

DO SHAREHOLDERS VALUE
INSIDER TRADING LAWS?
INTERNATIONAL EVIDENCE

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Laura Nyantung Beny^{*}

Abstract

The paper investigates the corporate valuation implications of insider trading legislation and enforcement. First, I present a simple agency model of insider trading and corporate valuation. Then, using standard measures of corporate valuation – Tobin’s Q and the cash flow to price ratio – and controlling for the incidence of enforcement and firm-level sales growth, I estimate the value of insider trading law. The firm-level data used in this paper come from a variety of firms with diverse ownership and control structures from a cross-section of developed countries that exhibit a wide range of legal and institutional characteristics. I find that stricter insider trading laws and enforcement are unambiguously associated with greater corporate valuation among firms in which ownership and control are separated – i.e., widely held firms. This finding suggests that insider trading laws and enforcement might mitigate corporate agency costs in widely held firms, consistent with theoretical studies that characterize insider trading as an agency problem (e.g., Maug, 2000) and contradictory to those that characterize insider trading as an incentive-alignment device (e.g., Carlton and Fischel, 1983; Manne, 1966). The evidence is mixed for firms with a controlling shareholder. The results of ordinary least squares regressions suggest that, for the latter firms, insider trading legislation might impair corporate monitoring, consistent with Bhide (1993) and Demsetz (1986). However, the results of instrumental variables regressions – to address the potential endogeneity of ownership/valuation and insider trading laws – suggest that insider trading legislation is associated with greater corporate valuation among firms with controlling owners as well. The paper is an important addition to both the law and economics debate about insider trading and the empirical law and finance literature.

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Do Shareholders Value Insider Trading Laws? International Evidence

Laura Nyantung Beny*

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“[O]ne of the most interesting [questions] in agency...is trading by corporate insiders on material information (before its disclosure to the market) beneficial to investors?” Easterbrook (1991), p. 81.

I. Introduction

In an era when insider trading was generally viewed as a moral aberration, Manne (1966) raised considerable controversy by asserting that insider trading is valuable because it increases entrepreneurial incentives and that prohibiting it is unwise policy. Manne (1966) argues that insider trading is beneficial because insiders who are allowed to trade on private information are motivated by the prospect of insider trading profits to create corporate value (e.g, through new discoveries, new investments, and by becoming less risk averse). As a result, Manne (1966) stridently opposes laws that prevent insiders from trading on private information. Although Manne’s (1966) thesis is not overwhelmingly popular among legal practitioners, it enjoys a degree of support among legal scholars (e.g., Carlton and Fischel, 1983).

Manne (1966) precipitated an outpouring of studies on insider trading among legal academics, which I review elsewhere (Beny, 1999). Economists, though less prolific on the question of insider trading, have also produced a number of works

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addressing the efficiency implications of insider trading. Some of these studies address the implications of insider trading for market efficiency (see, e.g., Seyhun, 1986; Leland, 1992; Bhattacharya and Daouk, 2000). In the spirit of Manne (1966), others address the implications of insider trading for corporate valuation via its effect on corporate insiders' incentives (i.e., agency costs) and adverse selection. This paper falls in the latter category of studies.

A. Prior Economic Studies of Insider Trading and Corporate Valuation

Like the legal literature, the economics literature contains conflicting accounts of the implications of insider trading for corporate valuation. Some of the studies conclude that insider trading is associated with greater valuation, while others conclude that it is associated with lower valuation. Starting with the first group of studies, in this section I briefly review this literature.

Dye (1984) presents a theoretical model showing that insider trading may be beneficial to shareholder wealth. In Dye's (1984) model, under certain assumptions, the manager and the firm's shareholders may achieve higher utility by permitting the manager to have some discretion in selecting her compensation schedule. The improvement in firm valuation stems from the role of insider trading as a mechanism to improve on earnings-contingent contracts. In the context of a principal-agent model, Bebchuk and Fershtman (1993, 1994) show that insider trading might increase shareholder wealth. Bebchuk and Fershtman (1993) show that, under certain conditions, insider trading might increase managers' effort levels and therefore might increase corporate value. Bebchuk and Fershtman (1994) also show that insider trading might

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cause insiders to select (more desirable) riskier investment projects that they would reject if they were not allowed to trade on inside information, since greater volatility increases the profitability of insider trading, making managers less risk averse. Finally, Noe (1997) argues that insider trading profits might be a substitute for effort inducing compensation contracts. Even though insider trading might not increase insiders' efforts, it might still be cheaper than standard compensation contracts that involve above-reservation payments to managers. Thus, according to Noe (1997), insider trading may increase corporate value by reducing managerial rents.

Competing studies demonstrate that insider trading might be detrimental to corporate value. Manove (1989) shows that insider trading might reduce firm value by discouraging corporate investment. The cause is asymmetric information rather than agency costs. In the presence of insider trading, prospective shareholders discount the amount that they are willing to pay to purchase shares in a secondary equity offering to take into account adverse selection:

at any given price, shares are more likely to be available to outsiders when, unbeknownst to them, the economic value of the corporation is low than when it is high. This is because insider traders are likely to buy up shares when the value is high than when it is low. If outsiders are sophisticated and aware of the existence of insider trading, they will take account of adverse selection in calculating expected returns. Consequently, the willingness of sophisticated outsiders to pay for shares will be less than the unconditional expected per share value of the company. Manove (1989), p. 823.

As a result, incumbent shareholders support lower levels of investment, since when they sell their shares in the future, they will not reap the full return on their investment from prior periods. In short, 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. Similarly, Douglas (1989) shows that, due

to information asymmetry, insider trading transfers wealth from shareholders to insiders in cases of both good and bad news.

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. Bebchuk and Jolls (1999), examine the effect of insider trading and other mechanisms of managerial value diversion on shareholder wealth. Their model suggests that insider trading lowers corporate wealth in the absence of some offsetting benefits, and regardless of whatever compensation contracts shareholders might write to offset the wealth diversion.

Additional studies explicitly address the connection between ownership structure and insider trading within an agency framework. Large shareholders potentially have incentives to monitor managers, and thereby reduce the manager-shareholder agency problem and increase corporate value (Demsetz, 1986; Shleifer and Vishny, 1986; Bhidé, 1993). However, large shareholders must be compensated for monitoring and the risks of holding undiversified portfolios. Trading profits are an important source of such compensation (Demsetz, 1986; Bhidé, 1993). Because greater share ownership increases large shareholders' access to inside information, they are able to make greater trading profits than other shareholders. Curtailing this source of profits through insider trading regulation might reduce large shareholders' incentives to monitor (Demsetz, 1986; Bhidé, 1993). Bhidé (1993) argues that while restrictions on insider trading and disclosure requirements protect small shareholders and reduce the risk of dispersed shareholding, they raise the costs and liabilities of an active shareholding role and therefore hinder corporate governance. Demsetz (1986) makes a similar argument.

A less sanguine view of the role of large shareholders posits that, like managers, dominant shareholders might use their influence to pursue their own interests at the expense of outside shareholders (LLS, 1999; LLSV, 1999; and Bukart and Panunzi, 2001).¹ Maug (2000) presents a model in which insider trading legislation influences large shareholders' choice between monitoring and expropriating outside investors. In Maug's (2000) model, managers may bribe dominant shareholders by sharing private information with them in order to discourage them from monitoring poorly performing firms. If the firm's stock is sufficiently liquid so that trading on private information is profitable, large shareholders would rather trade on this information than monitor a poorly performing firm. In essence, according to Maug (2000) when insider trading is legal there is a greater chance that dominant shareholders collude with managers at the expense of minority shareholders. On the other hand, when insider trading is illegal, large shareholders prefer to monitor rather than to trade (Maug, 2000).

As the preceding literature review suggests, the debate over the desirability of regulating insider trading is both long-standing and inconclusive.² Theoretical analyses support both points of view.

B. Research Question and Empirical Strategy

In this paper, I present a simple agency model of insider trading that yields several testable hypotheses. On the basis of these hypotheses, I empirically investigate

¹ According to LLSV (1999), the principal 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." LLSV (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., LLS, 1999; LLSV, 1999; and Bukart and Panunzi, 2001).

² According to Easterbrook (1991), this "subject has provoked substantial public debate, leading to administrative regulation and judicial decisions. This debate has been carried on with either

the relationship between insider trading legislation and enforcement and corporate valuation.

The study differs from prior agency studies of insider trading in several respects. First, the model explicitly incorporates insider trading *law* as a determinant of insiders' incentives to maximize corporate value. Second, the study is the first empirical study of corporate valuation and insider trading law and enforcement across countries. In the study closest to this one, Bhattacharya and Daouk (2000) investigate the effect of insider trading legislation and enforcement on the aggregate cost of capital. In contrast, this paper investigates the relationship between insider trading law and enforcement and corporate valuation at the firm level. Furthermore, while Masson and Madhavan (1991) present empirical evidence on the relationship between executives' insider trading and the marginal value of the firm, their study is different from this one because it is based solely on U.S. data, considers legal (rather than illegal) insider trading, and does not address the role of the law as a determinant of insiders' incentives to trade. Finally, this study is similar in spirit to LLSV (1999), which investigates the empirical relationship between investor protection and corporate valuation. However, LLSV (1999) do not address insider trading laws.

In the empirical analysis, I use firm-level data from 27 wealthy economies exhibiting a variety of economic, legal and institutional characteristics. The power of the empirical tests derives from the wide variation in legal regimes, and insider trading rules and enforcement levels across the sample countries as well as firm-level variation in ownership and governance structures. This enables me to assess whether insider trading

indifference or hostility toward the sparse agency literature on the subject, and the literature itself has been inconclusive.” Easterbrook (1991), p. 81.

law and enforcement are differentially related to valuation across different types of firms, in particular firms with and without controlling owners.³

The paper's main findings are as follows. Among firms without a controlling owner, there is a positive relationship between the stringency of insider trading legislation and enforcement (under several alternative formulations) and corporate valuation. This result suggests that insider trading legislation is an important mechanism to address the agency problem in firms in which ownership and control are separated, contrary to Carlton and Fischel (1983). For firms with controlling shareholders, the link between insider trading law and enforcement and corporate valuation is more tenuous. Ordinary least squares regressions support the notion that insider trading legislation impairs monitoring (Bhide, 1993 and Demsetz, 1986), while instrumental variables regressions support the counterclaim (Maug, 2000).

The remainder of the paper is organized as follows. In Section 2, I present a simple agency model of the relationship among insider trading, insider trading law, ownership, and valuation. The model generates several empirically testable hypotheses. In Section 3, I describe the data and present summary statistics. Section 4 presents the results of multivariable regression analysis of the relationship between corporate valuation and insider trading law and enforcement across firms and countries. Section 5 concludes the paper and suggests potential avenues of future research.

II. A Simple Agency Model and Testable Hypotheses

In this section, I present a simple model of insider trading and corporate valuation as well as several testable hypotheses. The model is similar to standard agency models of

³ Several commentators who advocate private contractual solutions and oppose a mandatory insider trading prohibition do so in part on the ground that insider trading affects firms differentially, making a uniform

corporate value diversion (Jensen and Meckling, 1976). The motivation for framing the problem this way is as follows. 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 (corporate value). With perfect monitoring by outside investors, the insider would choose the projects associated with the effort/risk/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).⁴ 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 foregoing value enhancing investments or by deliberately failing to avoid value decreasing investments. The incentive for such waste comes from the trading profits that the insider might realize by exploiting the difference (before public disclosure) between

prohibition inefficient. See, e.g., Carlton and Fischel (1983).

⁴ 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).

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 incentive 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, a . Corporate value, V , is given by the following:

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

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 .⁵

B. The Insider’s Utility

The insider chooses the amount of trading, t , so as to maximize her utility which is defined as:

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

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 trading, which depends on both trading volume, t , and the stringency of the law on insider trading, 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 is 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.⁶

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

⁵ 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 volume; and her marginal gross return from insider trading is decreasing in the stringency of the law and her trading volume.

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.

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

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:

⁶ 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.

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

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: More prohibitive insider trading laws and enforcement increase firm value, by reducing the insider's incentive to divert corporate value through insider trading.

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

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

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.⁷

Equation 6 yields the following testable hypothesis.

Hypothesis 2: 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).⁸

Hypothesis 2 predicts that more stringent insider trading laws deter insider trading and are therefore associated with higher valuation. Similarly, Hypothesis 3 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. This implies a third empirically testable hypothesis.

Hypothesis 3: The more effective is the law at preventing trading, the lower is the effect of the insider's ownership stake on corporate value.

III. Data and Summary Statistics

A. Data Sources and Variables

⁷ 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).

⁸ On the other hand, Masson and Madhavan (1991) demonstrate that (legal) insider trading lowers the marginal value of the firm, even taking into account insiders' ownership.

Much of the data used in this paper come from LLSV (1999). 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). They focus on large firms because that makes it more difficult to detect the beneficial impact of investor protection on corporate value.⁹ 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.

I use LLSV's (1999) definition of effective control. According to LLSV (1999), a shareholder has control if she owns over twenty percent of the voting shares. Therefore, a shareholder has control if she owns 20 percent or more of the firm's total voting rights. Cash flow ownership of the controlling shareholder, a , is defined as the proportion of the firm's cash flow rights directly and indirectly owned by the controlling shareholder (LLSV, 1999).

The value of a firm is influenced by outside shareholders' assessment of its cash flow returns. That assessment in turn depends on investors' "acumen, optimism, or pessimism." (Demsetz and Villalonga, 2001, p.4). I use two measures of valuation: Tobin's Q and the cash flow to price ratio. The main valuation measure is Tobin's Q, which is the ratio of the market value of the firm to the replacement cost of its assets.¹⁰ Higher Tobin's Q signals that the market views favorably the firm's future prospects,

⁹ As LLSV (1999) point out, large firms have several alternative means by which they might constrain expropriation of minority investors, "including public scrutiny, reputation-building, foreign shareholdings, or listings on international exchanges." LLSV (1999), p. 16. Consequently, the benefits of legal constraints should be harder to detect in large firms.

¹⁰ 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.

possibly due to good management, lower agency costs, favorable market conditions, goodwill, etc.

I also use the cash flow to price ratio, another common valuation measure. Like Tobin's Q, 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. LLSV (1999) set negative average cash flow values to missing, and they average cash flows in order to smooth business cycles. 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.¹¹ I control for sales growth using LLSV's (1999) measure of the annual growth rate of sales for the three most recent fiscal years.

I use two principal measures of insider trading law. The first principal measure, *ITL*, consists of the substantive elements of each country's insider trading law: whether the law prohibits insiders from tipping outsiders; whether the law prohibits trading by tippees¹²; whether the law provides a private right of action to aggrieved investors; whether violation of the law leads potentially to multiple damages; and whether violation of the law is a criminal offense.¹³ Each element takes the value zero or one, and the total index is the sum of the individual elements. Thus, *ITL* equals 5 in countries with the most prohibitive insider trading law (e.g., the United States), and 1 in countries with the

¹¹ LLSV (1999) note that the cash flow to price ratio raises some interpretive issues. In particular, its meaning depends on whether cash flows are reported before or after insider trading occurs. If insider trading is costly, the cash flow to price ratio falls as the insider trading law becomes more prohibitive, provided that cash flows are reported before insider trading occurs. If cash flows are reported after insider trading occurs, insider trading should not affect the cash flow to price ratio.

¹² Tippees are outsiders who receive material non-public information from corporate insiders who are prohibited from trading on the basis of such information themselves.

¹³ In Beny (1999) I explain in more detail the rationale for including each element of the law in the insider trading law index.

least prohibitive insider trading law (e.g., Mexico and Norway).¹⁴ I also consider several different combinations, described below, of the five elements in the regression analysis.

The second principal insider trading law measure, *Enf_94*, is a dichotomous variable equal to one if the insider trading laws have been enforced at least once prior to 1994 and zero otherwise. *Enf_94* is intended to address the effectiveness of the law. Whether or not the law has been enforced at least once as of 1994 might not be the best measure of the law's effectiveness since deterrence depends on both the substantive law as well as enforcement. For example, although the enforcement rate in a particular country might be low, this could be due to the fact that the potential sanctions are so prohibitively high as to reduce the incidence of insider trading. As a result, the law would be effective even though it is not often enforced. Therefore, in the empirical tests, I include the interaction between *ITL* and *Enf_94* to take into account the potential joint significance of the substantive insider trading law and enforcement.

Finally, I use LLSV's (1998) measure of minority shareholder protection. This is a dichotomous variable that equals one if a country's company law or commercial code is derived from the common law, and zero if they are derived from the civil law. LLSV (1998) show that common law countries are more protective of minority investors than civil law countries, and that this influences financial development and corporate governance in important ways.¹⁵ LLSV (1999) demonstrate that common law origin is also associated with higher valuation.

¹⁴ 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 (2000) and Beny (2001).

¹⁵ "The reason for this finding may be the judiciary philosophy of common law countries, which allows judges to broadly interpret certain principles, such as fiduciary duty, and hence authorizes them to prohibit more forms of minority expropriation. Alternatively, common law countries may protect minority investors better because corporate owners have less political influence." (LLSV, 1999), p. 19.

The Data Appendix provides a detailed description of the variables used in the paper.

B. Summary Statistics

In this section, I report summary statistics of the data used in the empirical analysis. I consider results for the full sample of firms as well as for two sub-samples consisting of the firms with a controlling owner and the firms without a controlling shareholder.

Table 1 reports medians by country, grouped according to their legal origins (common law versus civil law). Panel A shows the median values and numbers of firms (observations) per country. I report medians instead of means so that the countries with significantly more observations do not overwhelm the results. The last row of Panel A reports the median of the median (MOM) values for each legal regime. Panel B reports test statistics of the difference in MOM between civil and common law regimes.

Table 1 demonstrates that common law countries have a higher MOM insider trading law score than civil law countries (4 versus 3). The difference is statistically significant at the 1% level. Common law countries also have a higher MOM value of the enforcement variable but the difference is statistically insignificant. Firms in common law countries have a higher MOM Tobin's Q (1.34 versus 1.17) and the difference is statistically significant at the 5% level. In addition, the MOM cash flow to price ratio is lower for firms in common law countries (0.083 versus 0.104). This difference is statistically significant at the 10% level. The difference in MOM sales growth between civil and common law countries is statistically insignificant.

The results are qualitatively similar if I consider two subsets of the full sample. For the sample of firms that have a controlling owner, the only difference is that the MOM sales growth is greater in common law countries, and this difference is statistically significant at the 5% level. For the sample of firms that are widely held (i.e., firms that do not have a controlling owner), the only difference from the full sample results is that the difference between firms in civil and common law countries in the MOM cash flow to price ratio is statistically insignificant, although the firms in common law countries still have a lower MOM cash flow to price ratio.

Table 2 reports median and MOM values of the same variables by insider trading regime. Countries with an insider trading law (*ITL*) index of 4 or 5 are classified as High *ITL* Regimes. Those with an *ITL* score of 1, 2 or 3 are classified as Low *ITL* Regimes. In each of the three samples, the full sample, the sample of firms with controlling shareholders, and the sample of widely held firms, the difference in the MOM enforcement measure is statistically insignificant between High *ITL* Regimes and Low *ITL* Regimes.

For the full sample, the MOM incidence of controlling ownership is greater in Low *ITL* Regimes than in high *ITL* Regimes. This difference is statistically significant at the 5% level. In contrast, the difference in the MOM incidence of widely held ownership is not statistically different between the two *ITL* regimes. For all of the three samples, the difference in MOM Tobin's Q between Low *ITL* Regimes and High *ITL* Regimes is statistically insignificant. For the full sample and the sample of firms with controlling owners, however, the MOM cash flow to price ratio is higher in Low *ITL* Regimes than in High *ITL* Regimes. The difference is statistically significant at the 5% and the 15%

levels for the full sample and the sample of firms with a controlling owner, respectively. Finally, the MOM sales growth is higher in High *ITL* Regimes for all of the firms and the firms with controlling owners; the difference is statistically significant at the 20% and the 15% levels, respectively.

Table 3 summarizes the control and ownership structures of the sample firms, by legal origins and *ITL* regimes. The sample firms in civil law countries have a higher average rate of occurrence of owners who control 20% or more of the votes. Sixty-seven percent of the firms in civil law countries have a controlling owner, while only thirty percent of the firms in common law countries have a controlling owner. This difference is statistically significant at the 5% level. Average cash flow ownership of the controlling owner is also higher for the firms in civil law countries. The controlling owners of firms in the civil law countries own on average 25% of the cash flow as opposed to about 10% for the controllers of firms in the common law countries. The difference is significant at the 5% level. Only thirteen percent of the firms in civil law countries are widely held, as opposed to forty-four percent of the firms in the common law countries. The difference is significant at the 5% level.

The distribution of ownership and control also differ significantly between High *ITL* Regimes and Low *ITL* Regimes. (See Panels C and D of Table 2). In particular, firms in Low *ITL* Regimes have a higher mean incidence of controlling owners, who also tend to own a greater average fraction of the firm's cash flow than their counterparts in High *ITL* Regimes. Also, the incidence of widely held firms is higher in High *ITL* Regimes than in Low *ITL* Regimes. These results are not surprising, since there is a strong overlap between common law (civil law) countries and High *ITL* Regimes (Low

ITL Regimes). LLSV (1998) find that ownership concentration in large public companies is lower in countries with poorer investor protections.

In summary, Table 3 suggests that ownership and control tend to be more concentrated on average in firms in countries with civil law origins and weak insider trading rules than in countries with common law origins and stringent insider trading rules.

Table 4 presents simple correlations (and p-values) between variables for each of the three samples. In the full sample, Tobin's Q is positively and significantly correlated with all other variables, including all the measures of insider trading regulation, at the 1% level of significance. The cash flow to price ratio is negatively correlated (significance level 1%) with the insider trading variables in the full sample. It is interesting that the correlation between insider trading law and the share of cash flow owned by the controlling shareholder is negative and significant at the 1% level, which means that in countries with tougher insider trading laws, controlling shareholders own a smaller fraction of the firm's cash flows. There is also a positive and significant correlation between the fraction of the largest firms that are widely held and the stringency of insider trading law across countries. In other words, countries with more stringent insider trading laws tend to have a greater prevalence of widely held firms (i.e., firms without controlling shareholders).

For the sample of firms with a controlling owner, Tobin's Q is positively and statistically significantly correlated with all of the other variables, except *ITL*. The cash flow to price ratio is negatively and significantly correlated with *ITL* and the interaction of *ITL* and the enforcement measure. Finally, in the widely held sample, Tobin's Q is

positively and statistically significantly correlated with all other variables at the 1% level. In this sample, the cash flow to price ratio is negatively and significantly correlated with all of the insider trading variables.

The results in this section suggest that there is significant overlap between legal origin and the insider trading legal regime. In particular, common law countries tend to have tougher insider trading laws. This raises the question whether insider trading laws have an independent explanatory power beyond their correlation with legal origin. I investigate this question in the next section, where I present the results of multivariate regressions of valuation on the insider trading variables and legal origin.

IV. Regression Results

In this section, I report regression results for all of the sample firms, for widely held firms, and for firms with controlling owners.

A. Hypothesis 1: Insider Trading Law and Valuation

Hypothesis 1 states that prohibitive insider trading laws increase firm value, by reducing insiders' incentives to divert corporate value through insider trading.

1. OLS Regressions

Table 5 presents the results of ordinary least squares regressions of valuation on the insider trading law and enforcement variables. Panel A reports the results for the full sample. In Panel A1, the dependent variable is the Tobin's Q valuation measure. In column 1, I include a measure of the market's perception of insider trading (*Perception*). This variable measures how much of a problem insider trading is perceived to be, and it ranges from 0 to 6. A score of 6 signifies that insider trading is perceived to be severe, while a score of 0 means that insider trading is not perceived to be a problem. The

coefficient on *Perception* is negative and significant at the 1% level (column 1). The magnitude of the coefficient falls after controlling for legal origin, but remains significant (column 9).

In the remaining regressions of Panel A1, each of the alternative measures of insider trading law/enforcement has a positive and significant coefficient (columns 2-8).¹⁶ Controlling for legal origin does not change these results, although it does reduce the magnitude of the coefficients on the insider trading law measures (columns 10-16). In Panel A2, the dependent variable is the cash flow to price ratio valuation measure. The results in Panel A2 suggest that a lower perception of insider trading and more stringent insider trading laws and enforcement are associated with higher valuation (lower cash flow to price ratio). Thus, for the full sample, the OLS results are consistent with Hypothesis 1.

Panel B of Table 5 reports OLS results for the firms with widely held shares (i.e., the firms that do not have a controlling owner). In Panel B1, the dependent variable is the Tobin's Q valuation measure while the dependent variable in Panel B2 is the cash flow to price ratio measure. The results are consistent with Hypothesis 1 for both valuation measures. That is, more stringent insider trading laws and enforcement are associated with higher Tobin's Q and lower cash flow to price ratio (i.e., higher valuation).¹⁷ In Panel B1, the coefficient on insider trading law (*ITL*) is .31 (column 2) and is significant at the 1% level. It falls to .20 when I control for legal origin (column 10). The result in column 10 of Panel B1 implies that Tobin's Q increases by .20 points as the insider trading law index increases from 3 to 4 (i.e., from the civil law to the

¹⁶ The only exception is *ITL* in column 13.

common law median), other things equal. The coefficient on *Sanction* (the sum of the criminal, damages, and private components of the law) is an impressive .56 and is significant at the 1% level after controlling for legal origin (column 11). This implies that an increase in *Sanction* from the civil law median of 1 to the common law median of 2 is associated with an increase in Tobin's Q of .56 points (about 34% of the overall average of Tobin's Q), other things equal.

Panel C presents OLS results for firms with a controlling owner. The results for Tobin's Q are reported in Panel C1 and the results for the cash flow to price ratio reported in Panel C2. In Table C1, the coefficient on the index of insider trading law (*ITL*) is negative and significant in columns 10 and 13, suggesting that for these types of firms more stringent insider trading laws are associated with lower valuation. The coefficient on the insider trading law index is -.08 and is significant at the 1% level. This implies that as the insider trading law score rises from the civil law median of 3 to the common law median of 4, Tobin's Q falls by about .08 points, other things equal. This result is inconsistent with Hypothesis 1, which predicts that more stringent insider trading laws are associated with higher corporate valuation, and supports Demsetz (1986) and Bhide (1993). The coefficients on the remaining insider trading law measures are insignificant. None of the insider trading law measures is significant in the cash flow to price ratio regressions in Table C2. While the OLS results for the firms with a controlling owner show a negative, albeit generally insignificant, association between the insider trading law and the valuation measures, the perception measure is paradoxically

¹⁷ The coefficient on *Perception* is significant (and negative, as expected) only in the Tobin's Q regression (Panel B1, column 2) but it becomes insignificant after controlling for legal origin (Panel B1, column 9).

associated with a lower Tobin's Q and a higher cash flow to price ratio (i.e., lower valuation) even after controlling for legal origin.

2. *Random Effects Regressions*

To address the possibility that corporate valuation is country-specific, I repeat the regressions in Table 5 using random effects regression analysis. Table 6 presents the results of random effects regressions of the valuation measures on the insider trading law and enforcement variables for the three samples. Panel A1 reports the results for Tobin's Q for the full sample. Most of the coefficients on the insider trading law variables are insignificant, in contrast to the OLS regressions for the full sample. The exceptions are *Eff_Law* (*ITL* times *Enf_94*) and *Eff_Sanct* (*Sanction* times *Enf_94*), both of which have positive and significant coefficients in columns 7 and 8. However, they become insignificant after controlling for legal origin (columns 15 and 16). Panel A2 reports the results for the cash flow measure for the full sample. Only *Eff_Law* and *Eff_Sanct* are significant before and after controlling for legal origin (columns 7-8 and 15-16). However, the coefficients are quite small.

Panel B of Table 6 presents the random effects results for the widely held firms. Panel B1 reports the results for Tobin's Q. The coefficient on *Perception* is negative and significant at the 5% level (column 1), but it becomes insignificant after controlling for legal origin (column 9). The coefficients on all of the insider trading law measures are positive and significant and they become more significant after controlling for legal origin (columns 9-16). The coefficient on *Sanction* is .56 and is significant at the 1% level. This implies that an increase in the sanction measure from the civil law median of 1 to the common law median of 2 is associated with a .56 point increase in Tobin's Q,

other things equal. Switching from a regime of non-enforcement to one in which insider trading legislation was enforced at least once before 1994 is associated with a .52 increase in Tobin's Q, other things equal. The results in Table B1 are consistent with Hypothesis 1, which predicts that insider trading law and valuation are positively related. These results are more dramatic than the corresponding OLS results in Panel B1 of Table 5.

Panel B2 of Table 6 reports the results for the cash flow valuation measure for widely held firms. The p-values of the Hausman specification tests suggest that random effects regression is inappropriate for the cash flow measure and this sample, except for columns 2, 10 and 11. In each of the latter specifications, the coefficients on the respective insider trading law measures are negative but insignificant.

Panel C of Table 6 reports random effects regression results for the sample of firms with a controlling owner. Panel C1 presents the results for Tobin's Q. The coefficients on all of the insider trading law measures are insignificant. The coefficient on *Perception* of insider trading is also insignificant. In Panel C2, I report the results for the cash flow valuation measure for the firms with controlling owners. However, as for the sample of widely held firms, the p-values for the Hausman specification tests suggest that random effects is inappropriate for this valuation measure and sample. Overall, therefore, the random effects results for the firms with controlling owners are inconsistent with Hypothesis 1, which predicts a positive relationship between valuation and insider trading law. They are also inconsistent with theories that predict a negative relationship between insider trading law and valuation (Demsetz, 1986; Bhidé, 1993).

B. Hypotheses 2 and 3: Cash Flow Ownership, Insider Trading Law and Valuation

Hypothesis 2 predicts that greater cash flow ownership is associated with higher valuation, for any level of insider trading prohibition. The reason is because a greater ownership stake reduces the insider's incentive to divert corporate value through insider trading (and other means). Hypothesis 3 predicts that insider trading law and cash flow ownership are substitutes. That is, tougher insider trading laws reduce the need for cash flow ownership as an incentive device, and vice versa (Easterbrook, 1991). Thus, the coefficient on the interaction term between insider trading law and cash flow ownership should be negative for the Tobin's Q measure and positive for the cash flow to price ratio measure. It would be ideal to investigate Hypotheses 2 and 3 using data for both types of firms (widely held firms and firms that have a controlling owner). However, I have information on cash flow ownership for the controlling owners, but not for other insiders.¹⁸ As a result, the regressions reported here are based only on the sample of firms that have controlling owners.

1. OLS Regressions

Panel A of Table 7 reports OLS regression results for Tobin's Q. The coefficient on cash flow ownership (*Cash Flow*) is positive in each of the specifications, but cash flow ownership is only weakly significant. Thus, there is weak support for Hypothesis 2 using Tobin's Q as a measure of valuation.¹⁹ Consistent with Hypothesis 3, the

¹⁸ LLSV (1999) are able to determine the ownership stake of controlling owners using the information provided by WorldScope. The ownership stakes of other insiders (directors, managers, etc.) are not as readily available in international data. For the U.S., getting this kind of information is not a problem, since insiders are required by law to report their ownership. For example, Masson and Madhavan (1991) use executive ownership in an empirical study of the effect of insider trading on corporate value for U.S. firms.

¹⁹ Similarly, LLSV (1999) report a statistically weak association between cash flow ownership and valuation. In fact, Demsetz and Villalonga (2001) argue that the net evidence from a series of empirical studies suggests that there is no significant relationship between ownership and value.

coefficients on the interaction terms between the insider trading law measures and ownership are negative. However, none of these coefficients is statistically significant. This result holds when I control for legal origin.

Panel B of Table 7 reports the results for the cash flow to price ratio measure. In these regressions, cash flow ownership and the insider trading law measures are never significant. These findings are inconsistent with Hypotheses 1 and 2. Consistent with Hypothesis 3, the coefficients on the interaction terms between the insider trading law measures and ownership are positive, although none of these coefficients is significant.

I do not report random effects ownership regressions because the results of Hausman specification tests suggest that random effects is inappropriate for this data.

C. Robust Analysis

1. Industry Adjustments

To take into account the possibility that different industries are at different maturity and growth levels in a manner that affects their valuations, LLSV (1999) also compute industry-adjusted measures of the valuation and sales growth variables. For each company, they compute the difference between its sales and valuation measures and the worldwide median sales and valuation measures for the industry to which the firm belongs. For instance, the industry-adjusted Tobin's Q (*Ind-Q*) for a given firm is the difference between that firm's Tobin's Q and the worldwide median Tobin's Q for firms in the same industry.

I run all of the regressions using these adjusted sales and valuation measures in place of the unadjusted measures. I do not report the results since they are qualitatively similar to those using the unadjusted valuation and sales measures. As with the

unadjusted measures, both OLS and random effects (where applicable) regressions support Hypothesis 1 for firms without a controlling owner. In fact, the random effects regressions using the adjusted valuation and sales measures provide even stronger support for Hypothesis 1 for these firms. Using the industry-adjusted measures confirms the findings of the earlier regressions that insider trading law and enforcement are insignificant for firms with a controlling owner and in some cases are negatively associated with valuation.

2. *Endogenous Ownership*

Thus far, I have assumed that α , the insider's ownership stake, is exogenous. This could bias the results if in fact α has a country-specific component. There is good reason to believe that this is the case, since LLSV (1998) show that ownership tends to be more concentrated in countries with stronger investor protections (i.e., countries with common law legal origin). Beny (1999) shows that ownership concentration is also greater in countries with less stringent insider trading laws. LLSV address this potential endogeneity by concentrating on within-country variation of cash-flow ownership. They do this by taking the difference between cash flow ownership at the firm level and the country mean. I run the ownership regressions using this demeaned ownership measure (*Demeaned Cash Flow*) for the firms with a controlling owner (i.e., the firms for which insider ownership information is available).

Table 8 reports the results of OLS regressions using this ownership measure.²⁰ Panel A reports the results for industry-adjusted Tobin's Q. Compared to Table 7, the coefficient on *Cash Flow* becomes more significant in some cases. Otherwise, the results

²⁰ I report only OLS results, because random effects is not applicable to these data, according to Hausman specification tests.

are qualitatively similar. The coefficients on the insider trading law measures are insignificant, with the exception of the insider trading law index (*ITL*) and the sanction measure (*Sanction*). The coefficients on the latter two measures are negative and significant, before and after controlling for legal origin (as in Panel C of Table 5 and Panel A of Table 7). This result is inconsistent with Hypothesis 1.

Panel B of Table 8 presents the results for the cash flow to price ratio valuation measure. In contrast to the results in Panel B of Table 7, where none of the insider trading law measures has a significant coefficient, the results reported in Panel B of Table 8 show that *Enf_94*, *Eff_Law* (*ITL* times *Enf_94*) and *Eff_Sanct* (*Sanction* times *Enf_94*) are positively and significantly associated with the cash flow to price ratio valuation measure for the firms with a controlling owner. This result is inconsistent with Hypothesis 1. As in Table 7, the interaction terms between the insider trading law measures and ownership are insignificant.

In summary, using the demeaned ownership measure in place of the raw ownership measure strengthens both the evidence against Hypothesis 1 and the evidence in support of Hypothesis 2 for firms with a controlling owner.

3. *Endogenous Insider Trading Law: Instrumental Variables*

It is possible that insider trading law is endogenous to ownership structure (and hence valuation). Therefore, since there are sound reasons to believe that legal origin is exogenous to the financial system (LLSV, 1998), in this section I use legal origin as an instrument for the insider trading law measures.

Table 9 presents the results from instrumental variables regressions for the three samples. In Panel A, I report the results for the full sample. For industry-adjusted

Tobin's Q (columns 1-6), the coefficients on the insider trading law measures are magnified relative to the corresponding coefficients in Tables 5 and 6. Moreover, all of these coefficients are significant at the 1% level. The coefficients on the insider trading law variables in the industry-adjusted cash flow to price ratio regressions are also larger than the corresponding coefficients in Tables 5 and 6.²¹

In Panel B, I report instrumental variables regressions for the widely held firms. In the industry-adjusted Tobin's Q regressions (columns 1-6), the coefficients on the insider trading law variables are magnified relative to the corresponding coefficients in Tables 5 and 6. The coefficient on the aggregate insider trading law index (*ITL*) is .78 and is significant at the 1% level. This result suggests that an increase in this variable from the civil law median of 3 to the common law median of 4 is associated with about a .80 rise in industry-adjusted Tobin's Q, other things equal. The coefficient on the sanction measure (*Sanction*) is even more dramatic: 1.88 and it is significant at the 1% level. This result implies that moving from the civil law median of 1 to the common law median of 2 results in a 1.88 point increase in industry-adjusted Tobin's Q, other things equal. The instrumental variables approach is not appropriate for the industry-adjusted cash flow valuation measure for the widely held firms, according to Hausman specification tests.

In Panel C of Table 9, I report the results of instrumental variables regressions for the firms with a controlling owner. Columns 1-5 present the results for industry-adjusted Tobin's Q. None of the coefficients on the insider trading law measures is significant, and at any rate, Hausman specification tests suggest that instrumental variables is inappropriate for this data. Columns 6-10 report the results for the industry-adjusted cash

²¹ However, instrumental variables is inappropriate for the regressions in columns 8 and 10.

flow to price ratio valuation measure. These results are consistent with Hypothesis 1 (compared to their counterparts in Tables 7 and 8). The coefficients on several of the insider trading law variables are negative and significant.

D. Discussion

For the firms without a controlling owner, the regression results show that insider trading law and enforcement are strongly associated with higher valuation, consistent with Hypothesis 1. These results are robust to the method of analysis: OLS, random effects, or instrumental variables. Instrumental variables regressions provide the strongest support for Hypothesis 1 for these firms. In the instrumental variables regression of column 4 of Table 9, for example, the coefficient on enforcement is 1.459 and is significant at the 1% level. This means that industry-adjusted Tobin's Q rises by an extraordinary 1.459 points, other things equal, as one goes from a country in which insider trading legislation was not enforced as of 1994 to a country that enforced the law at least once prior to 1994. Among the firms that do not have a controlling owner, the results suggest that insider trading law has independent explanatory power beyond legal origin. This evidence supports theoretical claims that insider trading legislation and enforcement are important means by which to mitigate the agency problem in firms in which ownership and control are separated.

In contrast, there is mixed support for Hypothesis 1 among the firms that have a controlling owner. In most of the OLS regressions for these firms, the relationship between valuation and insider trading law is insignificant. There are several reasons why insider trading law and enforcement might not be associated with higher valuation for firms with controlling owners. First, insider trading may be rare among these types of

firms because ownership is more concentrated in these firms and thus their stocks are tend to be relatively illiquid.²² Georgakopoulos (1993) and Maug (2000) emphasize that insider trading law becomes valuable when the stock market becomes sufficiently liquid, because that is when insider trading is most profitable and thus is most likely to occur. In Maug's (2000) model, the controlling shareholders' opportunity cost of monitoring (as opposed to trading) increases in the stock's liquidity. Similarly, albeit on a broader level, Georgakopoulos (1993) argues that insider trading legislation is efficient once the stock market becomes sufficiently liquid, since at that point, there is adequate need and demand for insider trading regulation.²³ If the stocks of firms with controlling owners are relatively illiquid, this could explain why we might not observe a significant association between insider trading laws and valuation among these firms.

Second, corporate takeovers provide a fertile (and common) context for illegal insider trading.²⁴ The more competitive the market for corporate control, the greater are the potential profits from trading on the basis of private information about an impending takeover, since "more competition in the market for corporate control drives [takeover] prices up." (Bris, 2000), p. 3. However, the market for corporate control is less competitive when control is closely held. In addition, hold-out problems are less severe when ownership is more concentrated, driving down the price of corporate acquisitions (Bris, 2000). In short, corporate takeovers might present less lucrative trading opportunities for firms with concentrated ownership and control.

²² 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. In addition, Eleswarapu and Krishnamurti (1999) show empirically that ownership concentration and liquidity are inversely related among Indian firms.

²³ This is consistent with Beny's (2001) finding that countries with liquid stock markets are more likely to pass and enforce insider trading laws than countries with less liquid stock markets.

²⁴ Bris (2000) conducts an empirical study of the relationship between the profitability of insider trading around corporate takeovers and insider trading law and enforcement.

In a few instances, OLS regressions for the firms with controlling owners demonstrate a negative association between insider trading law and valuation. This result is inconsistent with Hypothesis 1 and supports the claims of Demsetz (1986) and Bhidé (1993). Both argue that banning insider trading “impair[s] governance by encouraging diffuse stockholding and discouraging active investing.” Bhidé (1993), p. 43. On the other hand, instrumental variables regressions in which the cash flow to price ratio is the dependent variable provide support for Hypothesis 1 for firms with controlling owners. This is consistent with Maug (2000), who argues that stringent insider trading laws increase, rather than reduce, dominant shareholders’ incentives to monitor firm performance. According to Maug (2000), trading profits represent an opportunity cost of monitoring; when insider trading is banned, dominant shareholders have greater incentives to engage in value enhancing corporate monitoring.

I find weak support for Hypothesis 2, which predicts that greater cash flow ownership by the insider (in this case the controlling owner) is associated with higher valuation because a greater ownership stake reduces insiders’ incentives to divert corporate value through insider trading. Finally, the results yield scant support for Hypothesis 3 that ownership and insider trading legislation are substitute mechanisms by which to control the agency problem.

V. Conclusion and Future Work

Whether investors value insider trading legislation and enforcement is an important question in light of the long-standing policy and academic debate about the desirability of legislation prohibiting trading by corporate insiders prior to public disclosure of material information. This debate has thus far been inconclusive regarding

investors' valuation of such legislation. The results of this paper suggest that investors do value insider trading legislation in firms in which ownership and control are separated. This finding supports theoretical law and economics studies that characterize insider trading as an agency problem, and contradicts those that characterize insider trading as an incentive-alignment device. The results for firms with controlling owners are less clear-cut. For these firms, the results depend on the regression specification: insider trading law is sometimes insignificant, sometimes positive, and sometimes negative.

Consequently, I am unable to conclude that insider trading law is uniformly associated with valuation. As seems reasonable, insider trading legislation appears to be differentially associated with valuation across different types of firms (e.g., firms with different degrees of ownership concentration, governance structures, and liquidity). Nevertheless, this does not imply that individual firms should have discretion over insider trading policy instead of a mandatory prohibition applicable to all firms. Private contractual approaches to insider trading are unlikely to work (see, e.g., Cox, 1986).²⁵ Furthermore, an important role of insider trading legislation is to correct the potential detrimental effects of insider trading on equity market liquidity, price informativeness, and allocative efficiency (Goshen and Parchomovsky, 2000). Private approaches, however, are unlikely adequately to consider these external effects.

The work of this paper suggests several potential avenues for future research. One of these is to investigate explicitly the role of liquidity. Is insider trading legislation more valuable for firms with dispersed ownership because these firms' shares are more

²⁵ Cox argues that private contracting fails "because its central condition – a capability on the part of the parties to reliably estimate their respective costs and benefits – cannot be satisfied in the case of insider trading" and because of free-rider and coordination problems among disparate shareholders. (Cox, 1986),

liquid, implying that they offer greater insider trading opportunities? Another interesting question that this research raises is whether the apparent benefits of insider trading legislation justify its costs. Finally, do more stringent disclosure rules substitute for or complement an insider trading prohibition? How do shareholders value disclosure relative to insider trading legislation and enforcement? I leave these questions to future work.

p. 657. See generally Johnson and Shleifer (1999) for an argument for the superiority of public securities regulation over private contracting when transactions costs are prohibitive and the judicial system is weak.

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Data Appendix

Tobin's Q (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. *Source*: LLSV (1999). *Primary source*: WorldScope Database (March 1996).

Industry-adjusted Tobin's Q ($Ind-Q$)

The industry-adjusted Tobin's Q for a given firm is defined as the difference between that firm's Tobin's Q and the *world median* 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. *Source*: LLSV (1999). *Primary source*: WorldScope Database (March 1996).

Cash flow to price ratio (CF/P)

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. *Source*: LLSV (1999). *Primary source*: WorldScope Database (March 1996).

Industry-adjusted cash flow to price ratio ($Ind-CF/P$)

The industry-adjusted cash flow to price ratio is defined as the difference between the firm's cash flow to price ratio and the *world median* 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). *Source*: LLSV (1999). *Primary source*: WorldScope Database (March 1996).

Growth of sales (GS)

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. *Source*: LLSV (1999). *Primary source*: WorldScope Database (March 1996).

Industry-adjusted growth of sales ($Ind-GS$)

Industry adjusted growth of sales is defined as the difference between the firm's sales growth (GS) and the *world median* 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). *Source*: LLSV (1999). *Primary source*: WorldScope Database (March 1996).

Control rights

“Equal to the fraction of the firm’s voting rights owned by its controlling shareholder. To measure control we combine a shareholder’s *direct* (i.e., through shares registered in her name) and *indirect* (i.e., through shares held by entities that, in turn, she controls) voting rights in the firm. A shareholder has an $x\%$ *indirect control* over firm A if: (1) she controls directly firm B which, in turn, directly controls $x\%$ 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 $x\%$ 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 twenty 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.”
Source: LLSV (1999).

Cash flow rights (*Cash Flow*)

“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’).” *Source*: LLSV (1999).

Country-adjusted cash flow rights (*Demeaned Cash Flow*)

Demeaned cash flow ownership is 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. *Source*: LLSV (1998).

Legal origin

An indicator variable of the country’s legal origin. Legal origin equals 1 if the country’s legal origin is English common law; 2 if it is French civil law; 3 if it is German civil law; and 4 if it is the Scandinavian civil law. *Sources*: LLSV (1998); CIA (2000).

Common law (*Common Law*)

Common law is a dummy variable that equals one if the legal origin of the country is English common law and zero otherwise. *Sources*: LLSV (1998); CIA (2000).

Civil law (*Civil Law*)

Civil law is a dummy variable that equals one if the legal origin of the country is civil law and zero otherwise. *Sources*: LLSV (1998); CIA (2000).

Antidirector rights (*Antidir*)

“Index of antidirector rights. The index of antidirector rights is formed by adding one when: (1) the country allows shareholders to mail their proxy vote; (2) shareholders are not required to deposit their shares prior to the General Shareholders’ Meeting; (3) cumulative voting or proportional representation of minorities on 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 ten percent (the sample median); (6) or when shareholders have preemptive rights that can only be waived by a shareholders' meeting. The range for the index is from zero to six." *Source*: LLSV (1998).

Insider trading law index (ITL)

An index formed by aggregating individual components of countries' insider trading laws. The index is constructed by adding 1 if: (1) tippees, like primary insiders, are prohibited from trading on material non-public information; (2) insiders are prohibited from tipping outsiders about material non-public information and/or encouraging them to trade on such information for personal gain; (3) monetary penalties are proportional to insiders' trading profits; (4) investors have a private right of action; or (5) violation of the insider trading law is a criminal offense. The index takes the values 0 to 5, with 0 representing the most lax insider trading regime and 5 representing the toughest insider trading regime. *Sources*: Gaillard (1992); Stamp and Welsh (1996).

Sanctions (Sanction)

Sanction is constructed by adding 1 if: (1) monetary penalties are proportional to insiders' trading profits; (2) violation of the insider trading law is a criminal offense; or (3) investors have a private right of action. The index equals 0 to 3, with 0 representing the most lenient potential legal sanctions and 3 representing the most stringent potential sanctions. *Sources*: Gaillard (1992); Stamp and Welsh (1996).

Enforcement (Enf_94)

An indicator variable that equals 1 if the country's insider trading law has been enforced for the first time (i.e., at least once) by the end of 1994. *Source*: Bhattacharya and Daouk (2000). *Primary Sources*: national stock markets and regulators.

Effective law (Eff_Law)

Insider Trading Law (ITL) Index times Enforcement (Enf_94)

Effective sanction (Eff_Sanct)

Inside Trading Sanctions (Sanction) times Enforcement (Enf_94)

Subjective assessment of insider trading (ITS)

A variable measuring market participants' subjective assessment of the severity of insider trading in the country's stock market. The minimum value of 0 signifies that insider trading is viewed as a serious problem, and the maximum value of 6 signifies that insider trading is not viewed as a serious problem. *Source*: World Competitiveness Report (1996).

Perception of insider trading (Perception)

One minus ITS. A score of 0 signifies the lowest possible perception of insider trading, while a score of 6 signifies the highest possible perception of insider trading. *Source*: World Economic Forum, Global Competitiveness Report (1996).

Table 1: Medians and Medians of Medians by Legal Origin

Panel A groups countries according to their legal origins and reports medians for the full sample of 733 firms. Panel B shows the results of tests of the difference in medians between common law and civil law countries.

| Country | <i>N</i> | <i>ITL</i> | <i>Enf_94</i> | <i>Control Owner</i> | <i>Widely Held</i> | <i>Q</i> | <i>CF/P</i> | <i>GS</i> |
|--|----------|---------------------|---------------|----------------------|---------------------|---------------------|--------------------|-----------|
| Panel A: Medians | | | | | | | | |
| Australia | 36 | 4 | 0 | 0 | 0 | 1.336 | 0.083 | 13.378 |
| Canada | 29 | 5 | 1 | 0 | 0 | 1.463 | 0.067 | 14.284 |
| Hong Kong | 21 | 3 | 1 | 1 | 0 | 1.146 | 0.081 | 10.409 |
| Ireland | 27 | 4 | 0 | 0 | 0 | 1.304 | 0.109 | 15.868 |
| Israel | 20 | 3 | 1 | 1 | 0 | 1.170 | 0.116 | 13.192 |
| New Zealand | 21 | 4 | 0 | 1 | 0 | 1.270 | 0.092 | 17.427 |
| Singapore | 23 | 4 | 1 | 1 | 0 | 1.520 | 0.040 | 21.405 |
| United Kingdom | 65 | 3 | 1 | 0 | 1 | 1.640 | 0.088 | 9.033 |
| United States | 77 | 5 | 1 | 0 | 1 | 2.440 | 0.034 | 5.128 |
| Common Law Median of Medians | 27 | 4 | 1 | 0 | 0 | 1.336 | 0.083 | 13.378 |
| Argentina | 19 | 3 | 1 | 1 | 0 | 1.151 | 0.145 | 13.195 |
| Austria | 21 | 2 | 0 | 1 | 0 | 1.113 | 0.147 | 9.312 |
| Belgium | 20 | 3 | 1 | 1 | 0 | 1.223 | 0.130 | 8.892 |
| Denmark | 20 | 3 | 0 | 1 | 0 | 1.504 | 0.089 | 10.711 |
| Finland | 22 | 3 | 1 | 1 | 0 | 1.102 | 0.171 | 13.856 |
| France | 28 | 4 | 1 | 0 | 0 | 1.148 | 0.067 | 7.109 |
| Germany | 23 | 3 | 0 | 1 | 0 | 1.189 | 0.143 | 7.396 |
| Greece | 20 | 2 | 0 | 1 | 0 | 1.673 | 0.075 | 22.045 |
| Italy | 21 | 3 | 0 | 1 | 0 | 1.035 | 0.150 | 6.943 |
| Japan | 31 | 2 | 1 | 0 | 0 | 1.300 | 0.037 | 1.152 |
| Korea (South) | 28 | 5 | 1 | 0 | 0 | 1.062 | 0.068 | 19.318 |
| Mexico | 20 | 1 | 0 | 1 | 0 | 1.639 | 0.095 | -4.004 |
| Netherlands | 26 | 3 | 1 | 0.5 | 0 | 1.614 | 0.090 | 12.250 |
| Norway | 21 | 1 | 1 | 1 | 0 | 1.146 | 0.105 | 14.603 |
| Portugal | 20 | 4 | 0 | 1 | 0 | 1.091 | 0.111 | 20.195 |
| Spain | 21 | 4 | 0 | 1 | 0 | 1.106 | 0.116 | 5.056 |
| Sweden | 22 | 3 | 1 | 1 | 0 | 1.212 | 0.103 | 17.357 |
| Switzerland | 31 | 3 | 0 | 0 | 0 | 1.203 | 0.081 | 10.528 |
| Civil Law Median of Medians | 21 | 3 | 0.5 | 1 | 0 | 1.170 | 0.104 | 10.619 |
| Panel B: Tests of Medians (z-statistic) | | | | | | | | |
| Civil vs. Common Law | | -2.422 ^a | -0.8060 | 1.521 ^d | -2.040 ^b | -2.006 ^b | 1.800 ^c | -0.977 |

Notes: *N* is the total number of firms observed for each country; *ITL* is the index of insider trading law; *Enf_94* equals one if the country's insider trading law was enforced at least once before 1994, and zero otherwise; *Control Owner* equals one if the firm has an owner who controls 20% or more of the votes, and zero otherwise; *Widely Held* equals one if the firm does not have an owner controlling either 10% or 20% of the votes; *Q* is Tobin's Q; *CF/P* is the cash flow to price ratio; and *GS* is the growth of sales, expressed in percentage terms. All variables are described in detail in the Data Appendix. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Table 2: Medians and Medians of Medians by Insider Trading Regime

The table reports medians of variables by insider trading regime. High insider trading regimes have an ITL score of 4 or 5, while low insider trading regimes have an ITL score of less than or equal to 3.

Panel A: Full Sample Medians

| | N | ITL | <i>Enf_94</i> | <i>Q</i> | <i>CF/P</i> | <i>GS</i> |
|--------------------------------------|------|---------------------|---------------|----------|--------------------|---------------------|
| Argentina | 19 | 3 | 1 | 1.151 | 0.145 | 13.195 |
| Austria | 21 | 2 | 0 | 1.113 | .0147 | 9.312 |
| Belgium | 20 | 3 | 1 | 1.223 | 0.130 | 8.892 |
| Denmark | 20 | 3 | 0 | 1.504 | 0.089 | 10.711 |
| Finland | 22 | 3 | 1 | 1.102 | 0.171 | 13.856 |
| Germany | 23 | 3 | 0 | 1.189 | 0.143 | 7.396 |
| Greece | 20 | 2 | 0 | 1.673 | 0.075 | 22.045 |
| Hong Kong | 21 | 3 | 1 | 1.146 | 0.081 | 10.409 |
| Israel | 20 | 3 | 1 | 1.170 | 0.116 | 13.192 |
| Italy | 21 | 3 | 0 | 1.034 | 0.150 | 6.943 |
| Japan | 31 | 2 | 1 | 1.300 | 0.037 | 1.152 |
| Mexico | 20 | 1 | 0 | 1.639 | 0.095 | -4.004 |
| Netherlands | 26 | 3 | 1 | 1.614 | 0.090 | 12.250 |
| Norway | 21 | 1 | 1 | 1.146 | 0.105 | 14.603 |
| Sweden | 22 | 3 | 1 | 1.212 | 0.103 | 17.357 |
| Switzerland | 31 | 3 | 0 | 1.203 | 0.081 | 10.528 |
| United Kingdom | 65 | 3 | 1 | 1.640 | 0.088 | 9.033 |
| Low ITL Median of Medians | 21 | 3 | 1 | 1.203 | 0.103 | 10.528 |
| Australia | 36 | 4 | 0 | 1 | 0.083 | 13.378 |
| Canada | 29 | 5 | 1 | .336 | 0.067 | 14.284 |
| France | 28 | 4 | 1 | 1.463 | 0.066 | 7.109 |
| Ireland | 27 | 4 | 0 | 1.148 | 0.109 | 15.868 |
| Korea (South) | 28 | 5 | 1 | 1.304 | 0.068 | 19.318 |
| New Zealand | 21 | 4 | 0 | 1.062 | 0.092 | 17.427 |
| Portugal | 20 | 4 | 0 | 1.270 | 0.111 | 20.195 |
| Singapore | 23 | 4 | 1 | 1.520 | 0.040 | 21.405 |
| Spain | 21 | 4 | 0 | 1.106 | 0.116 | 5.056 |
| United States | 77 | 5 | 1 | 2.440 | 0.034 | 5.128 |
| High ITL Median of Medians | 27.5 | 4 | 0.500 | 1.287 | 0.076 | 15.076 |
| Test of Medians (z-statistic) | | | | | | |
| Low ITL vs. High ITL | | -4.517 ^a | 0.437 | -0.050 | 2.008 ^b | -1.406 ^c |

Notes: *N* is the total number of firms observed for each country; *ITL* is the index of insider trading law; *Enf_94* equals one if the country's insider trading law was enforced at least once before 1994, and zero otherwise; *Q* is Tobin's *Q*; *CF/P* is the cash flow to price ratio; and *GS* is the growth of sales, expressed in percentage terms. All variables are described in detail in the Data Appendix. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 2: Medians. *Continued.*

| Panel B: Medians for firms with a controlling owner | | | | | | |
|--|----------|---------------------|---------------|----------|--------------------|---------------------|
| | <i>N</i> | <i>ITL</i> | <i>Enf_94</i> | <i>Q</i> | <i>CF/P</i> | <i>GS</i> |
| Low <i>ITL</i> Regime | 17 | 3 | 1 | 1.213 | 0.102 | 11.432 |
| High <i>ITL</i> Regime | 10 | 4 | 0.500 | 1.400 | 0.081 | 16.578 |
| Test of Medians (z-statistic) | | | | | | |
| Low <i>ITL</i> vs. High <i>ITL</i> | | -4.517 ^a | 0.437 | -0.703 | 1.506 ^d | -1.556 ^d |
| Panel C: Medians for widely held firms | | | | | | |
| | <i>N</i> | <i>ITL</i> | <i>Enf_94</i> | <i>Q</i> | <i>CF/P</i> | <i>GS</i> |
| Low <i>ITL</i> Regime | 2 | 3 | 1 | 1.294 | 0.088 | 9.012 |
| High <i>ITL</i> Regime | 8 | 4 | 1 | 1.190 | 0.072 | 12.589 |
| Test of Medians (z-statistic) | | | | | | |
| Low <i>ITL</i> vs. High <i>ITL</i> | | -4.054 ^a | 0.506 | 1.253 | 0.493 | -0.198 |

Notes: *N* is the total number of firms observed for each country; *ITL* is the index of insider trading law; *Enf_94* equals one if the country's insider trading law was enforced at least once before 1994, and zero otherwise; *Q* is Tobin's Q; *CF/P* is the cash flow to price ratio; and *GS* is the growth of sales, expressed in percentage terms. All variables are described in detail in the Data Appendix. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Table 3: Ownership & Control Structure of Firms

Panel A groups countries according to their legal origins and reports means for the full sample of 733 firms. Panel B shows the results of tests of the difference in means between common law and civil law countries. Panel C groups countries according to their insider trading regimes (high *ITL* vs. low *ITL*). Panel D presents the results of tests of the difference in means between high *ITL* and low *ITL* regimes.

| Country | <i>N</i> | <i>Control Owner</i> | <i>Cash Flow</i> | <i>Widely Held</i> | <i>ITL</i> | <i>High ITL</i> |
|--|----------|----------------------|--------------------|---------------------|---------------------|-----------------|
| Panel A: Means by Legal Origins | | | | | | |
| Australia | 36 | 0.194 | 0.075 | 0.444 | 4 | Yes |
| Canada | 29 | 0.345 | 0.107 | 0.310 | 5 | Yes |
| Hong Kong | 21 | 0.905 | 0.298 | 0.048 | 3 | No |
| Ireland | 27 | 0.259 | 0.119 | 0.259 | 4 | Yes |
| Israel | 20 | 0.95 | 0.249 | 0.050 | 3 | No |
| New Zealand | 21 | 0.714 | 0.225 | 0.048 | 4 | Yes |
| Singapore | 23 | 0.652 | 0.231 | 0.130 | 4 | Yes |
| United Kingdom | 65 | 0.015 | 0.002 | 0.692 | 3 | No |
| United States | 77 | 0.039 | 0.011 | 0.740 | 5 | Yes |
| Common Law Mean | | 0.301 | 0.098 | 0.439 | 4 | |
| Argentina | 19 | 1.000 | 0.417 | 0 | 3 | No |
| Austria | 21 | 0.905 | 0.407 | 0.048 | 2 | No |
| Belgium | 20 | 0.950 | 0.290 | 0 | 3 | No |
| Denmark | 20 | 0.800 | 0.303 | 0 | 3 | No |
| Finland | 22 | 0.636 | 0.269 | 0.091 | 3 | No |
| France | 28 | 0.357 | 0.081 | 0.286 | 4 | Yes |
| Germany | 23 | 0.565 | 0.194 | 0.130 | 3 | No |
| Greece | 20 | 1.000 | 0.506 | 0 | 2 | No |
| Italy | 21 | 0.857 | 0.312 | 0.048 | 3 | No |
| Japan | 31 | 0.290 | 0.133 | 0.355 | 2 | No |
| Korea (South) | 28 | 0.357 | 0.107 | 0.286 | 5 | Yes |
| Mexico | 20 | 1.000 | 0.359 | 0 | 1 | No |
| Netherlands | 26 | 0.500 | 0.212 | 0.231 | 3 | No |
| Norway | 21 | 0.762 | 0.225 | 0.048 | 1 | No |
| Portugal | 20 | 0.900 | 0.447 | 0 | 4 | Yes |
| Spain | 21 | 0.714 | 0.275 | 0.048 | 4 | Yes |
| Sweden | 22 | 0.773 | 0.107 | 0.0981 | 3 | No |
| Switzerland | 31 | 0.419 | 0.144 | 0.355 | 3 | No |
| Civil Law Mean | | 0.674 | 0.251 | 0.133 | 2.930 | |
| Panel B: Difference in Means by Legal Origins (t-statistic) | | | | | | |
| Civil vs. Common Law | | 2.210 ^b | 2.421 ^b | -2.496 ^b | -2.572 ^b | |

Continued

Table 3: Ownership and Control Structure. *Continued.*

| Panel C: Means by ITL Regime | | | | |
|---|--------------------------|----------------------|------------------------|---------------------|
| | <i>Control Owner</i> | <i>Cash Flow</i> | <i>Widely Held</i> | <i>ITL</i> |
| High ITL Mean | 0.453 | 0.168 | 0.255 | 4.300 |
| Low ITL Mean | 0.725 | 0.260 | 0.128 | 2.588 |
| Panel D: Difference in Means by ITL Regime | | | | |
| Low ITL vs. High ITL | 2.430 ^b | 1.842 ^c | -1.595 ^d | -6.719 ^a |

Notes: N is the total number of firms observed for each country; *Control Owner* equals one if the firm has an owner who controls 20% or more of the votes, and zero otherwise; *Cash Flow* is the controlling owner's cash flow stake in the firm; *Widely Held* equals one if the firm does not have an owner controlling either 10% or 20% of the votes; *ITL* is the index of insider trading law; *High ITL* equals one if the country has an *ITL* index of 4 or greater. All variables are described in detail in the Data Appendix. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Table 4: Correlations

The table reports simple correlations among variables in the full sample of firms.

A. Full Sample.

| | <i>Common Law</i> | <i>ITL</i> | <i>Law_Enf</i> | <i>Eff_Law</i> | <i>ITS</i> | <i>GS</i> | <i>Q</i> | <i>CF/P</i> | <i>Control Owner</i> | <i>Widely Held</i> |
|----------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------|
| <i>Common Law</i> | 1.000 | | | | | | | | | |
| <i>ITL</i> | 0.498 ^a (0.000) | 1.000 | | | | | | | | |
| <i>Enf_94</i> | 0.217 ^a (0.000) | 0.177 ^a (0.000) | 1.000 | | | | | | | |
| <i>Eff_Law</i> | 0.545 ^a (0.000) | 0.647 ^a (0.000) | 0.764 ^a (0.000) | 1.000 | | | | | | |
| <i>ITS</i> | 0.158 ^a (0.000) | 0.004 (0.909) | 0.050 (0.191) | 0.099 ^a (0.010) | 1.000 | | | | | |
| <i>GS</i> | 0.009 (0.812) | 0.053 ^d (0.153) | -0.047 (0.204) | -0.028 (0.469) | -0.053 (0.170) | 1.000 | | | | |
| <i>Q</i> | 0.278 ^a (0.000) | 0.191 ^a (0.000) | 0.167 ^a (0.000) | 0.244 ^a (0.000) | 0.137 ^a (0.000) | 0.204 ^a (0.000) | 1.000 | | | |
| <i>CF/P</i> | -0.245 ^a (0.000) | -0.214 ^a (0.000) | -0.171 ^a (0.000) | -0.293 ^a (0.000) | -0.128 ^a (0.001) | -0.190 ^a (0.000) | -0.552 ^a (0.000) | 1.000 | | |
| <i>Control Owner</i> | -0.370 ^a (0.000) | -0.346 ^a (0.000) | -0.209 ^a (0.000) | -0.388 ^a (0.000) | -0.101 ^a (0.009) | 0.126 ^a (0.001) | -0.173 ^a (0.000) | 0.246 ^a (0.000) | 1.000 | |
| <i>Widely Held</i> | 0.343 ^a (0.000) | 0.270 ^a (0.000) | 0.214 ^a (0.000) | 0.339 ^a (0.000) | 0.081 ^b (0.035) | -0.124 ^a (0.001) | 0.179 ^a (0.000) | -0.220 ^a (0.000) | -0.616 ^a (0.000) | 1.000 |

Notes: All variables are described in detail in the Data Appendix. 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, c and d denote the 1%, 5%, 10% and 15% statistical significance levels, respectively.

Continued

Table 4: Correlations. *Continued.*

B. Firms with a Controlling Owner.

| | <i>Common Law</i> | <i>ITL</i> | <i>Enf_94</i> | <i>Eff_Law</i> | <i>ITS</i> | <i>GS</i> | <i>Q</i> | <i>CF/P</i> | <i>Cash Flow</i> |
|-------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------|------------------|
| <i>Common Law</i> | 1.000 | | | | | | | | |
| <i>ITL</i> | 0.410 ^a (0.000) | 1.000 | | | | | | | |
| <i>Enf_94</i> | 0.212 ^a (0.000) | 0.125 ^b (0.015) | 1.000 | | | | | | |
| <i>Eff_Law</i> | 0.493 ^a (0.000) | 0.515 ^a (0.000) | 0.846 ^a (0.000) | 1.000 | | | | | |
| <i>ITS</i> | 0.098 ^c (0.080) | -0.018 (0.741) | 0.071 (0.206) | 0.085 ^d (0.127) | 1.000 | | | | |
| <i>GS</i> | 0.115 ^b (0.026) | 0.153 ^a (0.003) | 0.049 (0.347) | 0.097 ^c (0.082) | -0.046 (0.413) | 1.000 | | | |
| <i>Q</i> | 0.108 ^b (0.037) | -0.021 (0.686) | 0.010 (0.843) | 0.076 (0.171) | 0.165 ^a (0.003) | 0.221 ^a (0.000) | 1.000 | | |
| <i>CF/P</i> | -0.254 ^a (0.000) | -0.098 ^c (0.060) | 0.003 (0.951) | -0.108 ^b (0.053) | -0.131 ^b (0.019) | -0.256 ^a (0.000) | -0.567 ^a (0.000) | 1.000 | |
| <i>Cash Flow</i> | -0.095 ^c (0.067) | -0.057 (0.271) | -0.191 ^a (0.000) | -0.208 ^a (0.000) | -0.013 (0.820) | 0.014 (0.780) | 0.074 ^d (0.150) | 0.013 (0.798) | 1.000 |

Notes: All variables are described in detail in the Data Appendix. 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, c and d denote the 1%, 5%, 10% and 15% statistical significance levels, respectively.

Continued

Table 4: Correlations. *Continued.*

C. Widely Held Firms.

| | <i>Common Law</i> | <i>ITL</i> | <i>Enf_94</i> | <i>Eff_Law</i> | <i>ITS</i> | <i>GS</i> | <i>Q</i> | <i>CF/P</i> |
|-------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------|
| <i>Common Law</i> | 1.000 | | | | | | | |
| <i>ITL</i> | 0.412 ^a (0.000) | 1.000 | | | | | | |
| <i>Enf94</i> | 0.165 ^b (0.021) | 0.143 ^b (0.045) | 1.000 | | | | | |
| <i>Eff_Law</i> | 0.469 ^a (0.000) | 0.731 ^a (0.000) | 0.592 ^a (0.000) | 1.000 | | | | |
| <i>ITS</i> | 0.341 ^a (0.000) | -0.086 (0.233) | -0.227 ^a (0.001) | 0.027 (0.708) | 1.000 | | | |
| <i>GS</i> | 0.035 (0.623) | -0.002 (0.978) | -0.180 ^a (0.012) | -0.118 ^c (0.103) | -0.078 (0.283) | 1.000 | | |
| <i>Q</i> | 0.342 ^a (0.000) | 0.296 ^a (0.000) | 0.222 ^a (0.002) | 0.283 ^a (0.000) | 0.133 ^c (0.064) | 0.239 ^a (0.001) | 1.000 | |
| <i>CF/P</i> | 0.026 (0.719) | -0.190 ^a (0.009) | -0.194 ^a (0.007) | -0.277 ^a (0.000) | -0.015 (0.836) | -0.134 ^c (0.066) | -0.538 ^a (0.000) | 1.000 |

Notes: All variables are described in detail in the Data Appendix. 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, c and d denote the 1%, 5%, 10% and 15% statistical significance levels, respectively.

Table 5: OLS Regressions - Insider Trading Law and Valuation

Panel A1: Full Sample.

| | <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | | | | | |
|------------------------|--------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | 1.329 ^a (0.284) | 1.210 ^a (0.264) | 1.348 ^a (0.262) | 1.321 ^a (0.267) | 1.261 ^a (0.264) | 1.361 ^a (0.263) | 1.329 ^a (0.262) | 1.393 ^a (0.261) | 1.326 ^a (0.283) | 1.237 ^a (0.333) | 1.308 ^a (0.260) | 1.291 ^a (0.262) | 1.276 ^a (0.262) | 1.319 ^a (0.261) | 1.300 ^a (0.26) | 1.351 ^a (0.259) | |
| Perception | -0.312 ^a (0.048) | | | | | | | | -0.131 ^a (0.053) | | | | | | | | |
| ITL | | 0.148 ^a (0.032) | | | 0.127 ^a (0.031) | | | | | -0.077 ^b (0.033) | | 0.037 (0.032) | | | | | |
| Sanction | | | 0.343 ^a (0.063) | | | 0.281 ^a (0.066) | | | | | 0.221 ^a (0.058) | | | 0.174 ^a (0.062) | | | |
| Enf_94 | | | | 0.308 ^a (0.058) | 0.259 ^a (0.055) | 0.161 ^a (0.057) | | | | | | 0.209 ^a (0.054) | 0.203 ^a (0.054) | 0.130 ^b (0.057) | | | |
| Eff_Law | | | | | | | 0.118 ^a (0.017) | | | | | | | | | 0.083 ^a (0.016) | |
| Eff_Sanct | | | | | | | | 0.301 ^a (0.044) | | | | | | | | | 0.228 ^a (0.040) |
| Common Law | | | | | | | | | 0.496 ^a (0.076) | 0.441 ^a (0.064) | 0.403 ^a (0.060) | 0.445 ^a (0.061) | 0.407 ^a (0.063) | 0.394 ^a (0.059) | 0.377 ^a (0.058) | 0.385 ^a (0.058) | |
| Constant | 2.006 ^a (0.092) | 0.977 ^a (0.106) | 1.081 ^a (0.074) | 1.275 ^a (0.044) | 0.883 ^a (0.113) | 1.049 ^a (0.075) | 1.209 ^a (0.044) | 1.212 ^a (0.044) | 1.502 ^a (0.105) | 1.128 ^a (0.102) | 1.046 ^a (0.073) | 1.146 ^a (0.050) | 1.042 ^a (0.109) | 1.021 ^a (0.074) | 1.122 ^a (0.048) | 1.109 ^a (0.048) | |
| R-Squared | 0.080 | 0.075 | 0.093 | 0.072 | 0.096 | 0.099 | 0.111 | 0.114 | 0.145 | 0.124 | 0.140 | 0.135 | 0.136 | 0.144 | 0.152 | 0.159 | |
| Number of Observations | 672 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 672 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | |

Notes: The dependent variable is Tobin's Q for the full sample of firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 5: OLS Regressions. *Continued.*

| Panel A2: Full Sample. | | <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | | | |
|-------------------------------|--------------------------------|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| GS | -0.070 ^a (0.015) | -0.076 ^a (0.015) | -0.085 ^a (0.015) | -0.083 ^a (0.015) | -0.079 ^a (0.015) | -0.086 ^a (0.015) | -0.084 ^a (0.015) | -0.008 ^a (0.015) | -0.071 ^a (0.015) | -0.078 ^a (0.015) | -0.084 ^a (0.015) | -0.082 ^a (0.015) | -0.080 ^a (0.015) | -0.085 ^a (0.015) | -0.083 ^a (0.015) | -0.087 ^a (0.015) |
| Perception | 0.022 ^a (0.004) | | | | | | | | 0.012 ^a (0.004) | | | | | | | |
| ITL | | -0.011 ^a (0.002) | | | -0.010 ^a (0.002) | | | | | -0.006 ^a (0.002) | | | -0.005 ^a (0.002) | | | |
| Sanction | | | -0.025 ^a (0.004) | | | -0.021 ^a (0.004) | | | | | -0.019 ^a (0.004) | | | -0.016 ^a (0.004) | | |
| Enf_94 | | | | -0.021 ^a (0.004) | -0.018 ^a (0.004) | -0.010 ^b (0.005) | | | | | | -0.016 ^a (0.004) | -0.015 ^a (0.004) | -0.009 ^c (0.005) | | |
| Eff_Law | | | | | | | -0.008 ^a (0.001) | | | | | | | | | -0.006 ^a (0.001) |
| Eff_Sanct | | | | | | | | -0.020 ^a (0.003) | | | | | | | | -0.016 ^a (0.003) |
| Common Law | | | | | | | | | -0.028 ^a (0.005) | -0.022 ^a (0.005) | -0.021 ^a (0.004) | -0.025 ^a (0.004) | -0.020 ^a (0.005) | -0.021 ^a (0.004) | -0.021 ^a (0.004) | -0.021 ^a (0.004) |
| Constant | 0.070 ^a (0.007) | 0.148 ^a (0.008) | 0.139 ^a (0.005) | 0.124 ^a (0.004) | 0.154 (0.007) | 0.141 ^a (0.005) | 0.127 ^a (0.004) | 0.128 ^a (0.044) | 0.099 ^a (0.009) | 0.141 ^a (0.008) | 0.141 ^a (0.008) | 0.132 ^a (0.004) | 0.147 ^a (0.008) | 0.143 ^a (0.005) | 0.133 ^a (0.004) | 0.134 ^a (0.004) |
| R-Squared | 0.072 | 0.079 | 0.097 | 0.068 | 0.055 | 0.103 | 0.010 | 0.109 | 0.120 | 0.106 | 0.127 | 0.114 | 0.121 | 0.131 | 0.129 | 0.140 |
| Number of Observations | 656 | 716 | 716 | 716 | 716 | 716 | 716 | 716 | 656 | 716 | 716 | 716 | 716 | 716 | 716 | 716 |

Notes: The dependent variable is the cash flow to price ratio for the full sample of firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 5: OLS Regressions. *Continued.*

| Panel B1: Widely Held Firms. | | | | | | | | | | | | | | | | |
|--------------------------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| GS | 2.079 ^a | 2.026 ^a | 2.433 ^a | 2.393 ^a | 2.338 ^a | 2.564 ^a | 2.458 ^a | 2.526 ^a | 1.897 ^a | 1.922 ^a | 2.250 ^a | 2.195 ^a | 2.204 ^a | 2.358 ^a | 2.260 ^a | 2.329 ^a |
| Perception | (0.264) | (0.656) | (0.675) | (0.699) | (0.674) | (0.689) | (0.686) | (0.690) | 0.639 | (0.633) | (0.646) | (0.641) | (0.644) | (0.652) | (0.645) | (0.648) |
| | -0.422 ^a | | | | | | | | -0.066 | | | | | | | |
| | (0.151) | | | | | | | | (0.141) | | | | | | | |
| ITL | | 0.314 ^a | | | 0.281 ^a | | | | | 0.201 ^a | | | 0.183 ^a | | | |
| | | (0.065) | | | (0.064) | | | | | (0.070) | | | (0.069) | | | |
| Sanction | | | 0.676 ^a | | | 0.556 ^a | | | | | 0.561 ^a | | | 0.472 ^a | | |
| | | | (0.143) | | | (0.150) | | | | | (0.134) | | | (0.140) | | |
| Enf_94 | | | | 0.653 ^a | 0.547 ^a | 0.358 ^a | | | | | | 0.517 ^a | | 0.279 ^a | | |
| | | | | (0.136) | (0.128) | (0.133) | | | | | | (0.134) | | (0.135) | | |
| Eff_Law | | | | | | | 0.198 ^a | | | | | | 0.479 ^a | | 0.154 ^a | |
| | | | | | | | (0.035) | | | | | | (0.133) | | (0.035) | |
| Eff_Sanct | | | | | | | | 0.471 ^a | | | | | | | | 0.391 ^a |
| | | | | | | | | (0.090) | | | | | | | | (0.085) |
| Common Law | | | | | | | | | 0.789 ^a | 0.620 ^a | 0.688 ^a | 0.730 ^a | 0.565 ^a | 0.665 ^a | 0.620 ^a | 0.673 ^a |
| | | | | | | | | | (0.106) | (0.118) | (0.108) | (0.105) | (0.125) | (0.109) | (0.110) | (0.108) |
| Constant | 2.282 ^a | 0.457 ^a | 0.680 ^a | 1.120 ^a | 0.118 | 0.552 ^a | 1.012 ^a | 1.055 ^a | 1.215 ^a | 0.459 ^b | 0.365 ^c | 0.723 ^a | 0.163 | 0.276 | 0.722 ^a | 0.687 ^a |
| | (0.245) | (0.241) | (0.202) | (0.123) | (0.262) | (0.206) | (0.118) | (0.118) | (0.232) | (0.237) | (0.195) | (0.136) | (0.262) | (0.202) | (0.124) | (0.129) |
| R-Squared | 0.079 | 0.159 | 0.174 | 0.127 | 0.205 | 0.190 | 0.192 | 0.184 | 0.189 | 0.221 | 0.263 | 0.228 | 0.255 | 0.273 | 0.260 | 0.269 |
| Number of Observations | 192 | 194 | 194 | 194 | 194 | 194 | 194 | 194 | 192 | 194 | 194 | 194 | 194 | 194 | 194 | 194 |

Notes: The dependent variable is Tobin's Q for the widely held firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 5: OLS Regressions. *Continued.*

| Panel B2: Widely Held Firms. | | | | | | | | | | | | | | | | | |
|---|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|
| <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | -0.051 ^c | -0.054 ^c | -0.069 ^a | -0.065 ^a | -0.066 ^a | -0.074 ^a | -0.073 ^a | -0.073 ^a | -0.052 ^b | -0.055 ^b | -0.070 ^a | -0.066 ^a | -0.068 ^a | -0.075 ^a | -0.071 ^a | -0.074 ^a | |
| Perception | 0.003 (0.010) | | | | | | | | 0.005 (0.011) | | | | | | | | |
| ITL | | -0.009 ^a (0.004) | | | -0.008 ^b (0.004) | | | | | -0.011 ^a (0.003) | | | -0.010 ^a (0.003) | | | | |
| Sanction | | | -0.027 ^a (0.006) | | | -0.023 ^a (0.007) | | | | | -0.028 ^a (0.006) | | | -0.024 ^a (0.007) | | | |
| Enf_94 | | | | -0.025 ^a (0.008) | -0.022 ^a (0.008) | -0.013 ^d (0.010) | | | | | | -0.026 ^a (0.008) | -0.024 ^a (0.008) | -0.014 ^d (0.009) | | | |
| Eff_Law | | | | | | | -0.020 ^a (0.004) | | | | | | | | | -0.008 ^a (0.002) | |
| Eff_Sanct | | | | | | | | -0.020 ^a (0.004) | | | | | | | | | -0.021 ^a (0.004) |
| Common Law | | | | | | | | | 0.004 (0.009) | 0.012 ^d (0.008) | 0.008 (0.007) | 0.007 (0.008) | 0.015 ^c (0.008) | 0.009 (0.008) | 0.011 ^d (0.008) | 0.009 (0.007) | |
| Constant | 0.079 ^a (0.015) | 0.121 ^a (0.015) | 0.124 ^a (0.010) | 0.105 ^a (0.007) | 0.134 ^a (0.014) | 0.129 ^a (0.010) | 0.110 ^a (0.006) | 0.110 ^a (0.006) | 0.074 ^a (0.020) | 0.120 ^a (0.015) | 0.120 ^a (0.011) | 0.101 ^a (0.008) | 0.134 ^a (0.014) | 0.124 ^a (0.011) | 0.102 ^a (0.008) | 0.104 ^a (0.008) | |
| R-Squared | 0.019 | 0.059 | 0.106 | 0.066 | 0.094 | 0.116 | 0.097 | 0.120 | 0.020 | 0.069 | 0.111 | 0.070 | 0.111 | 0.123 | 0.108 | 0.127 | |
| Number of Observations | 185 | 187 | 187 | 187 | 187 | 187 | 187 | 187 | 185 | 187 | 187 | 187 | 187 | 187 | 187 | 187 | |

Notes: The dependent variable is the cash flow to price ratio for the widely held firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 5: OLS Regressions. *Continued.*

| Panel C1: Firms with a Controlling Owner. | | | | | | | | | | | | | | | | | |
|--|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------|
| <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | 1.061 ^a (0.373) | 1.149 ^a (0.331) | 1.112 ^a (0.330) | 1.107 ^a (0.334) | 1.148 ^a 0.332 | 1.111 ^a (0.332) | 1.100 ^a (0.333) | 1.101 ^a (0.690) | 1.029 ^a (0.375) | 1.115 ^a (0.333) | 1.064 ^a (0.334) | 1.060 ^a (0.336) | 1.117 ^a (0.333) | 1.065 ^a (0.335) | 1.059 ^a (0.336) | 1.058 ^a (0.336) | |
| Perception | -0.196 ^a (0.062) | | | | | | | | -0.165 ^b (0.069) | | | | | | | | |
| ITL | | -0.040 (0.035) | | | -0.041 0.035 | | | | | -0.077 ^b (0.033) | | | -0.077 ^b (0.033) | | | | |
| Sanction | | | -0.029 (0.067) | | | -0.033 (0.069) | | | | | -0.064 (0.065) | | | -0.063 (0.068) | | | |
| Enf_94 | | | | -0.001 (0.072) | 0.009 0.072 | 0.013 (0.076) | | | | | | -0.027 (0.071) | -0.021 (0.070) | -0.003 (0.075) | | | |
| Eff_Law | | | | | | | 0.008 (0.022) | | | | | | | | | -0.003 (0.021) | |
| Eff_Sanct | | | | | | | | 0.029 (0.057) | | | | | | | | | 0.008 (0.055) |
| Common Law | | | | | | | | | 0.162 (0.131) | 0.207 ^b (0.094) | 0.159 ^c (0.093) | 0.144 ^d (0.091) | 0.212 ^b (0.093) | 0.159 ^c (0.092) | 0.141 ^d (0.089) | 0.135 ^d (0.090) | |
| Constant | 1.726 ^a (0.124) | 1.449 ^a (0.117) | 1.357 ^a (0.082) | 1.333 ^a (0.055) | 1.446 ^a 0.121 | 1.355 ^a (0.082) | 1.321 ^a (0.056) | 1.317 ^a (0.056) | 1.642 ^a (0.142) | 1.512 ^a (0.114) | 1.356 ^a (0.081) | 1.317 ^a (0.057) | 1.520 ^a (0.116) | 1.356 ^a (0.081) | 1.309 ^a (0.057) | 1.301 ^a (0.057) | |
| R-Squared | 0.080 | 0.052 | 0.049 | 0.049 | 0.052 | 0.049 | 0.049 | 0.049 | 0.081 | 0.065 | 0.058 | 0.056 | 0.065 | 0.058 | 0.056 | 0.056 | |
| Number of Observations | 322 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 322 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | |

Notes: The dependent variable is Tobin's Q for the firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 5: OLS Regressions. *Continued.*

| Panel C2: Firms with a Controlling Owner. | | | | | | | | | | | | | | | | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| GS | -0.089 ^a | -0.103 ^a | -0.106 ^a | -0.107 ^a | -0.103 ^a | -0.107 ^a | -0.107 ^a | -0.107 ^a | -0.081 ^a | -0.098 ^a | -0.097 ^a | -0.097 ^a | -0.098 ^a | -0.097 ^a | -0.097 ^a | -0.096 ^a |
| Perception | 0.017 ^a | | | | | | | | 0.008 ^d | | | | | | | |
| | (0.024) | (0.022) | (0.022) | (0.022) | (0.022) | (0.022) | (0.022) | (0.022) | (0.023) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) |
| ITL | | -0.004 | | | -0.004 | | | | | 0.002 | | | 0.002 | | | |
| | | (0.003) | | | (0.003) | | | | | (0.003) | | | (0.003) | | | |
| Sanction | | | -0.003 | | | -0.004 | | | | | 0.004 | | | 0.002 | | |
| | | | (0.006) | | | (0.006) | | | | | (0.006) | | | (0.006) | | |
| Enf_94 | | | | 0.002 | 0.003 | 0.003 | | | | | | 0.008 | 0.008 | 0.007 | | |
| | | | | (0.006) | (0.006) | (0.006) | | | | | | (0.006) | (0.006) | (0.006) | | |
| Eff_Law | | | | | | | -0.000 | | | | | | | | 0.002 | |
| | | | | | | | (0.002) | | | | | | | | (0.002) | |
| Eff_Sanct | | | | | | | | -0.001 | | | | | | | | 0.005 |
| | | | | | | | | (0.005) | | | | | | | | (0.005) |
| Common Law | | | | | | | | | -0.042 ^a | -0.033 ^a | -0.032 ^a | -0.033 ^a | -0.035 ^a | -0.033 ^a | -0.033 ^a | -0.033 ^a |
| | | | | | | | | | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) |
| Constant | 0.095 ^a | 0.140 ^a | 0.132 ^a | 0.129 ^a | 0.139 ^a | 0.131 ^a | 0.130 ^a | 0.130 ^a | 0.117 ^a | 0.130 ^a | 0.132 ^a | 0.132 ^a | 0.127 ^a | 0.131 ^a | 0.133 ^a | 0.134 ^a |
| | (0.011) | (0.010) | (0.007) | (0.005) | (0.010) | (0.007) | (0.005) | (0.005) | (0.012) | (0.010) | (0.007) | (0.005) | (0.010) | (0.007) | (0.005) | (0.005) |
| R-Squared | 0.080 | 0.069 | 0.066 | 0.066 | 0.070 | 0.067 | 0.066 | 0.066 | 0.149 | 0.118 | 0.118 | 0.121 | 0.122 | 0.121 | 0.120 | 0.119 |
| Number of Observations | 318 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 318 | 371 | 371 | 371 | 371 | 371 | 371 | 371 |

Notes: The dependent variable is the cash flow to price ratio for the firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

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Table 6: Random Effects Regressions - Insider Trading Law and Valuation

| Panel A1: Full Sample. | | | | | | | | | | | | | | | | |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
| GS | 1.836 ^a | 1.759 ^a | 1.763 ^a | 1.764 ^a | 1.762 ^a | 1.766 ^a | 1.760 ^a | 1.764 ^a | 1.821 ^a | 1.749 ^a | 1.748 ^a | 1.747 ^a | 1.753 ^a | 1.751 ^a | 1.745 ^a | 1.748 ^a |
| Perception | (0.217) | (0.202) | (0.202) | 0.202 | 0.202 | 0.202 | (0.201) | (0.201) | (0.217) | (0.202) | (0.201) | (0.201) | (0.202) | (0.202) | (0.201) | (0.201) |
| ITL | -0.216 | | | | | | | | -0.127 | | | | | | | |
| | (0.126) | | | | | | | | (0.129) | | | | | | | |
| ITL | | 0.038 | | | 0.030 | | | | | -0.020 | | | -0.033 | | | |
| | | (0.068) | | | (0.070) | | | | | (0.072) | | | (0.074) | | | |
| Sanction | | | 0.143 | | | 0.114 | | | | | 0.079 | | | 0.055 | | |
| | | | (0.128) | | | (0.142) | | | | | (0.125) | | | (0.138) | | |
| Enf_94 | | | | 0.130 | 0.122 | 0.077 | | | | | | 0.089 | 0.092 | 0.066 | | |
| | | | | 0.143 | 0.145 | 0.158 | | | | | | (0.135) | (0.138) | (0.149) | | |
| Eff_Law | | | | | | | 0.057 ^d | | | | | | | | 0.040 | |
| | | | | | | | (0.037) | | | | | | | | (0.037) | |
| Eff_Sanct | | | | | | | | 0.158 ^c | | | | | | | | 0.123 |
| | | | | | | | | (0.094) | | | | | | | | (0.091) |
| Common Law | | | | | | | | | 0.307 ^c | 0.326 ^b | 0.270 ^c | 0.281 ^b | 0.313 ^b | 0.266 ^c | 0.254 ^c | 0.255 ^c |
| | | | | | | | | | (0.165) | (0.158) | (0.146) | (0.141) | (0.162) | (0.149) | (0.143) | (0.141) |
| Constant | 1.667 ^a | 1.161 ^a | 1.139 ^a | 1.210 ^a | 1.117 ^a | 1.124 ^a | 1.177 ^a | 1.176 ^a | 1.425 ^a | 1.272 ^a | 1.115 ^a | 1.141 ^a | 1.234 ^a | 1.103 ^a | 1.125 ^a | 1.116 ^a |
| | (0.233) | (0.233) | 0.150 | 0.111 | 0.242 | (0.155) | (0.102) | (0.099) | (0.256) | (0.226) | (0.142) | (0.110) | (0.237) | (0.147) | (0.102) | (0.010) |
| R-Squared | 0.072 | 0.054 | 0.071 | 0.059 | 0.068 | 0.075 | 0.087 | 0.093 | 0.127 | 0.099 | 0.115 | 0.113 | 0.108 | 0.118 | 0.128 | 0.137 |
| Number of Observations | 672 | 732 | 732 | 732 | 732 | 732 | 732 | 732 | 672 | 732 | 732 | 732 | 732 | 732 | 732 | 732 |
| Hausman Specification | | | | | | | | | | | | | | | | |
| Test Prob Chi ² | 0.154 ^d | 0.035 ^b | 0.227 | 0.068 ^c | 0.045 ^b | 0.239 | 0.054 ^c | 0.252 | 0.074 ^c | 0.019 ^b | 0.077 ^c | 0.019 ^b | 0.026 ^b | 0.086 ^c | 0.017 ^b | 0.098 ^c |

Notes: The dependent variable is Tobin's Q for the full sample of firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

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Table 6: Random Effects. *Continued.*

| Panel A2: Full Sample. | | | | | | | | | | | | | | | | | |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | -0.094 ^a (0.015) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.094 ^a (0.015) | -0.105 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | -0.106 ^a (0.014) | |
| Perception | 0.018 ^c (0.010) | | | | | | | | 0.010 (0.010) | | | | | | | | |
| ITL | | -0.007 (0.005) | | | -0.006 (0.005) | | | | | -0.003 (0.006) | | | -0.002 (0.006) | -0.010 (0.011) | | | |
| Sanction | | | -0.018 ^c (0.010) | | | -0.014 (0.011) | | | | | -0.013 (0.010) | | | -0.008 (0.012) | | | |
| Enf_94 | | | | -0.015 (0.011) | -0.014 (0.011) | -0.009 (0.012) | | | | | | -0.012 (0.011) | -0.012 (0.011) | | | | |
| Eff_Law | | | | | | | -0.006 ^b (0.003) | | | | | | | | | -0.004 ^d (0.003) | |
| Eff_Sanct | | | | | | | | -0.016 ^b (0.007) | | | | | | | | | -0.013 ^c (0.007) |
| Common Law | | | | | | | | | -0.027 ^b (0.013) | -0.022 ^c (0.013) | -0.020 ^c (0.012) | -0.022 ^b (0.011) | -0.020 ^d (0.013) | -0.019 ^c (0.012) | -0.019 ^c (0.001) | -0.020 ^c (0.011) | |
| Constant | 0.085 ^a (0.018) | 0.143 ^a (0.018) | 0.138 ^a (0.012) | 0.129 ^a (0.009) | 0.148 ^a (0.019) | 0.140 ^a (0.012) | 0.131 ^a (0.008) | 0.131 ^a (0.008) | 0.106 ^a (0.020) | 0.136 ^a (0.018) | 0.140 ^a (0.011) | 0.135 ^a (0.009) | 0.141 ^a (0.019) | 0.142 ^a (0.012) | 0.135 ^a (0.008) | 0.136 ^a (0.008) | |
| R-Squared | 0.067 | 0.069 | 0.009 | 0.063 | 0.090 | 0.095 | 0.093 | 0.103 | 0.117 | 0.098 | 0.120 | 0.108 | 0.113 | 0.124 | 0.123 | 0.135 | |
| Number of Observations | 656 | 716 | 716 | 716 | 716 | 716 | 716 | 716 | 656 | 716 | 716 | 716 | 716 | 716 | 716 | 716 | |
| Hausman Specification | | | | | | | | | | | | | | | | | |
| Test Prob Chi ² | 0.521 | 0.083 ^c | 0.505 | 0.219 | 0.101 ^c | 0.526 | 0.184 | 0.569 | 0.368 | 0.067 ^c | 0.327 | 0.106 ^d | 0.083 ^c | 0.347 | 0.097 ^c | 0.373 | |

Notes: The dependent variable is the cash flow to price ratio for the full sample of firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 6: Random Effects. *Continued.*

| Panel B1: Widely Held Firms. | | | | | | | | | | | | | | | | | |
|--------------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | 2.079 ^a (0.573) | 2.654 ^a (0.517) | 2.743 ^a (0.520) | 2.678 ^a (0.520) | 2.686 ^a (0.518) | 2.757 ^a (0.521) | 2.681 ^a (0.517) | 2.715 ^a (0.519) | 1.897 ^a (0.541) | 2.011 ^a (0.525) | 2.251 ^a (0.521) | 2.195 ^a (0.536) | 2.204 ^a (0.527) | 2.358 ^a (0.523) | 2.260 ^a (0.523) | 2.329 ^a (0.521) | |
| Perception | -0.422 ^b (0.210) | | | | | | | | -0.066 (0.210) | | | | | | | | |
| ITL | | 0.169 ^d (0.112) | | | 0.157 ^d (0.106) | | | | | 0.172 ^b (0.075) | | | 0.183 ^a (0.069) | | | | |
| Sanction | | | 0.364 ^c (0.212) | | | 0.275 (0.232) | | | | | 0.560 ^a (0.127) | | | 0.472 ^a (0.138) | | | |
| Enf_94 | | | | 0.378 ^c (0.224) | 0.340 ^d (0.228) | 0.241 (0.256) | | | | | | 0.517 ^a (0.163) | 0.479 ^a (0.161) | 0.279 ^d (0.173) | | | |
| Eff_Law | | | | | | | 0.113 ^b (0.051) | | | | | | | | | 0.154 ^a (0.036) | |
| Eff_Sanct | | | | | | | | 0.249 ^c (0.132) | | | | | | | | | 0.391 ^a (0.085) |
| Common Law | | | | | | | | | 0.789 ^a (0.157) | 0.612 ^a (0.165) | 0.688 ^a (0.144) | 0.730 ^a (0.146) | 0.565 ^a (0.157) | 0.665 ^a (0.144) | 0.620 ^a (0.148) | 0.673 ^a (0.143) | |
| Constant | 2.282 ^a (0.317) | 0.673 ^d (0.430) | 0.819 ^a (0.307) | 1.049 ^a (0.202) | 0.492 (0.425) | 0.769 ^b (0.309) | 1.025 ^a (0.183) | 1.053 ^a (0.184) | 1.215 ^a (0.366) | 0.542 ^b (0.277) | 0.366 ^c (0.213) | 0.722 ^a (0.180) | 0.163 (0.277) | 0.276 (0.219) | 0.722 ^a (0.158) | 0.687 ^a (0.158) | |
| R-Squared | 0.079 | 0.131 | 0.147 | 0.112 | 0.178 | 0.162 | 0.167 | 0.156 | 0.189 | 0.220 | 0.263 | 0.228 | 0.255 | 0.273 | 0.260 | 0.269 | |
| Number of Observations | 192 | 194 | 194 | 194 | 194 | 194 | 194 | 194 | 192 | 194 | 194 | 194 | 194 | 194 | 194 | 194 | |
| Hausman Specification | | | | | | | | | | | | | | | | | |
| Test Prob Chi ² | 0.481 | 0.053 ^c | 0.258 | 0.058 ^c | 0.070 ^c | 0.286 | 0.067 ^c | 0.224 | 0.000 ^a | 0.000 ^a | 0.001 ^a | 0.000 ^a | 0.000 ^a | 0.003 ^a | 0.000 ^a | 0.002 ^a | |

Notes: The dependent variable is Tobin's Q for the widely held firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 6: Random Effects. *Continued.*

| B2: Widely Held Firms. | | | | | | | | | | | | | | | | | |
|---|-------------------------------|---------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|
| <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | -0.086 ^a | -0.084 ^a | -0.088 ^a | -0.086 ^a | -0.087 ^a | -0.089 ^a | -0.087 ^a | -0.087 ^a | -0.087 ^a | -0.086 ^a | -0.090 ^a | -0.008 ^a | -0.090 | -0.091 ^a | -0.089 ^a | -0.089 ^a | |
| Perception | 0.001 (0.017) | | | | | | | | 0.006 (0.019) | | | | | | | | |
| ITL | | -0.001 (0.006) | | | 0.001 (0.006) | | | | | -0.002 (0.007) | | | -0.001 (0.007) | | | | |
| Sanction | | | -0.013 (0.012) | | | -0.005 (0.013) | | | | | -0.014 (0.012) | | | -0.006 (0.013) | | | |
| Enf_94 | | | | -0.026 ^b (0.013) | -0.026 ^b (0.013) | -0.024 ^c (0.014) | | | | | | -0.026 ^b (0.013) | -0.026 ^c (0.014) | -0.023 ^d (0.015) | | | |
| Eff_Law | | | | | | | -0.006 ^b (0.003) | | | | | | | | | -0.006 (0.003) | |
| Eff_Sanct | | | | | | | | -0.016 ^b (0.007) | | | | | | | | | -0.016 ^b (0.008) |
| Common Law | | | | | | | | | 0.011 (0.015) | 0.009 (0.015) | 0.009 (0.013) | 0.008 (0.012) | 0.008 (0.014) | 0.008 (0.013) | 0.011 (0.012) | 0.009 (0.012) | |
| Constant | 0.090 ^a (0.027) | 0.091 (0.024) | 0.108 ^a (0.017) | 0.109 ^a (0.011) | 0.106 ^a (0.025) | 0.114 ^a (0.017) | 0.105 ^a (0.011) | 0.106 ^a (0.010) | 0.078 ^b (0.033) | 0.093 ^a (0.026) | 0.104 ^a (0.018) | 0.105 ^a (0.013) | 0.107 ^a (0.026) | 0.110 ^a (0.018) | 0.101 ^a (0.012) | 0.102 ^a (0.012) | |
| R-Squared | 0.018 | 0.020 | 0.079 | 0.065 | 0.060 | 0.083 | 0.092 | 0.115 | 0.019 | 0.030 | 0.080 | 0.068 | 0.073 | 0.089 | 0.100 | 0.120 | |
| Number of Observations | 185 | 187 | 187 | 187 | 187 | 187 | 197 | 187 | 185 | 187 | 187 | 187 | 187 | 187 | 187 | 187 | |
| Hausman Specification Test Prob Chi ² | 0.337 | 0.081 ^c | 0.424 | 0.160 | 0.189 | 0.479 | 0.161 | 0.443 | 0.418 | 0.135 ^d | 0.080 ^c | 0.219 | 0.262 | 0.584 | 0.239 | 0.543 | |

Notes: The dependent variable is the cash flow to price ratio for the widely held firms. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 6: Random Effects. *Continued.*

| C1: Firms with a Controlling Owner. | | | | | | | | | | | | | | | | | |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------|
| <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | 1.040 ^a | 1.040 ^a | 1.036 ^a | 1.034 ^a | 1.035 ^a | 1.032 ^a | 1.031 ^a | 1.034 ^a | 1.024 ^a | 1.028 ^a | 1.020 ^a | 1.017 ^a | 1.024 ^a | 1.016 ^a | 1.017 ^a | 1.018 ^a | |
| Perception | (0.277) | (0.245) | (0.244) | (0.244) | (0.245) | (0.245) | (0.244) | (0.244) | (0.277) | (0.244) | (0.244) | (0.244) | (0.245) | (0.244) | (0.244) | (0.244) | |
| ITL | -0.293 | | | | | | | | -0.201 | | | | | | | | |
| | (0.184) | | | | | | | | (0.197) | | | | | | | | |
| ITL | | -0.002 | | | -0.011 | | | | | -0.089 | | | -0.093 | | | | |
| | | (0.102) | | | (0.104) | | | | | (0.111) | | | (0.113) | | | | |
| Sanction | | | 0.077 | | | 0.024 | | | | | -0.005 | | | -0.054 | | | |
| | | | (0.195) | | | (0.218) | | | | | (0.204) | | | (0.224) | | | |
| Enf_94 | | | | 0.153 | 0.156 | 0.146 | | | | | | 0.112 | 0.119 | 0.136 | | | |
| | | | | (0.212) | (0.215) | (0.238) | | | | | | (0.215) | (0.210) | (0.244) | | | |
| Eff_Law | | | | | | | 0.049 | | | | | | | | | 0.209 | |
| | | | | | | | (0.058) | | | | | | | | | (0.060) | |
| Eff_Sanct | | | | | | | | 0.128 | | | | | | | | | 0.088 |
| | | | | | | | | (0.148) | | | | | | | | | (0.152) |
| Common Law | | | | | | | | | 0.358 | 0.421 ^c | 0.341 | 0.322 | 0.410 ^c | 0.340 | 0.310 | 0.311 | |
| | | | | | | | | | (0.272) | (0.248) | (0.240) | (0.232) | (0.254) | (0.244) | (0.238) | (0.234) | |
| Constant | 1.97 | 1.431 ^a | 1.351 ^a | 1.343 | 1.376 ^a | 1.326 ^a | 1.339 ^a | 1.343 ^a | 1.714 ^a | 1.578 ^a | 1.328 ^a | 1.269 ^a | 1.532 ^a | 1.305 ^a | 1.282 ^a | 1.276 ^a | |
| | (0.345) | (0.342) | (0.222) | (0.160) | (0.355) | (0.230) | (0.152) | (0.146) | (0.393) | (0.343) | (0.223) | (0.169) | (0.359) | (0.230) | (0.159) | (0.155) | |
| R-Squared | 0.071 | 0.049 | 0.043 | 0.039 | 0.40 | 0.038 | 0.041 | 0.043 | 0.076 | 0.056 | 0.048 | 0.043 | 0.051 | 0.044 | 0.045 | 0.046 | |
| Number of Observations | 322 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 322 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | |
| Hausman Specification | | | | | | | | | | | | | | | | | |
| Test Prob Chi ² | 0.099 ^c | 0.042 ^b | 0.070 ^c | 0.039 ^b | 0.053 ^b | 0.080 ^c | 0.094 ^c | 0.084 ^c | 0.183 | 0.102 ^c | 0.165 | 0.184 | 0.114 ^d | 0.182 | 0.187 | 0.181 | |

Notes: The dependent variable is Tobin's Q for the firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 6: Random Effects. *Continued.*

| C2: Firms with a Controlling Owner. | | | | | | | | | | | | | | | | | |
|---|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------|
| <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | |
| GS | -0.082 (0.022) | -0.097 ^a (0.020) | -0.098 ^a (0.020) | -0.098 ^a (0.020) | -0.097 ^a (0.020) | -0.098 ^a (0.020) | -0.098 ^a (0.020) | -0.098 ^a (0.020) | -0.079 ^a (0.022) | -0.096 ^a (0.020) | -0.095 ^a (0.020) | -0.095 ^a (0.020) | -0.096 ^a (0.020) | -0.095 ^a (0.020) | -0.095 ^a (0.020) | -0.095 ^a (0.020) | |
| Perception | 0.022 ^b (0.011) | | | | | | | | 0.011 (0.010) | | | | | | | | |
| ITL | | -0.005 (0.006) | | | -0.005 (0.006) | | | | | 0.003 (0.006) | | | 0.002 (0.006) | | | | |
| Sanction | | | -0.006 (0.012) | | | -0.007 (0.013) | | | | | 0.002 (0.011) | | | 0.001 (0.012) | | | |
| Enf_94 | | | | -0.000 (0.013) | 0.001 (0.013) | 0.003 (0.014) | | | | | | 0.005 (0.012) | 0.004 (0.012) | 0.004 (0.013) | | | |
| Eff_Law | | | | | | | -0.001 (0.004) | | | | | | | | | 0.001 (0.003) | |
| Eff_Sanct | | | | | | | | -0.003 (0.009) | | | | | | | | | 0.002 (0.008) |
| Common Law | | | | | | | | | -0.041 ^a (0.014) | -0.037 ^a (0.014) | -0.036 ^a (0.013) | -0.036 ^a (0.013) | -0.038 ^a (0.014) | -0.036 ^a (0.013) | -0.036 ^a (0.013) | -0.036 ^a (0.013) | |
| Constant | 0.082 ^a (0.021) | 0.141 ^a (0.021) | 0.131 ^a (0.014) | 0.125 ^a (0.010) | 0.140 ^a (0.022) | 0.130 ^a (0.014) | 0.127 ^a (0.009) | 0.126 ^a (0.009) | 0.111 ^a (0.020) | 0.128 (0.019) | 0.133 ^a (0.012) | 0.133 ^a (0.009) | 0.126 ^a (0.020) | 0.132 ^a (0.013) | 0.133 ^a (0.009) | 0.134 ^a (0.009) | |
| R-Squared | 0.078 | 0.069 | 0.065 | 0.066 | 0.069 | 0.066 | 0.065 | 0.065 | 0.148 | 0.117 | 0.117 | 0.120 | 0.120 | 0.120 | 0.119 | 0.118 | |
| Number of Observations | 318 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 318 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | |
| Hausman Specification Test Prob Chi ² | 0.387 | 0.470 | 0.375 | 0.336 | 0.466 | 0.367 | 0.366 | 0.356 | 0.797 | 0.812 | 0.877 | 0.855 | 0.783 | 0.851 | 0.843 | 0.875 | |

Notes: The dependent variable is the cash flow to price ratio for the firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 7: OLS Regressions - Cash Flow Ownership, Insider Trading Law and Valuation

Panel A: Firms with a Controlling Owner.

| | <i>Dependent Variable: Tobin's Q</i> | | | | | | | | | | | | |
|------------------------|--------------------------------------|---------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| GS | 1.048 ^a | 1.022 ^a | 1.021 ^a | 1.104 ^a | 1.117 ^a | 1.053 ^a | 1.059 ^a | 1.048 ^a | 1.049 ^a | 1.046 ^a | 1.048 ^a | 1.046 ^a | 1.046 ^a |
| Cash Flow | (0.335) | (0.375) | (0.375) | (0.332) | (0.333) | (0.334) | (0.334) | (0.336) | (0.336) | (0.336) | (0.336) | (0.336) | (0.336) |
| Perception | 0.270 ^d | 0.276 | 0.506 | 0.263 | 0.843 ^d | 0.255 | 0.646 ^c | 0.268 | 0.290 ^d | 0.274 | 0.273 | 0.281 ^d | 0.378 ^d |
| Perception*Cash Flow | (0.189) | (0.214) | (0.790) | (0.189) | (0.569) | (0.188) | (0.377) | (0.194) | (0.197) | (0.194) | (0.194) | (0.192) | (0.244) |
| ITL | | -0.167 ^b | -0.119 | | | | | | | | | | |
| ITL*Cash Flow | | (0.068) | (0.134) | | | | | | | | | | |
| Sanction | | | -0.125 | | | | | | | | | | |
| Sanction*Cash Flow | | | (0.376) | | | | | | | | | | |
| Enf_94 | | | | -0.076 ^b | -0.009 | | | | | | | | |
| Enf_94*Cash Flow | | | | (0.033) | (0.068) | | | | | | | | |
| Eff_Law | | | | | | | | | | | | | |
| Eff_Law*Cash Flow | | | | | | | | | | | | | |
| Eff_Sanct | | | | | | | | | | | | | |
| Eff_Sanct*Cash Flow | | | | | | | | | | | | | |
| Common Law | | | | | | | | | | | | | |
| Constant | | | | | | | | | | | | | |
| R ² | | | | | | | | | | | | | |
| Number of Observations | | | | | | | | | | | | | |

Continued

Table 7 Notes. *Continued.*

Notes: The dependent variable is Tobin's Q for the sample of firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; cash flow ownership of the controlling shareholder (*Cash Flow*); the perception of insider trading (*Perception*); the interaction between perception and cash flow ownership (*Perception*Cash Flow*); the index of insider trading law (*ITL*); the interaction between insider trading law and cash flow ownership (*ITL*Cash Flow*); potential sanctions for violating the law (*Sanction*); the interaction between potential sanctions and cash flow ownership (*Sanction*Cash Flow*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; the interaction between enforcement and cash flow ownership (*Enf_94*Cash Flow*); an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; the interaction between *Eff_Law* and *Cash Flow*, *Eff_Law*Cash Flow*; an interaction term, *Eff_Sanc*, that equals *Sanction* times *Enf_94*; the interaction between *Eff_Sanc* and *Cash Flow*, *Eff_Sanc*Cash Flow*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 7: Ownership and Insider Trading Law (OLS). *Continued.*

Panel B: Firms with a Controlling Owner.

| | <i>Dependent Variable: Cash Flow to Price Ratio</i> | | | | | | | | | | | | |
|------------------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| GS | -0.096 ^a | -0.081 ^a | -0.081 ^a | -0.098 ^a | -0.098 ^a | -0.097 ^a | -0.097 ^a | -0.097 ^a | -0.096 ^a | -0.097 ^a | -0.097 ^a | -0.096 ^a | -0.096 ^a |
| | (0.021) | (0.024) | (0.024) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) |
| Cash Flow | -0.001 | -0.003 | 0.067 | -0.001 | -0.020 | 0.000 | -0.011 | 0.002 | -0.015 | 0.001 | -0.011 | 0.001 | -0.010 |
| | (0.014) | (0.015) | (0.049) | (0.014) | (0.042) | (0.014) | (0.026) | (0.015) | (0.023) | (0.014) | (0.021) | (0.014) | (0.020) |
| Perception | | 0.008 ^d | 0.021 ^b | | | | | | | | | | |
| | | (0.005) | (0.011) | | | | | | | | | | |
| Perception*Cash Flow | | | -0.035 | | | | | | | | | | |
| | | | (0.025) | | | | | | | | | | |
| ITL | | | | 0.002 | 0.000 | | | | | | | | |
| | | | | (0.003) | (0.006) | | | | | | | | |
| ITL*Cash Flow | | | | | 0.006 | | | | | | | | |
| | | | | | (0.013) | | | | | | | | |
| Sanction | | | | | | 0.005 | 0.000 | | | | | | |
| | | | | | | (0.006) | (0.011) | | | | | | |
| Sanction*Cash Flow | | | | | | | 0.012 | | | | | | |
| | | | | | | | (0.025) | | | | | | |
| Enf_94 | | | | | | | | 0.008 | -0.003 | | | | |
| | | | | | | | | (0.006) | (0.012) | | | | |
| Enf_94*Cash Flow | | | | | | | | | 0.028 | | | | |
| | | | | | | | | | (0.030) | | | | |
| Eff_Law | | | | | | | | | | 0.002 | -0.000 | | |
| | | | | | | | | | | (0.002) | (0.003) | | |
| Eff_Law*Cash Flow | | | | | | | | | | | 0.006 | | |
| | | | | | | | | | | | (0.008) | | |
| Eff_Sanct | | | | | | | | | | | | 0.005 | -0.001 |
| | | | | | | | | | | | | (0.005) | (0.009) |
| Eff_Sanct*Cash Flow | | | | | | | | | | | | | 0.016 |
| | | | | | | | | | | | | | (0.022) |
| Common Law | -0.031 ^a | -0.042 ^a | -0.042 ^a | -0.033 ^a | -0.033 ^a | -0.032 ^a | -0.032 ^a | -0.033 ^a | -0.033 ^a | -0.033 ^a | -0.033 ^a | -0.032 ^a | -0.033 ^a |
| | (0.006) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) |
| Constant | 0.136 ^a | 0.116 ^a | 0.091 ^a | 0.130 ^a | 0.137 ^a | 0.132 ^a | 0.136 ^a | 0.132 ^a | 0.138 ^a | 0.133 ^a | 0.138 ^a | 0.133 ^a | 0.137 ^a |
| | (0.007) | (0.013) | (0.021) | (0.011) | (0.018) | (0.008) | (0.012) | (0.008) | (0.010) | (0.007) | (0.010) | (0.007) | (0.009) |
| R ² | 0.117 | 0.149 | 0.155 | 0.130 | 0.118 | 0.118 | 0.119 | 0.121 | 0.123 | 0.120 | 0.121 | 0.119 | 0.120 |
| Number of Observations | 371 | 318 | 318 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 371 |

Continued

Table 7 Notes. *Continued.*

Notes: The dependent variable is Tobin's Q for the sample of firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; cash flow ownership of the controlling shareholder (*Cash Flow*); the perception of insider trading (*Perception*); the interaction between perception and cash flow ownership (*Perception*Cash Flow*); the index of insider trading law (*ITL*); the interaction between insider trading law and cash flow ownership (*ITL*Cash Flow*); potential sanctions for violating the law (*Sanction*); the interaction between potential sanctions and cash flow ownership (*Sanction*Cash Flow*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; the interaction between enforcement and cash flow ownership (*Enf_94*Cash Flow*); an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; the interaction between *Eff_Law* and *Cash Flow*, *Eff_Law*Cash Flow*; an interaction term, *Eff_Sanc*, that equals *Sanction* times *Enf_94*; the interaction between *Eff_Sanc* and *Cash Flow*, *Eff_Sanc*Cash Flow*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Table 8: OLS Regressions - Demeaned Ownership, Insider Trading Law and Valuation

Panel A: Firms with a Controlling Owner.

Dependent Variable: Industry-Adjusted Tobin's Q

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|-------------------------------|--------------------|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Ind-GS | 0.992 ^a | 0.929 ^a | 0.926 ^a | 1.103 ^a | 1.101 ^a | 1.045 ^a | 1.041 ^a | 1.031 ^a | 1.022 ^a | 1.032 ^a | 1.024 ^a | 1.029 ^a | 1.025 ^a |
| | (0.304) | (0.354) | (0.349) | (0.316) | (0.316) | (0.316) | (0.316) | (0.319) | (0.322) | (0.319) | (0.322) | (0.321) | (0.321) |
| Demeaned Cash Flow | 0.291 ^c | 0.154 | 1.251 ^c | 0.354 ^b | 0.091 | 0.349 ^b | 0.217 | 0.288 ^c | 0.192 | 0.290 ^c | 0.208 | 0.246 | 0.246 |
| Perception | (0.170) | (0.189) | (0.658) | (0.173) | (0.498) | (0.172) | (0.308) | (0.169) | (0.213) | (0.169) | (0.209) | (0.198) | (0.198) |
| Perception*Demeaned Cash Flow | | -0.113 ^c | -0.063 | | | | | | | | | | |
| ITL | | (0.068) | (0.064) | | | | | | | | | | |
| ITL*Demeaned Cash Flow | | | -0.614 ^b | | | | | | | | | | |
| ITL*Sanction | | | (0.311) | | | | | | | | | | |
| Sanction | | | | -0.096 ^a | -0.104 ^a | | | | | | | | |
| | | | | (0.032) | (0.031) | | | | | | | | |
| Sanction*Demeaned Cash Flow | | | | | 0.085 | | | | | | | | |
| Enf_94 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Enf_94*Demeaned Cash Flow | | | | | | | | | | | | | |
| Eff_Law | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Eff_Law*Demeaned Cash Flow | | | | | | | | | | | | | |
| Eff_Sanct | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Eff_Sanct*Demeaned Cash Flow | | | | | | | | | | | | | |
| Common Law | 0.100 | 0.153 | 0.139 | 0.182 ^b | 0.178 ^b | 0.142 ^c | 0.143 ^c | 0.104 | 0.110 | 0.106 | 0.111 | 0.104 | 0.107 |
| | (0.087) | (0.122) | (0.122) | (0.089) | (0.088) | (0.088) | (0.088) | (0.086) | (0.089) | (0.085) | (0.088) | (0.086) | (0.088) |

Continued

Table 8: Panel A. *Continued.*

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Constant | 0.064 ^c (0.038) | 0.309 ^b (0.136) | 0.207 ^d (0.133) | 0.254 ^b (0.105) | 0.277 ^a (0.100) | 0.109 ^d (0.074) | 0.119 ^c (0.073) | 0.014 (0.055) | 0.023 (0.055) | 0.011 (0.055) | 0.020 (0.054) | 0.010 (0.054) | 0.015 (0.054) |
| R ² | 0.059 | 0.067 | 0.081 | 0.079 | 0.079 | 0.074 | 0.074 | 0.063 | 0.064 | 0.063 | 0.064 | 0.063 | 0.063 |
| Number of Observations | 375 | 322 | 322 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 375 | 375 |

Notes: The dependent variable is industry-adjusted Tobin's Q for the sample of firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; demeaned cash flow ownership of the controlling shareholder (*Demeaned Cash Flow*); the perception of insider trading (*Perception*); the interaction between perception and demeaned cash flow ownership (*Perception*Demeaned Cash Flow*); the index of insider trading law (*ITL*); the interaction between insider trading law and demeaned cash flow ownership (*ITL*Demeaned Cash Flow*); potential sanctions for violating the law (*Sanction*); the interaction between potential sanctions and demeaned cash flow ownership (*Sanction*Demeaned Cash Flow*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; the interaction between enforcement and demeaned cash flow ownership (*Enf_94*Demeaned Cash Flow*); an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; the interaction between *Eff_Law* and *Demeaned Cash Flow*, *Eff_Law*Demeaned Cash Flow*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*; the interaction between *Eff_Sanct* and *Demeaned Cash Flow*, *Eff_Sanct*Demeaned Cash Flow*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Continued

Table 8: Demeaned Ownership (OLS). *Continued.*

| Panel B: Firms with a Controlling Owner. | | | | | | | | | | | | | |
|---|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| | <i>Dependent Variable: Industry-Adjusted Cash Flow to Price Ratio</i> | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| Ind-GS | -0.093 ^a | -0.077 ^a | -0.077 ^a | -0.095 ^a | -0.095 ^a | -0.094 ^a | -0.094 ^a | -0.093 ^a | -0.093 ^a | -0.093 ^a | -0.093 ^a | -0.093 ^a | -0.092 ^a |
| | (0.021) | (0.024) | (0.024) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) | (0.021) |
| Demeaned Cash Flow Perception | -0.009 (0.014) | 0.004 (0.016) | -0.014 (0.047) | -0.011 (0.015) | | -0.012 (0.014) | -0.003 (0.028) | -0.009 (0.014) | -0.010 (0.022) | -0.009 (0.014) | -0.006 (0.021) | -0.010 (0.014) | -0.002 (0.020) |
| Perception*Demeaned Cash Flow | | 0.007 (0.006) | 0.007 (0.006) | 0.010 (0.025) | | | | | | | | | |
| ITL | | | | 0.002 (0.003) | 0.002 (0.003) | | | | | | | | |
| ITL*Demeaned Cash Flow | | | | | 0.001 (0.014) | | | | | | | | |
| Sanction | | | | | | 0.007 (0.006) | 0.008 (0.007) | | | | | | |
| Sanction*Demeaned Cash Flow | | | | | | | -0.010 (0.026) | | | | | | |
| Enf_94 | | | | | | | | 0.010 ^c (0.006) | 0.010 ^d (0.007) | | | | |
| Enf_94*Demeaned Cash Flow | | | | | | | | | 0.002 (0.029) | | | | |
| Eff_Law | | | | | | | | | | 0.003 ^d (0.002) | 0.003 ^d (0.002) | | |
| Eff_Law*Demeaned Cash Flow | | | | | | | | | | | -0.002 (0.008) | | |
| Eff_Sanct | | | | | | | | | | | | 0.007 ^d (0.005) | 0.009 ^d (0.006) |
| Eff_Sanct*Demeaned Cash Flow | | | | | | | | | | | | | -0.012 (0.022) |
| Common Law | -0.030 ^a | -0.041 ^a | -0.040 ^a | -0.032 ^a | -0.032 ^a | -0.032 ^a | -0.032 ^a | -0.032 ^a | -0.032 ^a | -0.033 ^a | -0.033 ^a | -0.032 ^a | -0.033 ^a |
| | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) |

Continued

Table 8. Panel B. *Continued.*

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Constant | 0.082 ^a (0.004) | 0.064 ^a (0.012) | 0.066 ^a (0.012) | 0.075 ^a (0.010) | 0.076 ^a (0.010) | 0.076 ^a (0.006) | 0.076 ^a (0.007) | 0.077 ^a (0.005) | 0.077 ^a (0.005) | 0.078 ^a (0.005) | 0.078 ^a (0.005) | 0.079 ^a (0.004) | 0.078 ^a (0.005) |
| R ² | 0.106 | 0.130 | 0.130 | 0.107 | 0.107 | 0.110 | 0.110 | 0.113 | 0.113 | 0.112 | 0.112 | 0.111 | 0.112 |
| Number of Observations | 371 | 318 | 318 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 371 | 371 |

Notes: The dependent variable is the industry-adjusted demeaned cash flow to price ratio for the sample of firms with a controlling owner. The independent variables are sales growth (*GS*), expressed in percentage terms; demeaned cash flow ownership of the controlling shareholder (*Demeaned Cash Flow*); the perception of insider trading (*Perception*); the interaction between perception and demeaned cash flow ownership (*Perception*Demeaned Cash Flow*); the index of insider trading law (*ITL*); the interaction between insider trading law and demeaned cash flow ownership (*ITL*Demeaned Cash Flow*); potential sanctions for violating the law (*Sanction*); the interaction between potential sanctions and demeaned cash flow ownership (*Sanction*Demeaned Cash Flow*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; the interaction between enforcement and demeaned cash flow ownership (*Enf_94*Demeaned Cash Flow*); an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; the interaction between *Eff_Law* and *Demeaned Cash Flow*, *Eff_Law*Demeaned Cash Flow*; an interaction term, *Eff_Sanc*, that equals *Sanction* times *Enf_94*; the interaction between *Eff_Sanc* and *Demeaned Cash Flow*, *Eff_Sanc*Demeaned Cash Flow*; and a dummy variable, *Common Law*, that equals one if the country's legal system is derived from the English common law tradition, and zero otherwise. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively.

Table 9: Instrumental Variables Estimation

Panel A: Full Sample.

Dependent Variables: Industry-Adjusted Tobin's Q (columns 1-6) and Cash Flow to Price Ratio (columns 7-12)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|-------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Ind-GS | 1.249 ^a (0.076) | 1.121 ^a (0.253) | 1.497 ^a (0.263) | 1.435 ^a (0.143) | 1.456 ^a (0.276) | 1.688 ^a (0.149) | -0.065 ^a (0.015) | -0.072 ^a (0.016) | -0.100 ^a (0.018) | -0.086 ^a (0.016) | -0.094 ^a (0.017) | -0.112 ^a (0.019) |
| Perception | -0.365 ^a (0.076) | | | | | | 0.020 ^a (0.004) | | | | | |
| ITL | | 0.375 ^a (0.054) | | | | | | -0.027 ^a (0.004) | | | | |
| Sanction | | | 0.959 ^a (0.148) | | | | | | -0.076 ^a (0.011) | | | |
| Enf_94 | | | | 1.149 ^a (0.224) | | | | | | -0.047 ^a (0.015) | | |
| Eff_Law | | | | | 0.323 ^a (0.048) | | | | | | -0.020 ^a (0.003) | |
| Eff_Sanct | | | | | | 0.949 ^a (0.149) | | | | | | -0.066 ^a (0.011) |
| Constant | 0.856 ^a (0.135) | -1.034 ^a (0.181) | -0.851 ^a (0.170) | -0.491 ^a (0.143) | -0.490 ^a (0.111) | -0.569 ^a (0.131) | 0.021 ^a (0.007) | 0.151 ^a (0.014) | 0.144 ^a (0.013) | 0.088 ^a (0.010) | 0.103 ^a (0.008) | 0.114 ^a (0.010) |
| P-value of Hausman Test | 0.134 ^d | 0.000 ^a | 0.000 ^a | 0.004 ^a | 0.000 ^a | 0.000 ^a | 0.003 ^a | 0.935 [*] | 0.162 | 0.503 [*] | 0.159 | 0.006 ^a |
| Number of Observations | 672 | 732 | 732 | 732 | 732 | 732 | 656 | 716 | 716 | 716 | 716 | 716 |

Notes: The dependent variables are industry-adjusted Tobin's Q (in columns 1-6) and the industry-adjusted cash flow to price ratio (in columns 7-12) for the full sample of firms. The independent variables are industry-adjusted sales growth (*Ind-GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*. Instruments for the insider trading variables are the legal origins: English common law, French civil law, German civil law, and Scandinavian civil law. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively. * signifies that the coefficient is not systematically different from OLS.

Continued

Table 9: Instrumental Variables. *Continued.*

| Panel B: Widely Held Firms. | | | | | | | | | | | | |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------|--------------------|--------------------|--------------------|
| <i>Dependent Variables: Industry-Adjusted Tobin's Q (columns 1-6) and Cash Flow to Price Ratio (columns 7-12)</i> | | | | | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Ind-GS | 2.200 ^a (0.696) | 2.248 ^a (0.709) | 3.344 ^a (0.868) | 2.883 ^a (0.766) | 3.271 ^a (0.807) | 3.514 ^a (0.882) | -0.046 ^d (0.030) | -0.004 ^d (0.030) | -0.037 (0.040) | -0.027 (0.038) | -0.032 (0.038) | -0.026 (0.043) |
| Perception | -1.836 ^a (0.435) | | | | | | 0.016 (0.030) | | | | | |
| ITL | | 0.776 ^a (0.164) | | | | | | 0.000 (0.008) | | | | |
| Sanction | | | 1.867 ^a (0.518) | | | | | | 0.009 (0.025) | | | |
| Enf_94 | | | | 1.459 ^a (0.553) | | | | | | 0.027 (0.027) | | |
| Eff_Law | | | | | 0.472 ^a (0.126) | | | | | | 0.004 (0.006) | |
| Eff_Sanct | | | | | | 1.230 ^a (0.394) | | | | | | 0.014 (0.019) |
| Constant | 3.101 ^a (0.638) | -2.588 ^a (0.645) | -2.258 ^a (0.742) | -0.761 ^c (0.452) | -1.102 ^a (0.418) | -1.117 ^b (0.501) | 0.011 (0.042) | 0.032 (0.032) | 0.020 (0.036) | 0.012 (0.023) | 0.020 (0.021) | 0.016 (0.024) |
| P-value of Hausman Test | 0.002 ^a | 0.001 ^a | 0.026 ^b | 0.471 [*] | 0.455 [*] | 0.343 [*] | ** | 0.827 [*] | ** | 0.370 [*] | 0.270 [*] | 0.231 [*] |
| Number of Observations | 192 | 194 | 194 | 194 | 194 | 194 | 185 | 187 | 187 | 187 | 187 | 187 |

Notes: The dependent variables are industry-adjusted Tobin's Q (in columns 1-6) and the industry-adjusted cash flow to price ratio (in columns 7-12) for the firms that are widely held. The independent variables are industry-adjusted sales growth (*Ind-GS*), expressed in percentage terms; the perception of insider trading (*Perception*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*. Instruments for the insider trading variables are the legal origins: English common law, French civil law, German civil law, and Scandinavian civil law. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively. * signifies that the coefficient is not systematically different from OLS. ** signifies that the model estimated on these data fails to meet the asymptotic assumptions of the Hausman test.

Continued

Table 9: Instrumental Variables. *Continued.***Panel C: Firms with a Controlling Owner.***Dependent Variables: Industry-Adjusted Tobin's Q (columns 1-5) and Industry-Adjusted Cash Flow to Price Ratio (columns 6-10)*

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Ind-GS | 0.892 ^a (0.345) | 0.955 ^a (0.327) | 1.018 ^a (0.299) | 0.980 ^a (0.310) | 0.991 ^a (0.315) | -0.068 ^a (0.026) | -0.080 ^a (0.030) | -0.100 ^a (0.022) | -0.090 ^a (0.025) | -0.093 ^a (0.028) |
| Demeaned Cash Flow | 0.205 (0.196) | 0.151 (0.226) | 0.302 ^c (0.168) | 0.276 ^d (0.172) | 0.234 (0.186) | 0.013 (0.017) | 0.031 ^d (0.021) | -0.012 (0.014) | -0.005 (0.016) | -0.014 (0.014) |
| ITL | 0.123 (0.093) | | | | | -0.032 ^a (0.007) | | | | |
| Sanction | | 0.328 (0.277) | | | | | -0.096 ^a (0.025) | | | |
| Enf_94 | | | 0.106 (0.193) | | | | | -0.032 ^c (0.019) | | |
| Eff_Law | | | | 0.071 (0.066) | | | | | -0.021 ^a (0.006) | |
| Eff_Sanct | | | | | 0.290 (0.246) | | | | | 0.002 (0.005) |
| Constant | -0.265 (0.257) | -0.184 (0.224) | 0.032 (0.106) | -0.024 (0.105) | -0.067 (0.129) | 0.167 ^a (0.022) | 0.155 ^a (0.022) | 0.092 ^a (0.011) | 0.108 ^a (0.011) | 0.075 ^a (0.005) |
| P-value of Hausman Test | ** | 0.383 [*] | ** | 0.797 [*] | 0.815 [*] | 0.000 ^a | ** | 0.231 [*] | 0.000 ^a | ** |
| Number of Observations | 375 | 375 | 375 | 375 | 375 | 371 | 371 | 371 | 371 | 371 |

Notes: The dependent variables are industry-adjusted Tobin's Q (columns 1-5) and the industry-adjusted cash flow to price ratio (columns 6-10) for the firms with a controlling owner. The independent variables are industry-adjusted sales growth (*Ind-GS*), expressed in percentage terms; demeaned cash flow ownership (*Demeaned Cash Flow*); the index of insider trading law (*ITL*); potential sanctions for violating the law (*Sanction*); an indicator variable, *Enf_94*, that equals one if the country's insider trading law was enforced at least once by 1994, and zero otherwise; an interaction term, *Eff_Law*, that equals *ITL* times *Enf_94*; an interaction term, *Eff_Sanct*, that equals *Sanction* times *Enf_94*. Instruments for the insider trading variables are the legal origins: English common law, French civil law, German civil law, and Scandinavian civil law. All variables are described in detail in the Data Appendix. Robust standard errors are reported in parentheses. The superscripts a, b, c, and d denote statistical significance at the 1%, 5%, 10% and 15% levels, respectively. * signifies that the coefficient is not systematically different from OLS. ** signifies that the model estimated on these data fails to meet the asymptotic assumptions of the Hausman test.