</i>	
<u>Dependent Variables</u>	
Tobin's Q	Tobin's Q is defined as the market value of assets divided by their replacement value at the close of the most recent fiscal year. The market value of assets is measured by the book value of assets minus the book value equity minus deferred taxes plus the market value of common stock. The replacement value of assets is approximated by the book value of assets. La Porta et al. (2002).
Industry-Adjusted Tobin's Q	The industry-adjusted Tobin's Q for a given firm is defined as the difference between that firm's Tobin's Q and the <i>world median</i> Tobin's Q among firms in the same industry. Industry reference groups are defined at the three-digit S.I.C. level if there are at least five WorldScope firms (not including the sample firms) in the group and, if not, at the two-digit S.I.C. level. La Porta et al. (2002).
Cash Flow to Price Ratio	The cash flow to price ratio is computed as the sum of earnings (net income before extraordinary items) and depreciation. When cash flow is negative, the cash flow to price ratio is assigned a missing value. The average cash flow to price ratio for the three most recent fiscal years is reported in US dollars. Price, in US dollars, is the market value of common equity at the end of the most recent fiscal year. La Porta et al. (2002).
Industry-adjusted Cash Flow to Price Ratio	The industry-adjusted cash flow to price ratio is defined as the difference between the firm's cash flow to price ratio and the <i>world median</i> cash flow to price ratio among firms in the same industry. Industry control groups are defined in the same manner as for industry-adjusted Tobin's Q (see above). La Porta et al. (2002).
<u>Insider Trading Law Variables</u>	
Tipping	Tipping equals one if corporate insiders are prohibited from tipping outsiders (tippees) about material non-public information and/or encouraging them to trade on such information for personal gain; equals zero otherwise. Gaillard (1992); Stamp and Welsh (1996).
Tippee	Tippee equals one if tippees, like corporate insiders, are prohibited from trading on material non-public information that they have received from corporate insiders; equals zero otherwise. Gaillard (1992); Stamp and Welsh (1996).
Damages	Damages equals one if potential monetary penalties for violating insider trading laws are proportional to insiders' trading profits; equals zero otherwise. Gaillard (1992); Stamp and Welsh (1996).
Criminal	Criminal equals one if violation of insider trading laws is a potential criminal offense; equals zero otherwise. Gaillard (1992); Stamp and Welsh (1996).
Private	Private equals one if private parties have a private right of action against parties who have violated the country's insider trading laws. Gaillard (1992); Stamp and Welsh (1996).
ITL	The aggregate insider trading law index, <i>ITL</i> , equals the sum of (1) Tipping; (2) Tippee; (3) Damages; and (4) Criminal; and (5) Private. Equivalently, the sum of Scope, Sanction and Private. IT Law ranges from 0 to 5, with 0 representing the most lax formal insider trading law and 5 representing the most restrictive insider trading law. Gaillard (1992); Stamp and Welsh (1996).
Enf94	A proxy for actual enforcement, Enforced by 1994 is an indicator variable that equals one if the country's insider trading law has been enforced for the first time by the end of 1994. Bhattacharya and Daouk (2002).
ITL*Enf94	IT Law times Enforced by 1994.
<u>Ownership and Control Variables</u>	
Control Rights	"The fraction of the firm's voting rights, if any, owned by its controlling shareholder. To measure control we combine a shareholder's <i>direct</i> (<i>i.e.</i> , through shares registered in her name) and <i>indirect</i> (<i>i.e.</i> , through shares

held by entities that, in turn, she controls) *voting* rights in the firm. A shareholder has an *x percent indirect control* over firm A if: (1) she controls directly firm B which, in turn, directly controls *x* percent of the votes in firm A; or (2) she controls directly firm C which in turn controls firm B (or a sequence of firms leading to firm B each of which has control over the next one, *i.e.*, they form a control chain) which, in turn, directly controls *x* percent of the votes in firm A. A group of *n* companies form a *chain of control* if each firm 1 through *n - 1* controls the consecutive firm. A firm in our sample has a controlling shareholder if the sum of her direct and indirect voting rights exceeds 10 percent. When two or more shareholders meet our criteria for control, we assign control to the shareholder with the largest (direct plus indirect) voting stake.” La Porta et al. (2002).

Cash Flow Rights	“Ultimate cash flow right of the controlling shareholder in the sample firm. CF Rights are computed as the product of all the equity stakes along the control chain (see description of Control Rights for an explanation of ‘control chains’).” La Porta et al. (2002).
Country-adjusted Cash Flow Rights	Calculated by taking the difference between the cash flow ownership of the controlling owner of a given firm and the countrywide mean cash flow ownership of controlling shareholders. La Porta et al. (2002).

Additional Variables

Sales Growth	Sales growth is computed by the geometric average annual percentage growth in lagged net sales for up to 3 years conditional on availability of the data. Sales are reported in US dollars. La Porta et al. (2002).
Industry-Adjusted Sales Growth	Industry adjusted sales growth is defined as the difference between the firm’s sales growth (GS) and the <i>world median</i> GS among firms in the same industry. Industry control groups are defined in the same manner as for industry-adjusted Tobin’s Q (see above). La Porta et al. (2002).
Common Law	A dummy variable that equals one if the legal origin of the country is English common law and zero otherwise. La Porta et al. (1998); CIA (2000).
Industry	Industry reference groups are defined at the three-digit S.I.C. level if there are at least five WorldScope firms (not including the sample firms) in the group and, if not, at the two-digit S.I.C. level. La Porta et al. (2002).
Rule of Law	The rule of law measure is an “[a]ssessment of the law and order tradition in the country. Average of the months of April and October of the monthly index between 1982 and 1995. Scale from 0 to 10, with lower scores for less tradition for law and order.” La Porta et al. (1998) compile this variable from the <i>International Country Risk Guide</i> . A higher rule of law score signifies that the legal system is relatively more capable of resolving disputes and enforcing contracts.
Judicial Efficiency	The index of judicial efficiency is an “[a]ssessment of the ‘efficiency and integrity of the legal environment as it affects business, particularly foreign firms,’” averaged from 1980-1983. La Porta et al. (1998) get this variable from <i>Business International Corporation</i> .
Stock Market Liquidity	Stock market liquidity is measured as stock market value traded divided by GDP. World Bank World Development Indicators (1995).
Firm Liquidity	Individual firm liquidity is measured as the average monthly turnover ratio, <i>i.e.</i> , the total value traded divided by total market capitalization, from January 1, 1994 to December 1, 1996. Datastream.
Disclosure Index	The Disclosure index equals the arithmetic average of 6 separate indices of information that firms are legally required to include in their prospectuses: (1) Compensation; (2) Shareholders; (3) Inside Ownership; (4) Irregular contracts; (5) Transactions. (1) Compensation is “[a]n index of prospectus disclosure requirements regarding the compensation of directors and key officers. Equals one if the law or the listing rules require that the compensation of <u>each</u> director and key officer be reported in the prospectus of a newly-listed firm; equals one-half if only the <u>aggregate</u> compensation of directors and key officers must be reported in the prospectus of a newly-listed firm; equals zero when there is no requirement to disclose the compensation of directors and key officers in the prospectus for a newly-listed firm.” (2) Shareholders is “[a]n index of disclosure requirements regarding the Issuer’s equity ownership structure.

Equals one if the law or the listing rules require disclosing the name and ownership stake of each shareholder who, directly or indirectly, controls ten percent or more of the Issuer's voting securities; equals one-half if reporting requirements for the Issuer's 10% shareholders do not include indirect ownership or if only their aggregate ownership needs to be disclosed; equals zero when the law does not require disclosing the name and ownership stake of the Issuer's 10% shareholders. No distinction is drawn between large-shareholder reporting requirements imposed on firms and those imposed on large shareholders themselves."

(3) Inside Ownership is "[a]n index of prospectus disclosure requirements regarding the equity ownership of the Issuer's shares by its directors and key officers. Equals one if the law or the listing rules require that the ownership of the Issuer's shares by each of its directors and key officers be disclosed in the prospectus; equals one-half if only the aggregate number of the Issuer's shares owned by its directors and key officers must be disclosed in the prospectus; equals zero when the ownership of Issuer's shares by its directors and key officers need not be disclosed in the prospectus."

(4) Irregular contracts is "[a]n index of prospectus disclosure requirements regarding the Issuer's contracts outside the ordinary course of business. Equals one if the law or the listing rules require that the terms of material contracts made by the Issuer outside the ordinary course of its business be disclosed in the prospectus; equals one-half if the terms of only some material contracts made outside the ordinary course of business must be disclosed; equals zero otherwise."

(5) Transactions is "[a]n index of the prospectus disclosure requirements regarding transactions between the Issuer and its directors, officers, and/or large shareholders (i.e., "related parties"). Equals one if the law or the listing rules require that all transactions in which related parties have, or will have, an interest be disclosed in the prospectus; equals one-half if only some transactions between the Issuer and related parties must be disclosed in the prospectus; equals zero if transactions between the Issuer and related parties need not be disclosed in the prospectus." La Porta et al. (2003)

Accounting Standards Index

The accounting index is a measure of the quality of accounting standards. The accounting index assigns a rating to companies' 1990 annual reports on the basis of their inclusion or exclusion of 90 items. The 90 items are divided into 7 categories (general information, income statements, balance sheets, funds flow statement, accounting standards, stock data and special items). For each country, the index is based on examination of a minimum of 3 companies. The companies represent a cross-section of various industries. Seventy percent are industrial companies, while the remaining thirty percent are financial companies. La Porta et al. (1998).

Perception of Insider Trading

The perception of insider trading is based on a survey that asks corporate executives many questions, including whether insider trading is common in their domestic stock markets. The variable ranges from one to six, with one indicating that corporate executives strongly agree, and six indicating that corporate executives strongly disagree, that insider trading is common in their domestic stock markets. World Economic Forum, Global Competitiveness Report (1996).

Control Wedge

The control wedge is the difference between the controlling shareholder's control rights and cash flow rights. La Porta et al. (2002).

Original Anti-Director Rights Index

The original anti-director rights index is "[f]ormed by adding 1 when: (1) the country allows shareholders to mail the proxy vote to the firm, (2) shareholders are not required to deposit their shares prior to the general shareholders' meeting, (3) cumulative voting or proportional representation of minorities in the board of directors is allowed, (4) an oppressed minorities mechanism is in place, (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders meeting is less than or equal to 10 percent (the sample median), or (6) shareholders have preemptive rights that can be waived only by a shareholders' vote. The index ranges from zero to six." La Porta et al. (1998).

Revised Anti-Director Rights Index

The revised anti-director rights index "relies on the same basic dimensions of corporate law [as the original anti-director rights index] but defines them with more precision." "The general principle behind the construction of the revised anti-director rights index is to associate better investor protection with laws that explicitly mandate, or set as a default rule, provisions that are favorable to minority shareholders." Djankov et al. (2006)

Anti-Self-Dealing Index

The average of the ex-ante and ex-post indices of the private control of self-dealing transactions. The index of ex-ante control of self-dealing transactions is the "[a]verage of approval by disinterested shareholders and ex-ante disclosure." The index of ex-post control of self-dealing transactions is the "[a]verage of disclosure

in periodic filings and ease of proving wrongdoing.” Djankov et al. (2006)

Measures of the Market for Corporate Control	The three measures of the market for corporate control include: (1) the average percent of acquisitions that were successful between January 1, 1990 and December 31, 1999; (2) the average per capita market value of acquisitions in constant U.S. dollars between January 1, 1990 and December 31, 1999 divided by GDP in 1995 U.S. dollars; and (3) the average percent of acquisitions that were hostile between January 1, 1990 and December 31, 1999. The corporate control data come from Bris (2005), whose “total sample includes all takeover announcements that took place between 1 January 1990 and 31 December 1999, available in the Securities Data Corporate Mergers and Acquisitions database. Only public companies are considered, and [he] exclude[s] LBO deals, spinoffs, recapitalizations, self-tender and exchange offers, repurchases, minority stake purchases, acquisitions of remaining interest, and privatizations. Second and subsequent bids that occur within a window of four years relative to an initial announcement are excluded. A bid is considered Hostile when the board officially rejects the offer but the acquiror persists with the takeover, or if the offer is a surprise to the target’s board and the [board] has not yet given a recommendation. A deal is successful when it has been either totally or partially completed” (Bris 2005, Table 1, p. 272). The GDP data come from the World Bank World Development Report CD-Rom (2003).
Block Premium	The block premium is “the difference between the price per share paid for the control block and the price on the Exchange two days after the announcement of the control transaction, divided by the price on the Exchange after the announcement and multiplied by the proportion of cash flow rights represented in the controlling block” (Dyck and Zingales 2004, p. 547). Dyck and Zingales (2004) estimate control block premia for 39 countries using 393 controlling block sales between 1990 and 2000.
Controlling Shareholder’s Identity	This variable is a dummy variable that represents the controlling shareholder’s identity: family, corporation, financial institution, the state, a foreign state, or other. La Porta et al. 2002.

Table 3 Means and Medians by Insider Trading Regime

The table reports means and medians of key variables by insider trading regime. Countries with a value of $ITL * Enf94$ that is greater than the median of two are classified as High ITL regimes, while those with a value of $ITL * Enf94$ that is less than or equal to two are classified as Low ITL regimes. N is the total number of firms observed for each country; ITL is the index of insider trading law; $Enf94$ equals one if the country's insider trading law was enforced at least once before 1994, and zero otherwise; $Tobin's Q$ is Tobin's Q from La Porta et al. (2002); $Cash Flow Ownership$ is the fraction of common equity owned by the controlling shareholder from La Porta et al. (2002); and $Sales Growth$ is the growth of sales, expressed in percentage terms, from La Porta et al. (2002). All variables are described in detail in Table 2. The superscripts a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	N	ITL	$Enf94$	$ITL * Enf94$	$Tobin's Q$	$Cash Flow Ownership$	$Sales Growth$
All Countries	537						
Mean		3.22	0.55	1.84	1.56	0.29	0.15
Median		3	1	2	1.30	0.24	0.12
Low ITL Regimes							
Australia	20						
Mean		4	0	0	1.41	0.25	0.15
Median		4	0	0	1.37	0.28	0.15
Austria	20						
Mean		2	0	0	1.17	0.47	0.13
Median		2	0	0	1.12	0.51	0.09
Denmark	20						
Mean		3	0	0	1.92	0.30	0.16
Median		3	0	0	1.50	0.27	0.11
Germany	20						
Mean		3	0	0	1.41	0.30	0.12
Median		3	0	0	1.19	0.27	0.07
Greece	20						
Mean		2	0	0	1.98	0.48	0.25
Median		2	0	0	1.67	0.53	0.22
Ireland	20						
Mean		4	0	0	1.31	0.29	0.15
Median		4	0	0	1.29	0.18	0.13
Italy	20						
Mean		3	0	0	1.10	0.35	0.13
Median		3	0	0	1.03	0.30	0.07
Japan	20						
Mean		2	1	2	1.66	0.25	0.02
Median		2	1	2	1.33	0.16	0.01
Mexico	20						
Mean		1	0	0	1.65	0.36	0.09
Median		1	0	0	1.64	0.34	-0.04
New Zealand	20						
Mean		4	0	0	1.53	0.24	0.17
Median		4	0	0	1.33	0.23	0.17
Norway	20						
Mean		1	1	1	1.36	0.27	0.16
Median		1	1	1	1.14	0.23	0.14
Portugal	20						
Mean		4	0	0	1.20	0.46	0.24
Median		4	0	0	1.09	0.51	0.20

Spain	20						
<i>Mean</i>		4	0	0	1.18	0.26	0.09
<i>Median</i>		4	0	0	1.16	0.21	0.05
Switzerland	20						
<i>Mean</i>		3	0	0	1.71	0.34	0.15
<i>Median</i>		3	0	0	1.34	0.35	0.11
Low ITL Overall	280						
<i>Mean</i>		2.86	0.14	0.21	1.47	0.33	0.14
<i>Median</i>		3	0	0	1.27	0.29	0.10
High ITL Regimes							
Argentina	19						
<i>Mean</i>		3	1	3	1.25	0.39	0.15
<i>Median</i>		3	1	3	1.15	0.39	0.13
Belgium	20						
<i>Mean</i>		3	1	3	1.33	0.29	0.14
<i>Median</i>		3	1	3	1.22	0.29	0.09
Canada	20						
<i>Mean</i>		5	1	5	1.97	0.25	0.18
<i>Median</i>		5	1	5	1.75	0.16	0.17
Finland	20						
<i>Mean</i>		3	1	3	1.17	0.30	0.16
<i>Median</i>		3	1	3	1.10	0.23	0.15
France	20						
<i>Mean</i>		4	1	4	1.38	0.02	0.10
<i>Median</i>		4	1	4	1.27	0.18	0.08
Hong Kong	20						
<i>Mean</i>		3	1	3	1.49	0.32	0.16
<i>Median</i>		3	1	3	1.16	0.27	0.11
Israel	19						
<i>Mean</i>		3	1	3	1.27	0.24	0.16
<i>Median</i>		3	1	3	1.17	0.19	0.13
Netherlands	20						
<i>Mean</i>		3	1	3	2.06	0.33	0.18
<i>Median</i>		3	1	3	1.74	0.26	0.13
Singapore	20						
<i>Mean</i>		4	1	4	1.76	0.31	0.23
<i>Median</i>		4	1	4	1.55	0.29	0.26
South Korea	19						
<i>Mean</i>		5	1	5	1.14	0.18	0.19
<i>Median</i>		5	1	5	1.07	0.17	0.21
Sweden	20						
<i>Mean</i>		3	1	3	1.45	0.12	0.18
<i>Median</i>		3	1	3	1.21	0.07	0.16
United Kingdom	20						
<i>Mean</i>		3	1	3	2.15	0.14	0.12
<i>Median</i>		3	1	3	1.72	0.12	0.10
United States	20						
<i>Mean</i>		5	1	5	2.98	0.20	0.12
<i>Median</i>		5	1	5	3.08	0.17	0.10
High ITL Overall	257						
<i>Mean</i>		3.61	1	3.61	1.65	0.26	0.16
<i>Median</i>		3	1	3	1.31	0.19	0.13
Difference of Means Low ITL vs. High ITL (t-statistic)		-0.76 ^a	-0.86 ^a	-3.40 ^a	-0.18 ^a	0.07 ^a	-0.02 ^c

Difference of Medians Low ITL vs. High ITL (Chi ² statistic)	0.34	.	533.00 ^a	0.82	18.30 ^a	6.05 ^a
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Table 4: Means by Legal Origin

The table reports means and medians of key variables by legal origin, common law or civil law. *N* is the total number of firms observed for each legal origin; *ITL* is the index of insider trading law; *Enf94* equals one if the country's insider trading law was enforced at least once before 1994, and zero otherwise; *Tobin's Q* is Tobin's Q from La Porta et al. (2002); *Cash Flow Ownership* is the fraction of common equity owned by the controlling shareholder from La Porta et al. (2002); and *Sales Growth* is the growth of sales, expressed in percentage terms, from La Porta et al. (2002). All variables are described in detail in Table 2. The superscripts a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	<i>N</i>	<i>ITL</i>	<i>Enf94</i>	<i>ITL*</i> <i>Enf94</i>	<i>Tobin's</i> <i>Q</i>	<i>Cash</i> <i>Flow</i> <i>Ownership</i>	<i>Sales</i> <i>Growth</i>
Common Law	179	2.88	0.50	1.49	1.45	0.25	0.14
Civil Law	358	1.77	0.25	2.55	1.77	0.32	0.16
Difference of Means Civil Law vs. Common Law (t-statistic)		-1.01 ^a	-0.17 ^a	-1.07 ^a	1.56 ^a	0.07 ^a	-0.02

Table 5: Correlation Matrix

This table presents pairwise correlation coefficients for *Tobin's Q*, the insider trading law and enforcement measures (*ITL*, *Enf94*, and *ITL*Enf94*), *Cash Flow Ownership* and *Sales Growth*. All variables are described in detail in Table 2. The numbers in parentheses are the probability levels (p-values) at which the null hypothesis of zero correlation can be rejected in two-tailed tests. The superscripts a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	<i>ITL</i>	<i>Enf94</i>	<i>ITL* Enf94</i>	<i>Tobin's Q</i>	<i>Cash Flow Ownership</i>	<i>Sales Growth</i>
<i>ITL</i>	1.00					
<i>Enf94</i>	0.12 ^a (0.01)	1.00				
<i>ITL* Enf94</i>	0.45 ^a (0.00)	0.90 ^a (0.00)	1.00			
<i>Tobin's Q</i>	0.09 ^b (0.05)	0.11 ^a (0.01)	0.17 ^a (0.00)	1.00		
<i>Cash Flow Ownership</i>	-0.15 ^a (0.00)	-0.19 ^a (0.00)	-0.20 ^a (0.00)	0.04 (0.38)	1.00	
<i>Sales Growth</i>	0.12 ^a (0.01)	0.02 (0.68)	0.05 (0.28)	0.23 ^a (0.00)	0.06 (0.18)	1.00

Table 6: Random Effects Regressions

The table presents random effects regressions for the dependent variable, $\text{Log}(1+\text{Tobin's } Q)$, where *Tobin's Q* is adjusted by industry, as described in Table 2. Standard errors are reported in parentheses. Superscripts a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. All variables are described in detail in Table 2.

Panel A
Dependent Variable: $\text{Log}(1+\text{Tobin's } Q)$

Independent Variable	(1)	(2)	(3)	(4)
<i>Sales Growth</i>	0.69 ^a (0.13)	0.69 ^a (0.14)	0.68 ^a (0.14)	0.68 ^a (0.14)
H1 <i>ITL</i>	0.01 (0.04)			0.00 (0.05)
H2 <i>Cash Flow</i> <i>Ownership</i>		0.15 ^c (0.09)		0.04 (0.31)
H3 <i>Cash Flow</i> <i>Ownership</i> *			0.05 ^c (0.03)	0.04 (0.09)
<i>ITL</i> <i>Constant</i>	-0.02 (0.15)	-0.04 (0.06)	-0.04 (0.05)	-0.05 (0.18)
<i>Number of</i> <i>Observations</i>	538	538	538	538
χ^2	25.39	28.46	28.69	28.70
<i>Prob</i> > χ^2	0.00 ^a	0.00 ^a	0.00 ^a	0.00 ^a

Panel B
Dependent Variable: $\text{Log}(1+\text{Tobin's } Q)$

Independent Variable	(1)	(2)	(3)	(4)
<i>Sales Growth</i>	0.68 ^a (0.14)	0.68 ^a (0.13)	0.68 ^a (0.14)	0.68 ^a (0.14)
H1 <i>ITL*Enf94</i>	0.03 (0.02)			0.03 (0.03)
H2 <i>Cash Flow</i> <i>Ownership</i>		0.15 ^c (0.09)		0.12 (0.13)
H3 <i>Cash Flow</i> <i>Ownership</i> *			0.06 ^b (0.03)	0.02 (0.05)
<i>ITL*Enf94</i> <i>Constant</i>	-0.05 (0.06)	-0.04 (0.06)	-0.03 (0.05)	-0.09 (0.08)
<i>Number of</i> <i>Observations</i>	537	537	537	537
χ^2	26.85	28.34	29.28	30.59
<i>Prob</i> > χ^2	0.00 ^a	0.00 ^a	0.00 ^a	0.00 ^a

Table 7: Random Effects Regressions (Heterogeneity)

The table presents random effects regressions for the dependent variable, $\text{Log}(1+\text{Tobin's } Q)$, where *Tobin's Q* is adjusted by industry, as described in Table 2. *C_ITL* is mean-centered *ITL*, i.e., the difference between the country's *ITL* and the world mean of *ITL*. Superscripts a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. All variables are described in detail in Table 2.

Dependent Variable: $\text{Log}(I+Q)$				
Independent Variable	(1)	(2)	(3)	(4)
(1)	0.69 ^a	0.70 ^a	0.69 ^a	0.69 ^a
<i>Sales Growth</i>	(0.13)	(0.13)	(0.14)	(0.14)
(2)	-0.09	-0.09 ^c		
<i>C_ITL</i>	(0.06)	(0.06)		
(3)			-0.07	-0.08
<i>C_ITL*Enf94</i>			(0.07)	(0.07)
(4)	0.28 ^a	0.22 ^c		
<i>C_ITL*Common Law</i>	(0.11)	(0.12)		
(5)			0.30 ^a	0.27 ^b
<i>C_ITL*Enf94*Common Law</i>			(0.11)	(0.11)
(6)	0.17	0.20 ^c	0.17 ^c	0.21 ^b
<i>Cash Flow Ownership</i>	(0.11)	(0.11)	(0.10)	(0.10)
(7)	-0.27	-0.41 ^c	-0.15	-0.28
<i>Cash Flow Ownership*Common Law</i>	(0.21)	(0.25)	(0.18)	(0.21)
(8)	0.02	0.03		
<i>Cash Flow Ownership*C_ITL</i>	(0.12)	(0.12)		
(9)	0.28	0.35		
<i>Cash Flow Ownership*C_ITL*Common Law</i>	(0.25)	(0.26)		
(10)			0.04	0.04
<i>Cash Flow Ownership*Enf94</i>			(0.05)	(0.05)
(11)			0.02	0.02
<i>Cash Flow Ownership*C_ITL*Enf94*Common Law</i>			(0.07)	(0.07)
(12)		0.13		0.12
<i>Common Law</i>		(0.12)		(0.10)
(13)	-0.10 ^c	-0.13 ^b	-0.08	-0.12 ^b
<i>Constant</i>	0.05	(0.06)	(0.05)	(0.06)
<i>Number of Observations</i>	537	537	537	537
χ^2	41.03	42.19	42.42	43.74
<i>Prob > χ^2</i>	0.00 ^a	0.00 ^a	0.00 ^a	0.00 ^a

Table 8: Random Effects Regressions (Robustness)

The table presents random effects regressions for the dependent variable, $\text{Log}(1+\text{Tobin's } Q)$, where *Tobin's Q* is adjusted by industry, as described in Table 2. *C_ITL* is mean-centered *ITL*, i.e., the difference between the country's *ITL* and the world mean of *ITL*. *Industry Adjusted Sales Growth* is the difference between the firm's sales growth and the world median sales growth among firms in the same industry. *Country-Adjusted Cash Flow Ownership* is the difference between the controlling shareholder's cash flow ownership and mean cash flow ownership for all firms in the country. Standard errors are reported in parentheses. Superscripts a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. All variables are described in detail in Table 2.

<i>Dependent Variable: Log(1+Q)</i>				
Independent Variable	(1)	(2)	(3)	(4)
(1)	0.84 ^a	0.84 ^a	0.83 ^a	0.83 ^a
<i>Industry-Adjusted Sales Growth</i>	(0.14)	(0.14)	(0.14)	(0.14)
(2)	-0.09 ^b	-0.09 ^b		
<i>C_ITL</i>	(0.04)	(0.04)		
(3)			-0.06	-0.06
<i>C_ITL*Enf94</i>			(0.06)	(0.06)
(4)	0.22 ^a	0.19 ^b		
<i>C_ITL*Common Law</i>	(0.09)	(0.10)		
(5)			0.23 ^b	0.21 ^b
<i>C_ITL*Enf94*Common Law</i>			(0.10)	(0.11)
(6)	0.22 ^b	0.22 ^b	0.22 ^b	0.22 ^b
<i>Country-Adjusted Cash Flow Ownership</i>	(0.11)	(0.11)	(0.11)	(0.11)
(7)	-0.37	-0.38	-0.29	-0.30
<i>Country-Adjusted Cash Flow Ownership*Common Law</i>	(0.25)	(0.25)	(0.20)	(0.20)
(8)	0.06	0.06		
<i>Country-Adjusted Cash Flow Ownership*C_ITL</i>	(0.12)	(0.12)		
(9)	0.19	0.20		
<i>Country-Adjusted Cash Flow Ownership*C_ITL*Common Law</i>	(0.26)	(0.26)		
(10)			0.18	0.19
<i>Country-Adjusted Cash Flow Ownership*Enf94</i>			(0.18)	(0.18)
(11)			0.08	0.08
<i>Country-Adjusted Cash Flow Ownership*C_ITL*Enf94*Common Law</i>			(0.28)	(0.28)
(12)		0.06		0.05
<i>Common Law</i>		(0.09)		(0.08)
(13)	Yes	Yes	Yes	Yes
<i>Industry Dummies</i>				
(14)	0.00	-0.01	0.03	0.01
<i>Constant</i>	0.07	(0.07)	(0.06)	(0.07)
<i>Number of Observations</i>	520	520	520	520
χ^2	53.28	53.71	53.12	53.43
<i>Prob > χ^2</i>	0.00 ^a	0.00 ^a	0.00 ^a	0.00 ^a

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