What Explains Insider Trading Restrictions? International Evidence on the Political Economy of Insider Trading Regulation

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Abstract

This article investigates the determinants of insider trading regulation across countries. The article presents a political economy analysis of such regulation that takes into account both private (distributional) and public (economic efficiency) considerations. The model cannot be tested directly because the relevant private preferences and social costs are unobservable. However, existing theories of capital market development suggest that various observable social factors can explain the diversity of insider trading policies across countries. In turn, these social factors should reveal the underlying preferences and social costs motivating such regulation.

The main finding, based on data from a cross section of countries between 1980 and 1999, is that a country's political system and not its legal or financial system provides the first-order explanation of its proclivity to regulate insider trading. Specifically, more democratic political systems enacted and enforced insider trading laws earlier than less democratic political systems, controlling for wealth, financial development, legal origin, and measures of latent social factors. In addition, left-leaning governments were relative latecomers to insider trading legislation and enforcement relative to right-leaning and centrist governments, controlling for the same factors as above.

The findings are consistent with the political theory of capital market development and inconsistent with the legal origins theory of capital market development. They also challenge theoretical claims that insider trading restrictions are market-inhibiting because the kinds of governments that appear more prone to regulate insider trading are precisely the governments that are generally thought to pursue market-promoting policies.

What Explains Insider Trading Restrictions? International Evidence on the Political Economy of Insider Trading Regulation

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I. Introduction

Insider trading regulation has been controversial at least since Professor Henry Manne's theoretical arguments of the 1960s in which he claimed that stock markets were more efficient when insiders were allowed to freely trade. Although it was not until the last few years that empirical work challenged the theoretical writing of Manne and others[1], it is safe to say that insider trading is regarded by many as a threat to stock market integrity and efficiency.[2] By 2000, eighty-seven countries had enacted insider trading legislation and thirty-eight had prosecuted insider trading at least once.[3] However, these laws vary in stringency and many of them were enacted only in recent

* Assistant Professor of Law, University of Michigan Law School, Ann Arbor. Thanks to Michael Barr, John Coffee, Merritt Fox, Don Herzog, Raphael La Porta, Paul Mahoney, Adam Pritchard, Richard Epstein, Andrei Shleifer, George Triantis, Detlev Vagts, and especially Richard Lempert. Thanks also to participants in workshops at the University of Michigan Law School, Columbia Law School, and the American Law and Association Annual Meeting 2004 for valuable comments and suggestions on various drafts. I am also grateful to Kindra Baer, Jonathan Ho, Stefania Fusco, Alonzo Lagrone, Jorge Luis Silva Mendez, Dan Simundza, and Osvaldo Vasquez for excellent research and/or editorial assistance and to Michigan Law School Cook and Olin Funds for financial support.

[1] HENRY MANNE, INSIDER TRADING AND THE STOCK MARKET (1966); Dennis Carlton & Daniel Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857 (1983).

[2] Franklin A. Gevurtz, *The Globalization of Insider Trading Regulation*, 15 TRANSNAT'L LAW. 63, 67-68 (2002).

[3] Utpal Bhattacharya & Hazem Daouk, *The World Price of Insider Trading*, 57 J. FIN. 75, [ ] (2002); Gevurtz, *supra* note [ ], at 65.

decades, often long after the stock markets came into existence.[4] Enforcement intensity also varies across countries, with some countries regularly enforcing insider trading laws and others allowing insiders to trade with impunity notwithstanding the laws on the books.[5] The question is why. This article seeks to provide at least a partial answer to this question by explaining the differential timing of insider trading legislation and enforcement across countries between 1980 and 1999.[6]

The answer to this question promises to inform the academic debate about insider trading regulation, which turns on the question whether such regulation is efficient or inefficient. There are vocal advocates on both sides of the debate. Those who oppose insider trading regulation argue that, at best, it simply redistributes rents among private parties at the cost of regulation[7] and, at worst, reduces market efficiency by distorting managerial incentives[8] or reducing the accuracy of stock prices.[9] In contrast, proponents of insider trading regulation argue that such regulation increases market efficiency by

[4] *See infra* Table 3.
[5] *See infra* Table 3.
[6] In this article, I do not attempt to explain why insider trading legislation and enforcement are phenomena of the late 1980s and 1990s. However, one reason may be that most countries opened up their stock markets to foreign investors in 1980 or after. In addition, technological advances in recent decades have increased the level of sophistication of market surveillance, making detection of unusual trading activity and thus enforcement of insider trading laws more feasible. *See generally* Michael P. Dooley, *Enforcement of Insider Trading Restrictions*, 66 VA. L. REV. 1, 26 (1980) (discussing the problems of enforcing insider trading laws).
[7] *See, e.g.*, David Haddock & Jonathan Macey, *Controlling Insider Trading in Europe and America: The Economics of the Politics, in* LAW AND ECONOMICS AND THE ECONOMICS OF LEGAL REGULATION 149 (J. Matthias Graf von den Schulenburg & Goran Skogh eds., 1986) [hereinafter Haddock & Macey, *Controlling Insider Trading*]; David Haddock & Jonathan Macey, *Regulation on Demand: A Private Interest Model, with an Application to Insider Trading Regulation*, 30 J.L. & ECON. 311, [ ] (1987) [hereinafter Haddock & Macey, *Regulation on Demand*]; Carla Tighe and Ron Michener, *The Political Economy of Insider-Trading Laws*, 84 AMERICAN ECONOMIC REVIEW 164-168 (1994) (presenting a mathematical model supporting Haddock and Macey's private interest model, *id*.).
[8] *See, e.g.*, Carlton & Fischel, *supra* note 1, at [ ].
[9] *See, e.g.*, MANNE, *supra* note 1, at [ ]; Carlton & Fischel, *supra* note 1, at [ ].

encouraging broader investor participation, increasing liquidity (share trading), and improving share price accuracy.[10]

Legal academics not only disagree about the effect of insider trading regulation on stock markets, they also disagree about its genesis. Those who oppose such regulation rely on the private interest theory of regulation to explain how these laws, despite their inefficiency, are enacted to satisfy influential private interests.[11] In contrast, those who support insider trading restrictions rely on the public interest theory of regulation to explain how insider trading regulation is enacted to address market failures.[12] The two theories are rarely merged into a single framework.

However, because insider trading and its regulation concern the distribution of property rights to use private corporate information, the issue has both private (distributional) and public (efficiency) dimensions. Both dimensions are taken into account in the political economy model in this article.[13] The model has elements of both private and public interest theories. Like the private interest theory of insider trading regulation, the analysis can accommodate the enactment of inefficient regulation.[14]

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[10] *See e.g.*, Reinier Kraakman, *The Legal Theory of Insider Trading Regulation in the United States*, *in* EUROPEAN INSIDER DEALING 39 (Klaus Hopt & Eddy Wymeersch eds., 1991); Mark Klock, *Mainstream Economics and the Case for Prohibiting Insider Trading*, 10 GA. ST. U. L. REV. 297, [ ] (1994).

[11] *See* Haddock & Macey, *Regulation on Demand*, *supra* note [ ]; David Haddock & Jonathan Macey, *A Coasian Model of Insider Trading*, 80 NW. U. L. REV. 1449, [ ] (1987) [hereinafter Haddock & Macey, *Coasian Model*].

[12] *See, e.g.*, James D. Cox, *Insider Trading and Contracting: A Critical Response to the Chicago School*, 1986 DUKE L.J. 628, 653 (1986).

[13] Many theories of regulation emphasize either an efficiency rationale for regulation or a distributional rationale for regulation. In the spirit of Professor Becker's article, see Gary Becker, *A Theory of Competition Among Pressure Groups for Political Influence*, 98 Q. J. ECON. 371 (1983), the model in this paper incorporates both rationales. This approach to the political economy of insider trading legislation reflects "the deeper [notion] that the fairness/efficiency debate in insider trading is merely a reprise of the public/private debate that characterizes many other areas of political and legal discourse. . . . The place of information along [the] public/private continuum is especially problematic because, unlike most other valuable objects, information lies particularly close to the imaginary public/private dividing line." *See also* Kimberly D. Krawiec, *Fairness, Efficiency, and Insider Trading: Deconstructing the Coin of the Realm in the Information Age*, 95 NW. U. L. REV 443, 448 (2001) (parenthetical encouraged).

[14] *See infra* Part II.C.

However, it can also accommodate the enactment of regulation that enhances social welfare, even though some private constituencies stand to benefit from such regulation.

It would be ideal to test the model directly using international data. However, that requires data on the relevant private preferences and social costs across countries. Such data are frequently unobservable in a single country, let alone internationally. I therefore shift to a higher level of generality and discuss several *observable* factors that existing theory suggests can explain the diversity of insider trading policy across countries. These factors, which proxy for the underlying preferences and social costs, are financial development, legal origin, political openness, and ideology. More specifically, the investor demand model,[15] the legal origins theory of finance,[16] and the political theory of finance[17] suggest that countries with more developed stock markets, common law legal systems, and more democratic and right-leaning political systems ought to be more inclined to regulate insider trading than other countries. Examining whether these factors correctly predict the enactment and enforcement of insider trading legislation across countries may reveal something about the underlying preferences and social costs and thus inform the academic debate about insider trading.

The main finding, based on data I assembled for a cross section of countries between 1980 and 1999, is that a country's political system and not its legal or financial system best explains its proclivity to regulate insider trading. Specifically, more democratic political systems enacted and enforced insider trading laws earlier than less democratic political systems, controlling for wealth, financial development, legal origin, and proxies for latent social factors. Furthermore, controlling for the same factors, left-

[15] *See infra* Part III.A.
[16] *See infra* Part III.B.

leaning governments were latecomers to insider trading legislation and enforcement relative to right-leaning and centrist governments.

The findings are consistent with the political theory of capital market development and inconsistent with the legal origins theory of capital market development. They also challenge theoretical claims that insider trading restrictions are market-inhibiting because the kinds of governments that appear more inclined to regulate insider trading are precisely the governments that are generally thought to pursue market-promoting policies.

The article is organized as follows. Part II presents a political economy model of insider trading regulation that integrates both private (distributional) and public (efficiency) considerations. Part III shifts to a higher level of generality and presents four empirically testable hypotheses about *observable* social factors that existing theories suggest affect translation of the underlying preferences and social costs into the state's insider trading policy. I discuss how these factors may explain the differential timing of enactment and enforcement of insider trading legislation across countries and thus indirectly reveal the unobservable preferences and social costs that motivate insider trading regulation. Part IV explains the empirical methodology. Part V describes the data and presents the results. Finally, Part VI briefly concludes.

II. The Political Economy of Insider Trading

Insider trading legislation concerns the allocation of property rights to use and benefit from private corporate information.[18] Insider trading laws therefore have an

[17] *See infra* Part III.C.

[18] STEPHEN M. BAINBRIDGE, SECURITIES LAW: INSIDER TRADING (2007); JONATHAN MACEY, INSIDER TRADING: ECONOMICS, POLITICS, AND POLICY (1991); Zohar Goshen & Gideon Parchomovsky, *On Insider Trading, Markets, and 'Negative' Property Rights in Information*, 87 VA. L. REV. 1229, (2001); Kimberly

important influence on the distribution of private rents among corporate insiders and outsiders.[19] When insider trading is unregulated, by default, the state assigns the property rights to private corporate information to corporate insiders, enabling them to maximize their private rents from the use of such information. In contrast, when insider trading is prohibited, the state removes insiders' monopoly on the use of private corporate information and thus redistributes private rents to outsiders.[20] The preferences and relative political influence of insiders and outsiders are important determinants of the state's insider trading policy. However, insider trading regulation does not just affect the distribution of private rents. It also affects capital market efficiency and thus overall economic efficiency. In this Part, I present a political economy analysis of insider trading regulation that integrates both distributional and economic efficiency concerns.

A. The Private Constituencies: Who Gains and Who Loses from Insider Trading?

Insider trading creates winners and losers.[21] In this section, I consider the likely winners and losers.

1. The Potential Winners: Corporate Insiders

Corporate insiders include managers, board members, and controlling or large shareholders. Their status gives them privileged access to corporate information and thus a probable trading advantage relative to outsiders. They can earn significant profits from insider trading. Evidence suggests that insiders make superior profits relative to public

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Kraweic, *Fairness, Efficiency, and Insider Trading: Deconstructing the Coin of the Realm in the Information Age*, 95 NW. U. L. REV. 443 (2001).

[19] *Id*.

[20] Effective insider trading laws reduce insiders' ability to use private corporate information to their exclusive benefit.

[21] Some argue that insider trading produces no net gainers or losers. *See, e.g.*, William J. Carney, *Signalling and Causation in Insider Trading*, 36 CATH. U. L. REV. 863, [ ] (1987). This argument is not convincing because, if it was true, insider trading would not be such a controversial political issue. *See, e.g.*, Gevurtz, *supra* note [ ], at 65.

investors and other participants in the stock market even when they trade on the basis of publicly available and thus immaterial[22] information.[23] Insider trading on the basis of material, non-public information is probably even more profitable, especially in stock markets where there are relatively few constraints on self-dealing by insiders.[24] Professor Arturo Bris, for example, presents international evidence that suggests insider trading on the basis of private information about corporate takeovers is very profitable and insider trading profits vary inversely with the stringency of insider trading laws.[25]

Some "Chicago" or neoclassical theories of insider trading dismiss the notion that insider trading benefits corporate insiders over and above standard compensation.[26] They argue that insiders do not gain on net, because their salaries are reduced commensurate with their trading profits.[27] The argument is not convincing because, by definition, insider trading is not transparent. Furthermore, no evidence has been presented to show that those who have been found to have violated insider trading laws were receiving lower salaries or other forms of compensation, at the time of transgression, than similarly

[22] Immaterial information is generally information that, if publicly known, would not impact the stock's price. In contrast, material information would, if publicly known, affect the stock's price. *See, e.g.*, Basic, Inc. v. Levinson, 485 U.S. 224, [ ] (1988).
[23] *See, e.g.*, Leslie Jeng et. al., *Estimating the Returns to Insider Trading: A Performance-Evaluation Perspective*, *in* REVIEW OF ECONOMICS AND STATISTICS 453 (2003) (applying performance-evaluation techniques to reported U.S. insider transactions over 1975-1996 and finding that a constructed portfolio of insiders' purchases earns abnormal returns of approximately 40 basis points per month); Nejat Seyhun, *The Effectiveness of Insider-Trading Sanctions*, 35 J.L. & ECON. 149 (1992) (finding that insiders outperform the market in buying and selling their firm's shares on the basis of public information).
[24] Such constraints may be legal, political, moral, social or institutional.
[25] Arturo Bris, *Do Insider Trading Laws Work?* 11 EUR. FIN. MGMT 267, [ ] (2005). Bris uses Beny's index of the insider trading law stringency. Laura Nyantung Beny, *Do Insider Trading Laws Matter?* 7 AM. L. & ECON. REV. 144 (2005) [hereinafter Beny, *Do Laws Matter?*].
[26] *See, e.g.*, Carlton & Fischel, *supra* note 1, at [ ] (arguing that insiders' compensation will be reduced dollar for dollar with any profits they make from insider trading).
[27] *I.d.*

situated non-violators.[28] Indeed, even in the absence of a legal prohibition, insiders have strong incentives to disguise their trading activity.[29]

A related argument is that insider trading profits are not a windfall gain but simply compensate employees for the entrepreneurial services they provide to the firm.[30] Absent such compensation, the argument goes, employees would have insufficient incentives to innovate.[31] This argument assumes that insider trading profits are observable, an assumption that has yet to be empirically supported. It also assumes that non-innovating employees would refrain from insider trading.

A final argument is that insiders do not gain from insider trading because they pay for insider trading in the form of a higher cost of capital because investors discount share prices to reflect the probability of insider trading.[32] This too is a theoretical rather than empirical proposition and depends on assumptions about information availability that are unlikely to be true. Moreover, even if the argument were true on balance, outsiders may underestimate the probability of insider trading in some instances and overestimate it in others. Insiders would be overcompensated in the former case and under-compensated in the latter. In both cases, compensation would be inefficient. As Professors Bebchuk and

[28] However, Roulstone finds evidence of a substitution effect between *legal* insider trading and total compensation: "firms that restrict when insiders can trade pay a 4% to 13% premium in total compensation relatives to firms that do not restrict insider trading, after controlling for economic determinants of compensation." Darren Roulstone, *The Relation Between Insider-Trading Restrictions and Executive Compensation*, 41 J. ACCT. RES. 525, 526 (2003).
[29] *See, e.g.*, Kraakman, *supra* note [ ], at 50 (arguing that "insiders would prefer to trade anonymously to preserve their informational monopolies, even if their activities were legal"). One solution to this problem is to require insiders to disclose their trades, as does Section 16(b) of the U.S. Securities Exchange Act of 1934. 17 C.F.R. § 240.16(b) (2006).
[30] *See* MANNE, *supra* note 1, at [ ].
[31] *Id.*
[32] *See* Michael Manove, *The Harm in Insider Trading and Informed Speculation*, 104 Q. J. ECON. 823 (1989) (presenting a formal model of the insider trading discount).

Jolls suggest, insider trading may yield a private benefit with costs that are not entirely borne by insiders but shared with outsiders who do not benefit.[33]

Tippees (relatives, friends, business and political associates of corporate insiders) also gain when they trade on the basis of private information received from insiders, and no intra-firm dynamics will compensate for their benefits.[34] In some countries, much insider trading is done by politicians and government bureaucrats who receive private information in exchange for economic or political favors.[35] Tippees' insider trading profits are a windfall gain since, unlike managers and other primary insiders, they are unlikely to increase firm value through entrepreneurial or productive services. The fact that insiders who theoretically may see some of their gains lost to stock price or internal compensation adjustments tip outsiders is good evidence that they perceive insider trading as a way to extract rents from inside information.[36]

2. The Potential Losers: Information, Liquidity Traders, and Small Investors

Outsiders who stand to lose from insider trading include information traders, liquidity traders and possibly small (i.e., minority) outside investors.

Information traders receive most of their income from stock trading and are insiders' main competitors for trading profits. These market participants include market professionals, like analysts, broker-dealers, market makers, and other sophisticated

[33] Lucian Bebchuk & Christine Jolls, *Managerial Value Diversion and Shareholder Wealth*, 15 J.L. ECON. & ORG. 487, [ ] (1999). How much of the burden is passed on to outsiders depends on how accurately they are able to discount share prices to reflect value diversion from insider trading.
[34] Outsiders who receive private information from insiders are often called "tippees." *See, e.g.*, Chiarella v. United States, 445 U.S. 222, [ ] (1980).
[35] In India, for example, "the broker-promoter--politician-fund manager nexus . . . these days accounts for the biggest chunk of insider trading." Sucheta Dalal, *Nabbing Insider Traders: Easier Said Than Done*, REDIFF, Aug. 16, 2000, http://www.rediff.com/money/2000/aug/16dalal.htm.
[36] *See* Dirks v. SEC, 463 U.S. 646, [ ] (1983); Victor Brudney, *Insiders, Outsiders, and Informational Advantages under the Federal Securities Laws*, 93 HARV. L. REV. 322, [ ] (1979).

investors. While their knowledge or ability to process corporate information is superior to those of other outside investors, they experience direct losses from insider trading. Informed traders consistently lose relative to insiders when the latter trade on the basis of material, non-public information because, although they are well informed relative to outsiders, informed traders are at a distinct informational disadvantage vis-à-vis insiders.[37]

Liquidity traders are investors who trade frequently and thus benefit from low trading costs. They include institutional investors, like pension funds, mutual funds, insurance companies, and index traders. Their trading is largely driven by exogenous factors like portfolio realignment or short-term consumption rather than by new information. Theoretical[38] and empirical[39] studies suggest that insider trading increases transaction costs. Thus, liquidity traders stand to lose from insider trading because they trade frequently enough to be harmed by greater transaction costs.

It is less clear how insider trading affects uninformed, small outside shareholders who trade infrequently and own minority equity stakes in firms. They may be indirectly harmed if greater mutual and pension fund fees are passed on to them by institutional investors who experience increased trading costs as a result of insider trading. In addition, if insider trading raises agency costs (i.e., causes managers to behave in ways

[37] *See* Nicholas Georgakopoulos, *Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation*, 26 CONN. L. REV. 1 (1993); Goshen & Parchomovsky, *supra* note [ ]; Haddock & Macey, *Regulation on Demand*, *supra* note [ ]; Jhinyoung Shin, *The Optimal Regulation of Insider Trading*, 5 J. FIN. INTERMEDIATION 49 (1996). In other work, I find a positive relationship between the stringency of insider trading laws and stock price informativeness, indirectly suggesting that information traders are discouraged by insider trading because stock prices are more informative when informed trading activity is vibrant. Beny, *Do Laws Matter?*, *supra* note [ ], at [ ].

[38] *See, e.g.*, Lawrence Glosten & Lawrence Harris, *Estimating the Components of the Bid/Ask Spread*, 21 J. FIN. ECON. 123 (1988); Shin, *supra* note [ ].

that reduce corporate value) and the market systematically underestimates the amount of such trading, small outside investors will be harmed by it because they will be buying shares at a higher price than their actual value. In contrast, if insider trading reduces agency costs and the market underestimates the amount of such trading, minority shareholders will benefit from it because they will be buying shares at a lower price than their actual value.[40] While the jury is still out, recent evidence suggests that some outside shareholders value insider trading restrictions.[41]

B. Social Costs: Economic Efficiency Considerations

Apart from its private distributional effects, theory and evidence suggest several ways in which insider trading may be economically inefficient for stock markets and the economy as a whole.[42]

1. Price Informativeness and Capital Allocation

Information traders play a positive role in price formation, both in the extent and kind of information that is impounded in stock prices.[43] They are rewarded for this by the profits they earn in trading against less informed investors. They maximize their profits by gathering firm-specific information until the marginal cost exceeds the marginal benefit of gathering such information. The collective trading of many such

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[39] *See, e.g.*, Thomas Copeland & Dan Galai, *Information Effects and the Bid-Ask Spread*, 38 J. FIN. 1457 (1983); Glosten & Harris, *supra* note [ ]; Hans Stoll, *Inferring the Components of the Bid-Ask Spread: Theory and Empirical Evidence*, 44 J. FIN. 115 (1989).

[40] In another article, I address the agency implications of insider trading and its regulation. Laura N. Beny, *Do Investors in Controlled Firms Value Insider Trading Laws? International Evidence*, J.L. ECON. & POL'Y (forthcoming 2007) (manuscript, on file with author).

[41] *See id.*; Art Durnev & Amrita Nain, *Does Insider Trading Regulation Deter Private Information Trading? International Evidence***,** PACIFIC-BASIN FIN. J. (forthcoming 2007).

[42] There is some theoretical work, *e.g.*, MANNE, *supra* note 1, at [ ]; Carlton & Fischel, *supra* note 1, at [ ], arguing that insider trading is socially beneficial, but I am not aware of any empirical support for this claim.

[43] Goshen & Parchomovsky, *supra* note [ ], at [ ]; Randall Morck et al., *The Information Content of Stock Markets: Why Do Emerging Markets Have Synchronous Price Movements?* 58 J. FIN. ECON. 215, [ ] (2000).

traders leads to more efficient capitalization of firm-specific information into stock prices,[44] making stock prices more informative.[45]

Professor Jeffrey Wurgler shows that capital is more efficiently allocated in the economy when a greater amount of firm-specific information is capitalized into stock prices.[46] It thus follows that if insider trading discourages information traders, it imposes a negative externality on the economy by reducing the informativeness of stock prices,[47] even if not all traders are discouraged. Consistent with this, in other work I document a positive relationship between stock price informativeness and the stringency of insider trading laws. [48] Thus, capital allocation may be less efficient in countries with lax insider trading legislation and enforcement.

2. Capital Constraints and the Cost of Capital

Capital constraints limit the range of feasible investments in the economy, in turn limiting economic growth.[49] A lower cost of capital makes investments more profitable and encourages the entry of new entrepreneurs into the capital market. Using international time series data, Professors Utpal Bhattacharya and Hazem Daouk demonstrate that the initial enforcement of insider trading legislation is followed by a 5%

[44] Sanford Grossman, *On the Efficiency of Competitive Stock Markets Where Traders Have Diverse Information*, 31 J. FIN. 573 (1976); Andrei Shleifer & Robert Vishny, *The Limits of Arbitrage*, 52 J. FIN. 35 (1997).
[45] Kenneth French & Richard Roll, *Stock Return Variances: The Arrival of Information and the Reaction of Traders*, 17 J. FIN. ECON. 5 (1986); Richard Roll, R^2, 43 J. FIN. 541 (1988).
[46] Jeffrey Wurgler, *Financial Markets and the Allocation of Capital*, 58 J. FIN. ECON. 187 (2000).
[47] Morck et al., *supra* note [ ], at [ ] present cross-country evidence that stock price infomativeness and investor protections are positively correlated, implying that beneficial arbitrage activity is greater in countries where the threat of expropriation is lower.
[48] Beny, *Do Laws Matter?*, *supra* note [ ], at [ ]; *see also* Nuno Fernandes & Miguel A. Ferreira, *Insider Trading Laws and Stock Price Informativeness* (ECGI Working Paper Series in Finance, Working Paper No. 161/2007, 2007) (using international data, finds that enforcement of insider trading laws improves stock price informativeness).
[49] Geert Bekaert & Campbell Harvey, *Foreign Speculators and Emerging Equity Markets*, 55 J. FIN. 565,[ ] (2000).

decrease in the cost of capital.[50] Their finding suggests that capital is more expensive in countries where the public perceives insider trading to be unregulated. This implies that enforcing insider trading legislation could ultimately lead to greater economic growth by reducing the cost of capital.

3. Transaction Costs and Liquidity

Liquid markets are socially valuable because greater liquidity makes purchasing and disposing of shares on short notice at the appropriate price easier for investors. The more liquid the market, the more willing investors should be to participate in it. Professors Yakov Amihud and Haim Mendelson confirm that investors value liquidity by showing that companies whose shares are more liquid must pay investors a lower expected rate of return than companies with less liquid shares.[51] In other words, their evidence shows that companies with more liquid shares have a lower cost of equity capital. Liquid markets may also mitigate agency costs, by lowering the opportunity cost of monitoring and facilitating the market for corporate control.[52] As noted above, however, evidence suggests that insider trading increases transaction costs and thus reduces stock market liquidity.

In short, there are several potential channels through which insider trading may reduce both stock market efficiency and overall economic efficiency.

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[50] Bhattacharya & Daouk, *supra* note [ ], at [ ]. However, Geert Bekaert et at., *Does Financial Liberalization Spur Growth?*, 77 J. FIN. ECON. 3, [ ] (2005) show that the positive effect of enforcing insider trading laws on the cost of capital is not robust to controlling for stock market liberalization (i.e., a country's opening its stock market to foreign investors).

[51] Yakov Amiuhud & Haim Mendelson, *Asset Pricing and the Bid-Ask Spread*, 17 J. FIN. ECON. 223 (1986).

[52] Markus Berndt, *Global Differences in Corporate Governance Systems*, *in* KONOMISCHE ANALYSE DES RECHTS [Economic Analysis of Law] 3 (Peter Behrens et al. eds., 2002); Ernst Maug, *Insider Trading Legislation and Corporate Governance*, 46 EUR. ECON. REV. 1569, [ ] (2002). *But see* Amar Bhide, *The Hidden Costs of Stock Market Liquidity*, 34 J. FIN. ECON. 31 (1993) (arguing that greater liquidity hinders corporate monitoring).

C. A Political Economy Model of Insider Trading Regulation

According to the public interest theory of regulation, governments intervene in markets to correct their failures and thus promote efficiency.[53] From this perspective, insider trading regulation can be seen as an attempt by the government to address a market failure that market participants are unwilling or unable to solve through private contracting.[54] A fundamental weakness of the public interest theory of regulation, however, is that it is vague about the mechanisms through which a social desire to correct a market failure gets translated into public policy.[55] Thus, for example, the mere fact that insider trading may be thought to be inefficient does not lead to the automatic enactment of insider trading legislation. Market inefficiencies can persist for long periods without governmental intervention, due not just to the costs of regulation but also to effective opposition to reform from private parties who stand to lose from insider trading regulation. The private interest theory of regulation is also deficient in that it tends to consider competition between special interest groups as the sole determinant of who wins the regulatory game.[56] Theorists of this stripe generally view regulatory intervention as

[53] Richard Posner, *Theories of Economic Regulation*, 5 BELL J. ECON & MGMT. SCI. 335 (1974) (reviewing theories of regulation, including public interest theory).
[54] *See, e.g.*, Cox, *supra* note [ ], at 653; *see also* Howell E. Jackson & Mark J. Roe, Public Enforcement of Securities Laws: Preliminary Evidence (2007) (unpublished manuscript, on file with author) (comparing public and private enforcement of securities laws).
[55] Posner, *supra* note [ ], at [ ]; *see also* Andrei Shleifer & Robert Vishny, THE GRABBING HAND: GOVERNMENT PATHOLOGIES AND THEIR CURES 10 (1998) ("[I]nstitutions supporting property rights are created not by the fiat of a public-spirited government but, rather, in response to political pressure on the government exerted by owners of private property."). *But see* Steven P. Croley, *Public Interested Regulation*, FLA. ST. U. L. REV. 1, [ ] (2000) (parenthetical encouraged).
[56] *E.g.*, Sam Peltzman, *Toward a More General Theory of Regulation*, 19 J.L. & ECON. 211, [ ] (1976); George Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON & MGMT. SCI. 3 (1971). David Haddock and Jonathan Macey apply this type of model to insider trading regulation, and argue that insider trading legislation is the result of demand from powerful special interests. Haddock & Macey, *Regulation on Demand*, *supra* note [ ], at [ ].

inefficient, seemingly overlooking the empirical reality that regulation sometimes does enhance economic efficiency.[57]

As Professor Gary Becker recognizes, the impetus for policy change lies somewhere between public and private interest theories of regulation.[58] Becker integrates the two approaches in a model of interest-group competition.[59] In his model, consistent with the private interest theory of regulation, interest groups support policies that maximize their private rents. Those with the most at stake do not automatically prevail, however. Who prevails among private constituencies depends on several factors that influence the relative efficiency of their political expenditures, such as group wealth, social and political networks, and size.[60] It also depends on the social welfare implications of the competing preferences. This is the novel aspect of Becker's model: social welfare plays an explicit role in the outcome of competition among private parties. Specifically, efficiency enters the model in that an interest group has an inherent

[57] Edward Glaeser, Simon Johnson & Andrei Shleifer, *Coase versus the Coasians*, 116 QUARTERLY JOURNAL OF ECONOMICS 853 (2001) aptly note how the Coasians are more Coasian than Coase was himself. They also show how securities laws can increase economic efficiency. *See also* Simeon Djankov, Edward Glaeser, Rafael La Porta, Florencio Lopez-de-Silances & Andrei Shleifer, *The New Comparative Economics*, 31 JOURNAL OF COMPARATIVE ECONOMICS 595-619, 607, 612-613 (2003) ("not all institutional failure should be blamed on politics. In fact, politics often moves societies toward institutional efficiency rather than away from it…..even when some interest groups obstruct change, Coasian bargaining often leads to efficient institutional choice" and citing U.S. progressive reforms as example of efficiency-increasing regulation); Steven P. Croley, *Public Interested Regulation*, FLA. ST. U. L. REV. 1 (2000) (arguing that regulation may sometimes be in the public interest, i.e., increase economic efficiency); SUSAN M. PHILLIPS AND J. RICHARD ZECHER, THE SEC AND THE PUBLIC INTEREST, 25 (1981) (leaning toward public choice (private interest) theory of regulation but acknowledging that public choice and efficiency might in some cases merge: "Even if all the SEC regulatory programs were to conform to the public choice model, for example, it is still interesting to ask whether a particular program such as corporate disclosure is in the public interest in the sense that it advances economic efficiency").

[58] Becker, *supra* note [ ], at [ ]; *see also* Croley, *supra* note [ ], at [ ] (parenthetical suggested).

[59] Becker, *supra* note [ ], at [ ].

[60] Smaller, more cohesive groups are often thought to be more influential than larger groups because they are better able to control free-riding among their members**.** *See generally* MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION (1965) (parenthetical strongly encouraged). However, having a smaller size need not always give a group a political advantage. Professor Becker's model illustrates that more members may increase the effective influence of special interest groups, if the scale effect outweighs the free riding effect of an increase in group size. Becker, *supra* note [ ], at [ ].

advantage in the competition if its preferred policy raises social welfare and an inherent disadvantage in the competition if its preferred policy lowers social welfare.[61]

Becker's framework can be applied to the contest over insider trading regulation.[62] The status quo ante is unregulated insider trading. Corporate outsiders – information and liquidity traders and small outside investors – who may seek to overturn the status quo must prevail upon the state to enact and enforce insider trading legislation. Insiders will resist insider trading regulation through various means, including monetary payments to politicians and, importantly, information tip-offs to politicians and market professionals. If insiders are able to co-opt market professionals, who include information and liquidity traders, they may easily succeed in maintaining the status quo because in many stock markets small outside investors are a relatively unorganized group whose relatively small individual stakes provide little financial incentive to lobby.[63] Thus, on the face of it, it seems as though corporate insiders could often easily defeat insider trading regulation.

However, applying Becker's integrated public-private framework, insider prevalence cannot be taken for granted. If insider trading is inefficient, as it may be in some markets, insiders will be inherently disadvantaged in the competition over

[61] A group that favors an inefficient policy may overcome its inherent disadvantage if it is able to exert greater political influence than the competing group.

[62] In the Appendix, I present a formal, albeit highly stylized model of competition between insiders and outsiders for influence over a government regulator who sets insider trading policy. The model assumes that insiders prefer to trade with impunity while outsiders prefer a ban on insider trading. As in Professor Becker's model, an interest group has an inherent advantage if the policy that it favors raises social welfare and an inherent disadvantage if its preferred policy is socially inefficient. It is not necessary to read the model to follow the rest of the article.

[63] However, normative factors, like a sense of what is fair, may cause small investors to have strong feelings about the matter. Furthermore, as the investor class in a country expands, outside investors may become more organized and begin to lobby based on their collective financial interests. *See infra* Part III.A.

regulatory policy relative to outsiders. While they may be able to overcome this disadvantage in some social contexts, they may not be able to do so in others.

III. Testable Hypotheses

While it would be ideal to test the political economy model in Part II directly, direct data on the relevant private preferences and social costs are unavailable across countries. Thus, in this Part, I switch to a greater level of generality and focus on three *observable* factors – financial development, law, and politics. Existing theories suggest that these factors can explain the diversity of insider trading policy across countries. In the process they may reveal something about the preferences and social costs underlying such policy.[64] In this Part, I discuss these theories and present four testable hypotheses.

A. Finance: The "Investor Demand" Model[65]

As the stock market develops, outside investors may become more effective at exerting political pressure on the state to adopt greater investor protections, including insider trading regulation.[66] There are several channels through which this may occur. First, as the size of the domestic investor class increases, their wealth and influence becomes more important relative to those of insiders. Outside investor's influence may increase even more relative to insiders' if their numbers consist of foreign investors, who reside or invest primarily in countries where restrictions on insider trading are the

[64] See Figure 1 for a model of causality from preferences to insider trading policy.
[65] *See generally* PETER A. GOUREVITCH & JAMES SHINN, POLITICAL POWER AND CORPORATE CONTROL 96-123 (2005) ("In the investor model, the owners of firms and external providers of capital work out a 'good governance' bargain through a combination of private ordering and public regulations, thus providing protections for minority shareholders.").
[66] *See, e.g.*,Marco Pagano & Paolo Volpin, *Shareholder Protection, Stock Market Development, and Politics*, 4 JOURNAL OF THE EUROPEAN ECONOMIC ASSOCIATION 315-341 (2006) (presenting a model with mutual feedback between stock market development and investor protection, where greater investor protection leads to a broader stock market, which in turn broadens the shareholder base and increases political support for shareholder protections).

norm.[67] Second, as stock markets develop, institutions may emerge to mitigate the free-riding problems that stymie collective action by small outside investors.[68] Investor associations are an important example. In the United States, for example, the Investor's Clearinghouse is an online forum run by the Alliance for Investor Education.[69] The website disseminates information to dispersed investors on a wide variety of topics of concern, such as the determinants of mutual fund fees.

As the stock market develops, market professionals may also become more cohesive and display interests distinct from those of corporate insiders. Institutional investors, for example, may begin to share information on issues of collective concern, like corporate governance and securities fraud. One U.S. example is Institutional Investor Online.[70] The site provides articles about a range of issues of concern to institutional investors, like the dangers of investing in overseas markets, like China, that are rife with insider trading and market manipulation.[71] The international edition of the Institutional Investor Online,[72] monitors corporate performance in many countries, including emerging markets, like Brazil and India, and often ranks companies based on

[67] Professors Bakaert, Harvey and Lundblad argue that "[i]t is possible that the enactment of [insider trading] rules are particularly valued and perhaps demanded by foreigners before they take the risk of investing in emerging markets." Bekaert et at., *supra* note [ ], at 27. The internationalization of stock markets has led to a proliferation of regulatory harmonization efforts among countries (e.g., through the auspices of institutions like the International Organization of Securities Commissions (IOSCO) and bilateral agreements between the U.S. Securities and Exchange Commission (SEC) and foreign market regulators). Arguably, this has generated a "race-to-the-top" in the sense that many countries have agreed to amend their laws in order to satisfy minimum standards of securities regulation.

[68] In the theoretical model in Appendix, mechanisms that reduce free riding problems are considered to increase the "productivity" of political expenditures. *See also* Becker, *supra* note [ ], at [ ] (parenthetical encouraged).

[69] The Investor's Clearinghouse, http://www.investoreducation.org/index.cfm (last visited Jan. 25, 2008).

[70] Institutional Investor, http://www.iimagazine.com/ (last visited Jan. 25, 2008).

[71] *See, e.g.*, Kevin Hamilton, *Laissez Regulators*, INSTITUTIONAL INVESTOR, Oct. 25, 2002, http://www.iimagazine.com/article.aspx?articleID=1036391.

[72] Institutional Investor International Edition, http://www.iimagazine.com/default.aspx?theme=International (last visited January 21, 2008).

their corporate governance practices.[73] Finally, an innovative U.S. example is the Securities Class Action Clearinghouse jointly run by Stanford Law School and Cornerstone Research, a private consulting firm.[74] The clearinghouse, in operation since 1996, provides individual and institutional investors with unprecedented access to class action securities fraud litigation documents that would otherwise be private.

Stock exchanges, seeking to maximize trading volume and thus commissions, may begin to engage in self-regulation long before formal legislative action is taken.[75] This occurred in the U.S. and the United Kingdom as their stock markets were developing. Private stock exchanges in the two countries regulated their members, which include stock-issuing firms and market professionals like brokers-dealers, imposing listing requirements and disclosure and anti-manipulation rules.[76] In turn, self-regulation by market professionals may stimulate legislative action that leads to formal stock market regulation. As Professor Coffee observes, private parties may eventually perceive self-regulation to be insufficient because of enforcement deficiencies:

> [e]ven when a strong private institutional structure exists (as it did in the case of the NYSE), there are still important deficiencies which require legislative intervention in order to provide adequate enforcement. …the enforcement shortfall that is inherent in a self-regulatory system [is due to] several different

[73] *See, e.g.*, "*Institutional Investor Releases Inaugural Ranking of Asia's Top Executives and Shareholder-Friendly Companies*," INSTITUTIONAL INVESTOR, http://www.iimagazine.com/RankingsAsiaTopExec.aspx (last visited January 21, 2008) (releasing a survey of investors and portfolio managers that "ranks the top executives and companies in Asia, showing which are most effective in satisfying investors with straight talk, open and honest reporting and top-notch investor relations").

[74] Securities Class Action Clearinghouse, http://securities.stanford.edu/ (last visited January 21, 2008).

[75] John Coffee, *The Rise of Dispersed Ownership: The Roles of Law and the State in the Separation of Ownership and Control*, 111 YALE L.J. 1, [ ] (2001). According to Professor Coffee, "[b]y a variety of means, including a substantial self-regulatory component, both the United States and the United Kingdom developed legal and institutional mechanisms that enabled dispersed ownership to persist. Generally, these mechanisms followed, rather than preceded, economic changes, but they did protect and facilitate the growth of dispersed ownership." *Id.* at [ ]; *see also* Brian Cheffins, *Does Law Matter? The Separation of Ownership and Control in the United Kingdom*, 30 J. LEGAL STUD. 459, [ ] (2001) (parenthetical encouraged)

[76] *See* Coffee, *supra* note [ ], at [ ] ("By the 1950s, the [London Stock Exchange's] listing rules had been tightened to require issuers to reveal all material information on an ongoing basis.").

> reasons: (1) A private body has weak incentives to enforce rules against its own members and clients; (2) Enforcement is too costly for a private body to undertake on a thorough-going basis; and (3) Private bodies necessarily lack the investigative tools and punitive sanctions that the State has at its disposal.[77]

Thus, as the stock market increases in significance, constituencies that favor liquidity and an orderly market may increase private demand for regulatory oversight that is likely to include insider trading legislation and enforcement. Furthermore, as these constituencies become more organized and resource-endowed they should pose a greater political threat to the insider-dominated status quo.

The social cost of insider trading may also increase and thus strengthen the efficiency case for insider trading legislation as the stock market develops. Insider trading becomes more profitable and thus more tempting as stock markets become more liquid and efficient.[78] Because equity finance is more important to the economy, this raises the potential social cost of insider trading. Applying the model developed in Part II, this implies an increase in outside investors' relative advantage (or a decrease in their relative disadvantage) in the political competition over insider trading policy.

In summary, as the stock market develops, both private and public forces are likely to bring insider trading policy to the forefront of legislative debate and increase outsiders' ability to challenge the insider-dominated status quo.[79] These observations lead to the first prediction:

Hypothesis 1

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[77] *Id.* at [ ].
[78] Bris, *supra* note [ ], at [ ]; Maug, *supra* note [ ], at [ ].
[79] *See* Coffee, *supra* note [ ], at [ ] ("Legislative action is thus likely to follow, rather than precede, the appearance of securities markets because a constituency of public investors must first arise before there will be pressure for legislative reform that intrudes upon the market.").

A country with a more developed stock market is more likely to enact and enforce insider trading legislation than a country with a less developed stock market.

However, the country's legal and political systems will constrain outsiders' ability to overcome the status quo. These potential constraints are addressed in the next two sections.

B. Legal Origins

Although it is coming under increasing intellectual scrutiny and empirical challenge, legal origins theory is an influential movement.[80] The central claim of the theory is that the main predictor of financial development is a country's legal origin. Fundamental differences between common law and civil law systems, so the theory posits, yield fundamental differences in investor protection laws, which then produce different levels of financial development.

More specifically, the legal origins theory of finance claims that "common law countries protect [outside] shareholders better than do civil law countries."[81] Thus, small investors are more willing to invest in common law countries than in civil law countries, where they fear being robbed by insiders and large shareholders. The result is that common law countries develop deep stock markets with diffuse ownership, while stock markets in civil law countries remain shallow and firms must rely on traditional forms of

[80] *See, e.g.*, Rafael La Porta et al., *Law and Finance*, 106 J. POL. ECON. 1113, [ ] (1998) [hereinafter La Porta et al., *Law and Finance*]; Rafael La Porta et al., *Legal Determinants of External Finance*, 52 J. FIN. 1131, [ ] (1997) [hereinafter La Porta et al., *Legal Determinants*]. For critiques of the legal origins approach, see GOUREVITCH & SHINN, *supra* note [ ], at 85-87; Katharina Pistor et al., *Law and Finance in Transition Economies*, 8 ECON. TRANSITION 325, [ ] (2000); Mark J. Roe, *Legal Origins, Politics, and Modern Stock Markets*, 120 HARV. L. REV. 462, 470-82 (2006) [hereinafter Roe, *Legal Origins*].

[81] Mark J. Roe, *Legal Origins*, *supra* note [ ], at [ ] n.13 (citing Simeon Djankov et al., *supra* note [ ]). The mechanisms that are believed to drive the legal and financial differences between common law and civil law countries are the existence of fiduciary duties in common law systems and their absence in civil law systems, the supposedly greater flexibility of common law judges compared to civil law judges, and the "over-regulation" of markets in civil law countries. *Id.* at 471-474.

finance, like banks, related firms, and founding families.[82] Stock ownership and control thus tends to be highly concentrated in civil law countries, according to the legal family theory.[83]

In turn, these divergent markets structures foster different power relations between insiders and outsiders in the two legal systems. Outside investors, according to the theory, have greater power relative to corporate insiders in common law countries than they do in civil law countries.[84] The theory implies that in civil law countries corporate insiders and dominant shareholders are likely to pose a formidable obstacle to outsiders seeking the enactment and enforcement of insider trading legislation.[85] That is the private interest side of the equation.

On the public side, the theory suggests that there will be a greater efficiency imperative for insider trading regulation and enforcement in common law countries than in civil law countries. As noted in the preceding section, as the stock market develops and equity finance becomes more important to the national economy, the public interest case for insider trading regulation is likely to increase. Legal origin theory suggests that common law countries will be more responsive to this need because an important premise

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[82] La Porta et al., *Law and Finance*, *supra* note [ ], at [ ]; La Porta et al., *Legal Determinants*, *supra* note [ ], at [ ].

[83] La Porta et al., *Law and Finance*, *supra* note [ ], at [ ]; La Porta et al., *Legal Determinants*, *supra* note [ ], at [ ]. *But see* Roe, *Legal Origins*, *supra* note [ ], at 495-501 (2006); Sonja Fagernäs, Prabirjit Sarkar & Ajit Singh, *Legal Origin, Shareholder Protection and the Stock Market: New Challenges from Time Series Analysis*, CENTRE FOR BUSINESS RESEARCH, UNIVERSITY OF CAMBRIDGE WORKING PAPER NO. 343 (2007) (casting doubt on the claim that common law countries have stronger shareholder protection, which leads to greater stock market development, using data on sixty annual legal indicators for the period 1970-2005 for France, Germany, the UK and the US).

[84] Raghuram Rajan & Luigi Zingales, *The Great Reversals: The Politics of Financial Development in the Twentieth Century*, 69 J. FIN. ECON. 5, [ ] (2003); Rafael La Porta et al., *Investor Protection: Origins, Consequences, Reform* (Nat'l Bureau of Econ. Research, Working Paper No. 7428, 1999).

[85] See Maug, *supra* note [ ], at [ ], demonstrating that controlling shareholders benefit when insider trading laws are lax. In a similar vein, Harold Demsetz, *Corporate Control, Insider Trading and Rates of Return*, 76 AM. ECON. REV. 313, [ ] (1986) and Bhide, *supra* note [ ], at [ ], argue that insider trading legislation reduces controlling shareholders' profits.

of the theory is that common law systems are more adaptive to "the changing needs of society".[86] The common law is thought to be more accommodating of modernization because common law judges have greater flexibility than civil law judges. Common law is also said to be more market-promoting than civil law.[87]

In summary, legal origins theory suggests that common law countries are more likely to enact and enforce insider trading legislation in response to private and public demand than civil law countries.[88] This is the second prediction:

Hypothesis 2
A common law country is more likely to enact and enforce insider trading legislation than a civil law country with the *same* level of stock market development.

C. Politics

The political theory of finance emphasizes the centrality of politics to stock market development.[89] According to the theory, state policy toward the stock market is

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[86] This is the dynamic "law and finance theory":

> The common law is inherently dynamic as it responds case-by-case to the changing needs of society. This tends to limit the opportunities for large gaps to grow between the demands of society and the law. Since laws must evolve efficiently to support financial development, the dynamic law and finance view predicts that common law is particularly effective in supporting financial institutions. Moreover, the inherently dynamic nature of the common law implies that countries that received the common law have received a legal tradition that will more naturally adapt to different socioeconomic conditions and more readily evolve with changing commercial requirements than countries with the French civil law.

Thorsten Beck, Asli Demirguc-Kunt, & Ross Levine, Law, Politics, and Finance 17 (2001) (unpublished manuscript, on file with the author). *See also* Coffee, *supra* note [ ], at [ ]. ("[T]he more decentralized character of common law legal institutions [perhaps] facilitated the rise of both private and semi-private self-regulatory bodies in the U.S. and the U.K., whereas in civil law systems the state retained a relative monopoly over law-making institutions.").

[87] *See, e.g.*, Paul G. Mahoney, *The Common Law and Economic Growth: Hayek Might be Right*, 30 J. Legal Stud. 503, [ ] (2001) (arguing that civil law countries poorly protect property rights, thus stifling economic growth).

[88] *But see* Roe, *Legal Origins*, *supra* note [ ], at 472 (noting that insider trading was legal in most U.S. states at common law).

[89] *E.g.*, Marco Pagano & Paolo Volpin, *The Political Economy of Corporate Governance*, 95 AM. ECON. REV. 1005, 1027 (2005); Rajan & Zingales, *supra* note [ ]; Roe, *Legal Origins*, *supra* note [ ]; Mark Roe, *Political Preconditions to Separating Ownership from Corporate Control*, 53 STAN. L. REV. 539 (2000)

jointly determined by competing preferences, the distribution of power, the national rules of the political game and ideology.[90] I focus on the last two factors in this section. Regarding the first, Professors Gourevitch and Shinn write: "[t]o obtain the most advantageous rules each player needs a way of getting the political system to reflect its preferences."[91] Regarding the second, Professor Roe states bluntly: "[t]he first order condition is a polity that supports capital markets."[92]

The political theory of finance suggests that outsiders are more likely to get the political system to reflect their preferences in democracies than in authoritarian states. Outsiders should have significantly greater difficulty in challenging the status quo (unregulated insider trading, or an as yet non-enforced insider trading ban) in countries with relatively closed and undemocratic political systems because insiders, the incumbents, have more sway with the state in such systems.[93]

> Weak democracies have formalized elections and means of leadership succession, but are quite vulnerable to manipulation by elites and special interest groups. Money, guns, poverty, weak civil service systems, and ignorance can all contribute to a system unable to enforce its rules and regulations…. In a corrupt democracy, investors feel insecure, and [outside stock ownership] will not take place.[94]

[hereinafter Roe, *Political Preconditions*]; Mark Roe, *Rents and their Corporate Law Consequences*, 53 STAN. L. REV. 1463 (2001); Lucian Bebhcuk & Zvika Neeman, Corporate Governance and Interest Group Politics (2007) (unpublished manuscript, on file with author); Beck, Demirguc-Kunt, & Levine, *supra* note [ ].

[90] *See e.g.*, GOUREVITCH & SHINN, *supra* note [ ], at 58 ("Policy . . . is the output of preferences and power resources mediated by political institutions.").

[91] *Id.* at 57.

[92] Roe, *Legal Origins*, *supra* note [ ], at 464.

[93] According to Rafael La Porta et al., *The Quality of Government*, 15 J.L., ECON. & ORG. 222, [ ] (1999) [hereinafter La Porta, *Quality of Government*], "[g]overnments become massively redistributive when there are relatively few very powerful groups with different interests, not when there are many relatively weak groups each pushing in its own direction." *See also* Mara Faccio, Ronald Masulis, & John McConnel, *Political Connections and Corporate Bailouts*, 61 J. FIN. 2597 (2006) (finding that governments are significantly more likely to bail out politically connected firms than non-connected firms, using data from thirty-five countries between 1997 and 2000); Mara Faccio & David Parsley, Sudden Deaths: Taking Stock of Political Connections (2006) (unpublished manuscript, on file with author) (finding a significant positive association between firms' political connections and their values).

[94] GOUREVITCH & SHINN, *supra* note [ ], at 81; *see also* Daron Acemoglu, *Why Not a Political Coase Theorem? Social Conflict, Commitment, and Politics*, 31 JOURNAL OF COMPARATIVE ECONOMICS 620-652

In contrast, when the political process is open and contestable, outsiders have a greater chance of influencing national policy.[95]

The political theory of finance also suggests that outsiders are more likely to get the political system to reflect their preferences under right-leaning and centrist governments than under left-leaning governments. In his labor model of politics and finance, Professor Roe poses the pivotal questions: "*Who has power? Do they like capital markets, do they dislike them, or are they indifferent to them?*"[96] In the model, left-leaning governments tend to eschew investors and capital market regulation and focus on workers and labor market regulation. Such neglect of capital markets does not necessarily stem from hostility toward capital owners, although it may.[97] The important

(2003) (presenting a theoretical analysis that suggest that policies will be less inefficient, the greater are the checks and balances on the ruling elite).

[95] *See* Enrico Perotti & Paolo Volpin, The Political Economy of Entry: Lobbying and Financial Development (2004) (unpublished manuscript, on file with author) ("investor protection improve[s] when the…political system becomes more accountable"); Bebchuk & Neeman, *supra* note [ ], at 26-27 (showing that investor protection improves when politicians are less susceptible to special interest lobbying). The U.S is a good example. The U.S. political process is sufficiently open to enable outsiders to mount successful challenges (e.g., the insider trading prohibition or the recent Sarbanes Oxley Act) against corporate constituencies (insiders) with some frequency. Administrative procedures also encourage outsiders to participate in rulemaking. For example, the U.S. SEC posts proposed rules on its website, and solicits comments from interested parties; the publication of proposed rules and solicitation of public comments creates a forum for discussion among interested groups and plays an important role in the translation of market participants' interests into regulatory policy. U.S. Securities and Exchange Commission, How to Submit Comments on SEC Rulemaking, http://www.sec.gov/rules/submitcomments.htm (last visited Jan 25, 2008).

[96] Roe, *Legal Origins*, *supra* note [ ], at 511 fig.6.

[97] Roe notes that "[i]n social democracies – nations…whose governments play a large role in the economy, emphasize distributional considerations, and favor employees over capital-owners when the two conflict – public policy emphasizes managers' natural agenda and demeans shareholders' natural agenda." Roe, *Political Preconditions*, *supra* note [ ], at 3–4. Professor Roe maintains that social democracies "do *not* want unbridled shareholder wealth maximization, and, hence [emasculate] shareholder wealth maximization institutions." *Id.* at 4. Professor Coffee disagrees, arguing that a more "feasible political explanation is . . . that power seeking nationalists could use banks as their agents and that banks, once entrenched, had natural reason to resist the rise of rivals for their business." Coffee, *supra* note [ ], at 53. La Porta et al., *Quality of Government*, *supra* note [ ], at [ ], also emphasize the role of state intervention in financial markets, arguing that for historical and cultural reasons Europeans support greater State intervention than Americans.

point is that left-oriented states and legislatures tend to devote their political energy and resources to labor-protective redistributive policies.[98]

Roe's labor model suggests that left-leaning governments are less likely to redistribute property rights in inside information from the corporate elite (managers and dominant shareholders) and their associates to outside investors than right-leaning or centrist governments. In fact, keeping corporate information inside the firm may be an explicit outcome of the state's political bargain with corporate insiders in a left-leaning, pro-labor regime.[99]

The observations in this section yield the article's final predictions:

Hypothesis 3a
A country with a more democratic political system is more likely to enact and enforce insider trading legislation than a country with a less democratic political system with the *same* level of stock market development.

Hypothesis 3b
A country with a left-leaning government is more likely to enact and enforce insider trading legislation than a country with a right-leaning government and the *same* level of stock market development.

Hypotheses 1-3 are summarized in **Table 1.**

IV. Methodology – Duration Analysis

The regression analysis covers countries that had not enacted or enforced insider trading legislation as of 1980. I first examine the enactment of insider trading legislation.

[98] Roe supports this claim with empirical evidence that shows an inverse correlation between labor power and investor protections and ownership diffusion, a common measure of stock market development. Roe, *Legal Origins*, *supra* note [ ], at 497. *But see* Paul Mahoney, *The Origins of the Blue-Sky Laws: A Test of Competing Hypotheses*, 46 J.L. & ECON. 229, [ ] (2003) (finding that the progressive lobby strongly influenced the adoption of securities regulation by forty-seven of the forty-eight U.S. states between 1911 and 1931).

[99] In the corporatist model of sectoral conflict, corporate insiders and workers may align to ensure that both are entrenched. *See, e.g.*, GOUREVITCH & SHINN, *supra* note [ ], at 64-65 ("[S]olidarities are often based on sectors, on 'bosses and workers' within a particular business sector who share interests, along with the inside blockholders who join them."). *See also* Marco Pagano & Paolo Volpin, *The Political Economy of Corporate Governance*, 95 AMERICAN ECONOMIC REVIEW 1005 (2005) ("show[ing] that entrepreneurs and

The null hypothesis is that in any given year between 1980 and 1999, all countries that had not yet enacted insider trading laws were equally likely to enact them and that chance alone determined whether a country would move from the group of countries with no insider trading laws to the group that had enacted such laws. The alternative hypothesis is that this process was not random, but that because of country-specific conditions some countries had a greater probability of enacting insider trading legislation than others in any particular year between 1980 and 1999. More specifically, I have postulated that finance, law and politics affect the likelihood that a country will move from "have not" to "have" status with respect to insider trading legislation. Thus, I test both the proposition that the time to adopting insider trading legislation, given that a country had no such legislation in 1980, was non-random and that the time to adoption can be explained by the factors identified in my hypotheses.

There are compelling reasons to think that enforcement rather than enactment is the real turning point for a country's stock market. Enforcement, because it requires an expenditure of scarce resources, demonstrates political and legal will to give the insider trading prohibition teeth.[100] In contrast, the enactment of insider trading legislation may be relatively costless. Thus, I also examine the timing of enforcement. I take two approaches. First, I examine the probability that a country enforced insider trading legislation between 1980 and 1999. Under this approach, the question is: what determined how soon after 1980 a country initially enforced insider trading legislation?

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workers can strike a political agreement by which low investor protection is exchanged for high employment protection").

[100] *See, e.g.*, Jackson & Roe, *supra* note [ ], at [ ] (comparing allocation of public and private resources for enforcement of securities laws across countries). *See generally* Katharina Pistor et al., *Law and Finance in Transition Economies*, 8 ECON. TRANSITION 325, [ ] (2000) (discussing the need for complementary local legal institutions to give "transplanted laws" teeth).

Framed this way, the question implicitly assumes that the meaningful switch from "have not" to "have not" status occurs not when a country enacts insider trading legislation but when it enforces such legislation for the first time. Second, I examine the probability that a country enforced insider trading legislation between the year of enactment and 1999. The question here is: what determined how long it took a country to put its insider trading legislation to work? In both cases, as for enactment, I simultaneously test whether the time to enforcing insider trading legislation was non-random and whether it can be explained by the factors identified in my hypotheses.

I examine these issues through duration or survival analysis.[101] This technique seeks to identify for each point in time the probability that a nation will move to the group of "have" countries rather than "survive" as a member of the "have not" group of countries. In duration or survival analysis the hazard rate, *h(t)*, is the probability or "risk" that an event occurs at a particular time, *t*, given that it has not already occurred. As explained above, I am interested in three *hazard rates*: (1) the probability or "risk" that a country had passed insider trading legislation in year *t*, given that it had not yet passed such legislation as of 1980; (2) the probability or "risk" that a country had enforced its insider trading legislation for the first time in year *t*, given that it had not yet enforced such legislation as of 1980; and (3) the probability or "risk" that a country had enforced its insider trading legislation for the first time in year *t*, given that it had not yet enforced such legislation since enacting it.

[101] For a more thorough explanation of analytical methods for survival time data see WILLIAM GREENE, ECONOMETRIC ANALYSIS (1997); J. KALBFLEISCH,& R. PRENTICE, THE STATISTICAL ANALYSIS OF FAILURE TIME DATA (1980); Nicholas Kiefer, *Economic Duration Data and Hazard Functions*, 26 J. ECON. LIT. 646 (1988).

I test whether the three hazard rates are influenced by the hypothesized factors, i.e., whether the probability or "risk" of the event in question (enactment or enforcement) varies with country-level financial, legal and political factors. I use a Weibull proportional hazards regression, which has the following form:

$$h[t, \mathrm{x}(t), \mathrm{b}] = h_o(t) \exp[\mathrm{x}(t)'\mathrm{b}] \qquad (1)$$

where $h(t)$ is the hazard rate at time t, b is a vector of maximum-likelihood regression coefficients to be estimated by the model, x is a vector of independent or explanatory variables, and $h_o(t)$ is the baseline hazard rate. The baseline hazard rate, $h_o(t)$, equals

pt^{p-1}, where p is a parameter estimated from the data.[102] The model assumes that the hazard rates are independent across countries, but not within countries over time. The model is also dynamic in that it follows each country over time and therefore permits the social context (e.g., financial development and politics) to vary over time.

The Weibull regression is convenient because it lends itself to intuitive interpretation. In particular, a transformation of equation (1) yields the following relationship:

$$\ln(T) = x'b + e \qquad (2)$$

Equation (2) means that the log of the expected time (denoted as T) to the event of interest is a linear function of the explanatory variables and an error term. In the regressions I estimate, for example, T is the expected time in years from the base year until a country's enactment or initial enforcement of insider trading legislation. The regression coefficients, b, signify the percentage change in the expected time to enact or initially enforce insider trading legislation for a one-unit change in the corresponding

explanatory variable. Thus, a positive b implies that an increase in the explanatory variable increases the expected time to or "risk" of the enactment or initial enforcement of insider trading legislation. Conversely, a negative b means that an increase in the explanatory variable decreases the expected time to or "risk of" the enactment or initial enforcement of insider trading legislation.[103]

V. Data and Results

In this Part, I describe the data on which I test Hypotheses 1-3 (see **Table 1** for a summary of the hypotheses) and present the results.

A. Data Description

This section describes three sets of variables: the dependent variables, the explanatory variables (to test the hypotheses), and the control variables (to hold other relevant factors constant).

1. Dependent Variables

In the late 1990s, Professors Bhattacharya and Daouk sent a survey to the national regulator and main stock exchange in each country with a stock market.[104] Their survey posed two simple questions: (1) when did the country enact insider trading legislation and (2) when did the country enforce such legislation for the first time? I use the information they gathered from their survey to determine the timing of a country's enactment and enforcement of insider trading legislation.

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[102] *See* Kiefer, *supra* note [ ], at [ ].
[103] For example, if the regression yields a negative coefficient on civil law origin when I estimate equation (2) for the time to enacting insider trading legislation, the appropriate interpretation would be that on average civil law countries are at a greater "risk" of enacting such laws, or enact earlier, than common law countries. Conversely, if the regression yields a positive coefficient on civil law origin, the appropriate interpretation would be that on average civil law countries are at a lesser "risk" of enforcing insider trading laws, or enforce later.
[104] Bhattacharya & Daouk, *supra* note [ ].

2. Explanatory Variables

Hypothesis 1. To measure stock market development, I use three variables: stock market capitalization relative to gross domestic product (GDP), stock market turnover, which is the total value of shares traded relative to stock market capitalization, and the total value of stocks traded relative to GDP. The first variable, stock market capitalization relative to GDP (in constant 2000 US$), gives an idea of the economic significance of the stock market. The greater the ratio, the more significant is the stock market to the economy. The second two variables measure the liquidity of, or extent of trading in, the stock market. Stock market turnover measures the significance of the value traded relative to the value of the stock market and the value of shares traded relative to GDP (in constant 2000 US$), measures the significance of stock trading to the overall economy. Annual values of these data are available at the World Bank's World Development Indicators (WDI) database online.[105]

Hypothesis 2. To classify a country's legal system as a common law or civil law system, I rely on two sources. The first source is the work of Professors La Porta et al.[106] They grouped countries into four legal categories: English common law, French civil law, German civil law, and Scandinavian civil law. I code French, German and Scandinavian civil law countries as belonging to the civil law family. The variable Civil equals 1 for the latter countries and 0 for English common law countries. For the countries that La Porta et al. did not report on, I fill in the gaps with the U.S. Central Intelligence Agency's

[105] World Bank World Development Indicators, http://www.worldbank.org/ (follow "Data & Research" tab; then select "World Dev't indicators" from the scroll down menu under "Key Statistics") (last visited Jan. 25, 2008).
[106] La Porta et al., *Law and Finance*, *supra* note [ ]; La Porta et al., *Legal Determinants*, *supra* note [ ].

(CIA) classifications of national legal systems that are available in its publication, the World Factbook.[107]

Hypothesis 3a. For openness/competitiveness of the political process, I use three variables. The first variable is the "fractionalization" of the legislature and comes from the Database of Political Institutions assembled by Professors Beck et al.[108] This variable measures the probability that two officers randomly chosen from the legislature are from different political parties and ranges from 0 to 100%. A higher value signifies suggests a more competitive legislature, i.e., that more political actors are "willing to act independently in the consideration of any given policy change."[109] Conversely, a lower value suggests a less competitive legislature.[110] The second variable, also from the Database of Political Institutions, is a measure of political checks and balances. It is the average of four alternative measures of political checks and balances and ranges between 1 and 10.[111] A higher value corresponds to more political checks and balances and a lower value corresponds to fewer political checks and balances. The third variable, from the Polity IV Database,[112] measures the general openness of political institutions. It

[107] CIA World Factbook, https://www.cia.gov/library/publications/the-world-factbook/index.html (last visited Jan. 25, 2008).
[108] Thorsten Beck et al., *New Tools in Comparative Political Economy: The Database of Political Institutions* [ ], 15 World Bank Econ. Rev. 165 (2001).
[109] *Id.* at [ ].
[110] *Id.* at [ ].
[111] These measures, created by Professors Beck et al., take into consideration both the number of pivotal decision makers (i.e., those "whose agreement is necessary before policies can be changed") and "the effectiveness of electoral checks on government decision makers." *Id.* at [ ]. The measures "count the number of veto players in a political system, adjusting for whether these veto players are independent of each other, as determined by the level of electoral competitiveness in a system, their respective party affiliations, and the electoral rules." *Id.* at [ ].
[112] Center for International Development and Conflict Management, Polity IV Database, http://www.cidcm.umd.edu/polity (last visited January 21, 2008) (containing a "coded annual information on regime and authority characteristics for all independent states (with greater than 500,000 total population) in the global state system and covers the years 1800-2004").

ranges between 0 and 10, with 10 indicating the greatest degree of openness and 0 the least.

Finally, using principal components analysis,[113] I combine the three political process variables into a single variable, called Democracy. I use this combined variable to investigate the political Hypothesis 3a.

Hypothesis 3b. For political ideology, I again rely on the Database of Political Institutions. The database includes information on the political orientation of the largest party in the government. The dummy variable Left equals 1 if the largest party is communist, socialist, social democratic, or left-wing, and 0 otherwise. The dummy variable Center equals 1 if the largest party is centrist or its "position can best be described as centrist (e.g., party advocates strengthening private enterprise in a social-liberal context)," and 0 otherwise.[114] Finally, the dummy variable Right equals 1 if the largest party is conservative, Christian democratic, or right-wing.

3. Control Variables

In addition to the explanatory variables that I use to investigate the hypotheses, I include several variables in the regressions to control for latent social factors that may influence policy outcomes.

First, I control for GDP per capita because wealthier countries tend to have stronger government institutions, rule of law traditions, and regulatory resources than poorer countries.[115]

[113] Principal components analysis combines several correlated variables into a single common factor. For a more thorough explanation of the technique, see I. T. JOLLIFFE, PRINCIPAL COMPONENT ANALYSIS (2002).
[114] A party is "[n]ot described as centrist if competing parties 'average out' to a centrist position (e.g., party of 'right-wing Muslims and Beijing-oriented Marxists')." Beck et al., *supra* note [ ], at [ ].
[115] *See, e.g.*, Douglas North, STRUCTURE AND CHANGE IN ECONOMIC HISTORY [ ](1981); La Porta et al., *Quality of Government*, *supra* note [ ], at [ ].

Second, I control for government quality. Professors La Porta et al. demonstrate that "good" governments protect property rights and promote the rule of law and thus facilitate orderly societies, markets, and economic prosperity.[116] As a proxy for "good" government, I use an index of corruption assembled by Professor Mauro.[117] The index ranges from 0 (most corrupt) to 10 (least corrupt).

Third, I control for religious affiliation. For reasons that are not entirely understood, empirical evidence suggests that Protestant countries have "better" governments than Catholic and Muslim countries.[118] I create dummy variables for Protestant, Catholic, Muslim, and Other Religion to describe the dominant religion in each country.[119]

Finally, anything that directs the public's attention to the stock market and increases concern that it is run fairly and efficiently may increase demand for insider trading legislation. One such factor may be rapid growth in the economic significance of the stock market and the resulting growth of the investing class. Rapid decline in the stock market may have a similar effect. As they experience a decline in their financial

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[116] La Porta et al., *Quality of Government*, *supra* note [ ], at [ ].

[117] Paolo Mauro, *Corruption and Growth*, 110 Q. J. ECON. 681, [ ] (1995). This control is justified by cross-country empirical studies showing that there is a significant negative correlation between corruption and the rule of law and financial openness. *See* Zvika Neeman, M. Daniele Paserman, Avi Simhon, Corruption and Openness (2006) (unpublished manuscript, on file with author).

[118] La Porta et al., *Quality of Government*, *supra* note [ ], at [ ] show that religion is a good instrument for the quality of institutions and government. Landes claims the reason is that Catholicism and Islam are inherently (culturally) antithetical to institutional development. DAVID LANDES, THE WEALTH AND POVERTY OF NATIONS [ ](1998). However, La Porta et al. argue that the real reason why religion matters is not culture, but politics. La Porta et al., *Quality of Government*, *supra* note [ ], at [ ]. That is, xenophobia and intolerance are used to fulfill the political, rather than the doctrinal/evangelical, aspirations of the ruling class. *See generally* Djankov et al., *supra* note [ ] (modeling a society's choice of institutions that have a bearing on the country's economic performance).

[119] The dummy variable Protestant equals 1 if the dominant religion is Protestant, and 0 otherwise. The dummy variable Catholic equals 1 if the dominant religion is Catholic, and 0 otherwise. The dummy variable Muslim equals 1 if the dominant religion is Muslim, and 0 otherwise. The dummy variable Other equals 1 if the dominant religion consists of religions besides Protestant, Catholic, and Muslims, and 0 otherwise.

wealth, investors may demand greater legal protection, especially if they attribute the decline to corporate fraud.[120] In short, other things constant, investor demand for insider trading legislation and enforcement may increase on the heels of dramatic growth or decline of the stock market. I control for this possibility using the five-year rate of growth in stock market capitalization relative to GDP. I use the five-year growth rate because any policy response is likely to follow with a time lag.

The data and their sources are described in **Table 2**.

B. Descriptive Statistics

Table 3 presents the comparative experiences of stock markets until 1999. For each of the one hundred and three countries reported, **Table 3** presents the year in which

[120] *See generally*, STUART BANNER, ANGLO-AMERICAN SECURITIES REGULATION: CULTURAL AND POLITICAL ROOTS, 1690-1860 (2002) (parenthetical strongly encouraged). In some countries and periods, the public may well be aware that insider trading occurs with some frequency, but that perception does not generate opposition threatening either the market or the political status quo. However, a few high profile insider trading scandals may spark public outrage that, at best, reduces public confidence in the stock market and, at worst, threatens the political status quo. The government may respond by enacting securities market reforms, including banning insider trading or ramping up the enforcement of existing laws, in order to restore public confidence in the stock market or to avoid political backlash that could create even more inefficiencies than insider trading may create. *See* Mark Roe, *Backlash*, 98 COLUM. L. REV. 217, [ ] (1998). This phenomenon occurred in the United States in the 1930s after the stock market crash, which precipitated the creation of federal securities regulations and an enforcement agency (the SEC). Similarly, in the 1980s, during a period of hostile takeovers and highly publicized insider trading scandals (like the Milken and Boesky cases), the U.S. Congress and the SEC responded to the perceived excesses with heightened insider trading sanctions and enforcement. *E.g.*, The Insider Trading and Securities Fraud Enforcement Act of 1988, Pub. L. No. 100-704, §§ 3-5, 102 Stat. 4677 (codified as amended at 15 U.S.C. §§ 78u-1, 78ff(a), 78t-1 (2000)). More recently in the U.S., Enron, Tyco International, WorldCom and other high profile corporate and accounting scandals have been responsible for the enactment of the Sarbanes-Oxley Act of 2002, also known as the Public Company Accounting Reform and Investor Protection Act. Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in scattered sections of 15 U.S.C. (2000 & Supp. III 2004)). *See also* Vikramaditya S. Khanna**,** *Corporate Crime Legislation: A Political Economy Analysis*, 82 WASH. U. L.Q. 95 (2004) (arguing that most U.S. corporate crime legislation is enacted in periods when there is great public outcry over corporate scandals and economic downturn); Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L. J. 1521 (2005). (a critique of the political process leading to SOX following "a free-falling market and media frenzy over corporate scandals shortly before midterm congressional elections"); Bebchuk & Neeman, *supra* note [ ], at 29 (predicting that investor protection will increase after "scandals or crashes that make problems of insider opportunism more salient" and citing the 1933 and 1934 U.S. securities laws and Sarbanes Oxley as consistent evidence). While it would be ideal to investigate the effect of scandals directly, the data do not allow such a test. Controlling for stock market growth may indirectly address the role of scandals to the extent that they become more salient in periods when such growth is dramatic.

the country's main stock exchange was established, the year (if any) in which the country's insider trading legislation was enacted, and the year (if any) in which such legislation was initially enforced.

Table 3 illustrates the wide range of experiences across countries. For example, the oldest stock exchange was established in Germany in 1585. The youngest stock exchange was established in Kazakhstan in 1997. The earliest insider trading legislation was passed in 1934 in the United States. Some countries, like Bulgaria, Swaziland and Kuwait had not yet regulated insider trading as of 1999. The United States was also the first country to enforce its insider trading laws while it took some countries three decades longer to enforce (and sometimes to enact) insider trading legislation. For example, Spain and Oman did not enforce their insider trading laws until 1998 and 1999, respectively. The non-enforcing group as of 1999 included both developed markets such as Austria, Ireland, Luxembourg, and New Zealand and emerging markets such as Mexico, Russia. Note that the average years of enactment and initial enforcement of insider trading legislation are roughly similar between developed and emerging stock markets. This means that emerging stock markets tend to enact and enforce insider trading laws when their stock markets are relatively younger, and suggests that it is not a history of experience with stock trading per se that leads to insider trading legislation.

While **Table 3** presents data for all countries with a stock market as of 1999, the descriptive statistics are calculated using fewer countries. To start with, they exclude the nine countries that enacted insider trading legislation before 1980[121] and Yugoslavia,

[121] Brazil, Canada, France, Brazil, Mexico, Nigeria, Singapore, South Korea, Sweden, and the United States enacted insider trading legislation *before* 1980. The United Kingdom is excluded from the duration analysis below because it enacted insider trading legislation *in* 1980, the first year of the empirical analysis,

leaving a total of ninety-three countries. Ideally, this would translate into 1860 country-year observations per variable, i.e., one observation for each of the ninety-three countries in each of the twenty years from 1980 to 1999. However, consistently measured data for all of the countries and years are unavailable, so the results are based on fewer than 1860 country-observations.[122] Countries are also automatically dropped (or censored) from the duration analysis for all the years after the year in which they enacted (or enforced) insider trading legislation. Accordingly, I note the number of observations underlying the duration regressions presented below.

Table 4 presents summary statistics of the main variables. **Table 5** reports average correlations between the year in which insider trading legislation was enacted or first enforced and the explanatory variables and is thus more interesting from the perspective of the hypotheses. A negative coefficient suggests that an explanatory variable is associated with earlier enactment or enforcement insider trading legislation, and vice versa. The most striking feature of **Table 5** is the high proportion of statistically significant correlations spanning all variable categories (most are significant at the 1% level). The timing of insider trading legislation and enforcement seem to be systematically and statistically significantly related to the explanatory variables rather than a mere coincidence.

The following relationships are statistically significant in **Table 5**. Wealthier countries and countries with more developed stock markets tend to have enacted and enforced insider trading legislation earlier, respectively, than poorer countries and

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though it is included in calculation of the descriptive statistics presented in this section. Countries are also dropped from the duration analysis for all the years after the year in which they enacted (or enforced) [?].

[122] This problem is not unique to this study. *See, e.g.*, GOUREVITCH & SHINN, *supra* note [ ], at 24-25 (discussing "the small-*n* problem that bedevils [them] throughout [their] book").

countries with less developed stock markets. Common law countries tend to have passed insider trading legislation earlier than civil law countries. Countries with more open political systems and countries with left-leaning governments generally passed and enforced insider trading laws earlier, respectively, than countries with less open political systems and countries with right-leaning governments, consistent with Roe's political theory of finance.[123] Less corrupt countries tend to have enacted and enforced such laws sooner than more corrupt countries. Finally, predominantly Protestant countries tend to have enforced (not enacted) insider trading laws sooner than predominantly Catholic and Muslim countries.[124] Aside from the finding that civil law countries on average enforced insider trading legislation earlier than common law countries, the results in **Table 5** are largely consistent with the hypotheses presented in Part III.

C. Results of Duration Analysis

In this section, I investigate the hypotheses using duration analysis, as explained in Part IV.

1. Enactment of Insider Trading Legislation

The measured *duration* (i.e., the time at "risk" of enacting legislation) for each country is the period between 1980 and the year in which the country enacted insider trading legislation. If a country had not enacted insider trading legislation between 1980 and 1999, it is considered to have been at "risk" for enactment during the entire period.

The results are presented in **Table 6**. The first four columns (1-4) show the individual factors – finance, law and politics – that correspond, respectively, to

[123] Roe, *Legal Origins*, *supra* note [ ].
[124] Table 5 also suggests that countries that enact insider trading legislation earlier tend to enforce them earlier as well. This is not surprising because laws cannot be enforced until they have been enacted, so a

Hypotheses 1-3. Column 5 shows the full model with the control variables. Contrary to Hypothesis 1, in column 1 the coefficient on stock market capitalization relative to GDP is positive, suggesting that more developed stock markets took longer to enact insider trading legislation. However, the coefficient is insignificant. Column 2 reports that the coefficient on civil law legal origin is positive. This suggests that, as Hypothesis 2 predicts, civil law countries are were less apt than common law countries to enact insider trading legislation between 1980 and 1999. Again, however, the coefficient is insignificant. In column 3, the coefficient on the democracy index is negative and significant at the 10% level. Consistent with Hypothesis 3a, this means that strong democracies were more likely to enact insider trading during the period than weak democracies. In column 4, the ideology variables are insignificant, although the coefficient on the right government dummy variable is negative, consistent with Hypothesis 3b. In the full model, reported in column 5, the coefficient on the democracy index remains negative and is significant at the 5% level.

In summary, the results in **Table 6** suggest that political openness was the dominant factor in countries' adoption of insider trading legislation between 1980 and 1999. This finding is consistent with the prediction that outsiders have a comparative advantage over corporate insiders in strong democracies with open political institutions. Numerically, the regression in column 5 suggests that if a country had experienced a one unit increase in its composite democracy index it would have experienced a 36% percent decrease in its expected time to enact insider trading legislation between 1980 and 1999, other things constant.

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positive correlation would be expected even if the time from enactment to the first enforcement were a random process.

2. Enforcement of Insider Trading Legislation

As explained above, I measure the duration until initial enforcement of insider trading legislation in two ways. Under the first approach, the *duration* (i.e., the time at "risk") for each country is the time between 1980 and the year in which the country first enforced its insider trading legislation. If a country had not enforced insider trading legislation between 1980 and 1999, it is considered to have been at "risk" for enforcement during the entire period.

Table 7 presents the results for the first approach in Panel A. In column 1, the coefficient on stock market capitalization is negative and significant at the 5% level. This result is consistent with Hypothesis 1 and suggests that countries with more significant stock markets were more likely to enforce insider trading legislation between 1980 and 1999 than countries with less significant stock markets. As for legal family, in column 2, the coefficient on civil law origin is negative, which is inconsistent with the legal family theory because it implies that civil law countries were more prone to enforce insider trading legislation than common law countries between 1980 and 1999. However, the coefficient on civil law is insignificant in column 2. Consistent with Hypothesis 3a, column 3 suggests that strong democracies were more likely to enforce insider trading laws during the period than weak democracies. The coefficient on the democracy index is negative and significant at the 1% level. Column 4 shows that right-leaning governments were more prone to enforce insider trading laws between 1980 and 1999 than left-leaning governments, consistent with Hypothesis 3b, but this result is only marginally significant (p-value = 11%).

The full model is shown in column 5. There, the coefficient on the democracy index remains negative and significant at the 5% level. More specifically, the regression in column 5 suggests that a country that had increased its democracy score by one point would have experienced a 17% reduction of its expected time to enforce insider trading legislation during the period, other things constant. In addition, the coefficient on the right government dummy variable remains negative and becomes significant at the 1% level. This result implies that, other things constant, a country whose government had moved from left to right would have experienced a 22% decrease in its expected time to enforce insider trading legislation between 1980 and 1999. These results support the political theory of finance.[125] Counterintuitively to the legal family school of thought, the regression in column 5 suggests that civil law countries had a 25% *lower* expected time to enforce insider trading legislation than common law countries during the period, other things constant. Also, while financial development appears to have been independently significant (see column 1), it is not robust like the political factors. Finally, column 5 shows that wealthy countries, as measured by per capita GDP, were more likely than poor countries to enforce insider trading legislation between 1980 and 1999. This result not surprising because enforcement involves a significant expenditure of resources.[126]

Under the second approach, the *duration* (i.e., the time at "risk") for each country is the time between the year in which the country enacted insider trading legislation and the year in which the country first enforced such legislation. If a country had enacted but not enforced insider trading legislation between 1980 and 1999 it is considered to have

[125] *See, e.g.*, Roe, *Legal Origins, supra* note [ ].

been at "risk" for enforcement over the entire period between the year when the country enacted the law and 1999.

The results are reported in **Panel B of Table 7.** In column 1, the coefficient on stock market capitalization is negative, as expected, but it is only marginally significant. Column 2 shows that legal origin is insignificant. In column 3, the coefficient on the democracy index is negative and significant at the 5% level. Consistent with Hypothesis 3a, this result suggests that strong democracies tended to enforce their insider trading laws sooner after enacting such laws than weak democracies. In column 4, although the coefficient on the right government variable is negative as predicted, the coefficients on both ideology variables are insignificant.

Finally, column 5 reports the full model for the second measure of enforcement. The coefficient on the democracy index remains negative but becomes insignificant, while the coefficient on right ideology remains negative and becomes significant at the 5% level. Thus, the results in column 5 confirm the finding in Panel A that right-leaning governments tend to have been more inclined to enforce insider trading legislation than left-leaning governments between 1980 and 1999. The coefficient on civil law origin remains negative and insignificant.

In summary, the enforcement results reinforce the preeminence of political explanations over financial and legal explanations of insider trading regulation.[127]

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[126] *See generally* Jackson & Roe, *supra* note [ ], at [ ] (parenthetical strongly encouraged). However, the coefficient is relatively small.

[127] Moreover, the enforcement regressions generally produce a better fit of the data than the enactment regressions.

D. Robustness Checks

To check the robustness of the results, I do several things. First, the analyses above include members of the European Community (EC). These countries were required, pursuant to the EC Insider Trading Directive of 1989, to enact minimum insider trading legislation by June 1, 1992.[128] Thus, an important potential criticism of the enactment regressions is that they include European countries with strong democracies that did not necessarily choose to but were required to enact insider trading legislation. However, I run the enactment regressions without the EC members and the results are unchanged. In fact, when I exclude the EC members, the political explanations of enactment (i.e., democracy and ideology) appear even more influential.[129] Second, I run the same regressions using the liquidity measures of stock development (stock market turnover and value traded relative to GDP) in place of stock market capitalization relative to GDP. This does not change the results either. Third, I run the same sets of regressions excluding countries whose stock markets were established after 1975, 1980 and 1990, respectively, in case a different dynamic affected these relatively young stock markets during the period in question. This does not change the results. I run country random effects logit regressions for each of the duration measures on all of the explanatory and control variables. The results are similar to those of the Weibull regressions.

[128] 89/592/EEC of November 13, 1989. *See generally*, EUROPEAN INSIDER DEALING, *supra* note [ ] (parenthetical encouraged); Franklin A. Gevurtz, *The Globalization of Insider Trading Regulation*, 15 TRANSNAT'L LAW. 63 (2002) (discussing the EC Directive and differences in substantive provisions of insider trading laws across countries); Amy E. Stutz, A New Look at the European Economic Community Directive on Insider Trading, 23 Vand. J. Trasnat'l L. 135 (1990) (describing, in Parts III and IV, the EC Directive and various EC members' insider trading laws).
EC members were not required to enforce such legislation, however, so their inclusion in the enforcement regressions should not affect those results.

[129] When I exclude the EC members, the coefficient on the democracy index is -1.13 and significant at 1% and the coefficient on right government is -0.79 and significant at 1%. Compare these results with the corresponding results in column 5 of Table 6.

VI. Conclusion

The article began with a stylized political economy model of insider trading that encompasses both private and public interest theories of regulation. However, because the underlying dynamics of this model are unobservable across countries, I then shifted the analysis to a higher degree of generality to facilitate empirically testable hypotheses about the comparative timing of enactment and enforcement of insider trading regulation across countries.

The results are most consistent with Roe's labor-versus-capital political theory of finance and suggest that politics is the first-order determinant of comparative insider trading policies. In particular, the results suggest that political openness and ideology most aptly explain the comparative timing of insider trading regulation and enforcement across countries. They show that more democratic political systems enacted and enforced insider trading laws earlier than less democratic or authoritarian political systems, controlling for wealth, financial development, legal origin, and measures of latent social factors. The results also show that left-leaning governments were relative latecomers to insider trading legislation and enforcement relative to right-leaning and centrist governments, controlling for the same factors as above. In contrast to the political theory of finance, the legal family theory of finance does not explain the differential timing of insider trading regulation and enforcement across countries. In fact, the results suggest that civil law countries may sometimes be more inclined than common law countries to enforce insider trading regulations, contrary to the legal family theory of finance.

This article's findings have important implications for the longstanding debate about insider trading regulation. While the private interest theory of insider trading regulation posits that insider trading regulation is inefficient, this view is increasingly challenged by the accumulating international evidence on the beneficial effects of insider trading regulation by the state. The latter evidence suggests that stock markets become more informationally efficient and liquid and the cost of capital falls after insider trading laws have been enacted and/or enforced. The evidence presented in this paper strengthens that challenge because it suggests that the kinds of governments that are more prone to regulate insider trading are precisely the governments that are generally believed to pursue market-promoting, not market-inhibiting, policies.[130] Market-oriented democracies are more likely to have a polity willing and able to overcome entrenched insider opposition to capital market development than authoritarian states.[131]

The foregoing result, however, does not prove that right- and center-leaning democracies adopt more efficient insider trading laws than left-leaning autocracies. This article does not address cross-country variation in the substantive content of these laws,

[130] *See* Donald Whittman, *Why Democracies Produce Efficient Results*, 97 J. POL. ECON. 1395 (1989). *See also* Mancur Olson, The New Institutional Economics: The Collective Choice Approach to Economic Development, in INSTITUTIONS AND ECONOMIC DEVELOPMENT: GROWTH AND GOVERNANCE IN LESS-DEVELOPED AND POST-SOCIALIST COUNTRIES (C. Clague ed., 1997) (arguing that autocracies with short time horizons have an incentive to confiscate their subjects' assets and "[a]ny autocracy must sooner or later have a short time horizon"); Kevin Grier & Michael Munger, On Democracy, Regime Duration, and Economic Growth (unpublished manuscript, on file with author) (2006) (showing empirically that over the long-term non-autocracies produce greater economic growth than autocracies). *See also* Djankov et al., *supra* note [ ], at 612-612 ("voting is often a powerful force toward more efficient institutions"); Acemoglu, *supra* note [ ] (suggesting that stronger democracies are more apt to produce efficient, or at least less inefficient, policies than authoritarian states). *But see* Robert Barro, *Democracy and Growth*, 1 JOURNAL OF ECONOMIC GROWTH 1 (1996) (finding a non-linear relationship between democracy and growth in which greater political freedom initially enhances growth but dampens growth once a moderate level of political freedom has been attained).

[131] While the article has not addressed the role of foreign investment and membership in multilateral organizations in influencing a country's insider trading policies, my hunch is that they are secondary to domestic politics. At any rate, moreover, they are strongly correlated with countries' internal political conditions.

but merely examines the determinants of the relative timing of a country's switch from "have not" to "have" status regarding the existence and enforcement of insider trading laws. A more complete picture would emerge if it were possible to estimate the relationship between financial development, legal origin and politics, respectively, and the stringency of the substantive rules over time.[132] Such an analysis could reveal a more complex (i.e., non-linear) relationship between the explanatory variables and insider trading policy. It may reveal, for example, that the stringency of a country's insider trading law increases in its level of democracy. If overly restrictive insider trading laws are inefficient, such a finding would suggest that stronger democracies tend to adopt inefficient insider trading policies.[133] Alternatively, it may reveal that stronger democracies adopt moderately stringent laws rather than excessively restrictive laws or no laws at all.[134]

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[132] Mahoney, *supra* note [ ], conducts such an analysis of state securities laws in the U.S. between 1911 and 1931. Specifically, in addition to examining the relationship between several explanatory variables and the mere adoption of securities laws, he also examines the relationship between these variables and the stringency of these laws. He finds that while ideology heavily influences the adoption of securities laws in the first instance, private interests (in particular, small banks that competed with securities firms) had a stronger influence than ideology on the *type* of law that was adopted. Elsewhere, I examine the relationship between the substantive content of countries' insider trading laws and financial development, though in a *static* context. Beny, *Do Laws Matter?*, *supra* note [ ].

[133] Acemoglu, however, suggests that countries in which the ruling elite are subject to greater checks and balances, i.e., stronger democracies, are less likely to adopt inefficient policies than more authoritarian countries. Acemoglu, *supra* note [ ], at [ ]. *See also* Whittman, *supra* note [ ], at 1397-1418 (arguing that democracies produce more efficient policy outcomes than non-democracies and giving example of zoning rules in the U.S.); Djankov et al., *supra* note [ ], at 612-613 ("voting is often a power force toward more efficient institutions" and "[t]he substantial rise in the world's prosperity in the 20th century may be the best evidence of the virtues of democratic politics").

[134] Richard Epstein suggests that "the light touch version [i.e., moderate insider trading laws] is in line with voluntary arrangements and thus imposes relatively little costs on firms and gives them this advantage. The firm decision [to privately prohibit insider trading] is bonded and backed by the government. It is like the food companies that love federal inspection within limits because it strengthens their claim for selling good food. But once the laws become too strong, then they no longer replicate what the firms want and become a drag." Conversation between the author and Professor Epstein. For one example of "light touch" regulation, *see* Adam C. Pritchard, *Self-Regulation and Securities Markets*, REG. 32 (2003) (arguing that the government's regulatory role ought to be limited "to ensuring that exchanges actually enforce their [insider trading and anti-manipulation] rules as written and aiding in the enforcement of those rules" because exchanges have better incentives than the government "to regulate in a way that optimizes the trade-off between investor protection and the cost of regulation"). I am inclined to think that democracies

There is, in other words, a genuine question of whether securities regulation takes the form of a Laffer curve, under which both too little and too much regulation are undesirable, from which it would then be possible to estimate the magnitude of the error in both directions.[135] Unfortunately, the existing data do not permit such a refined analysis.[136] Until they do, the evidence presented in this paper is, perhaps, the best knowledge we have to date about the broad factors that are related to the timing of a country's initial adoption and enforcement of insider trading laws.

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are more apt to adopt efficient insider trading policies than autocracies, for the reasons noted above. *See infra* note 133.

[135] This assumes, perhaps unrealistically, that we can determine the optimal degree insider trading and, more generally, securities regulation for any given country at any given point in time.

[136] While not impossible, such an analysis would require information on the substantive content of the insider trading laws of over one hundred countries. The analysis, because it is dynamic, would also require information on changes in the substantive content of each country's laws over twenty years. In turn, that would raise translation and access problems, not to mention the difficulty of devising the proper coding scheme.

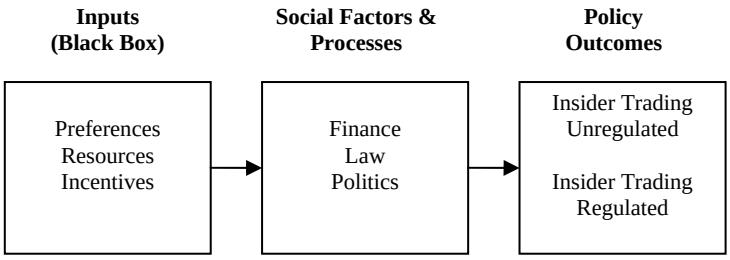


Figure 1: Model of Causality

Figure 2: Cumulative Hazard for 1980 to Year of Enactment

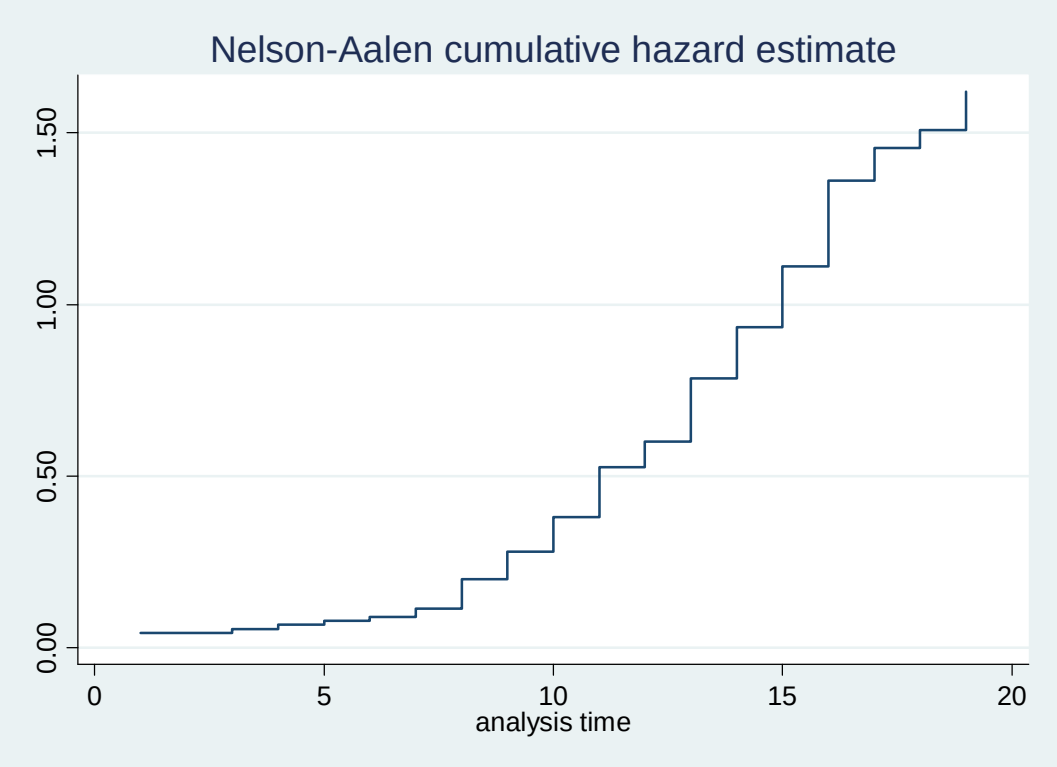


Figure 3: Cumulative Hazard for 1980 to Year of Initial Enforcement

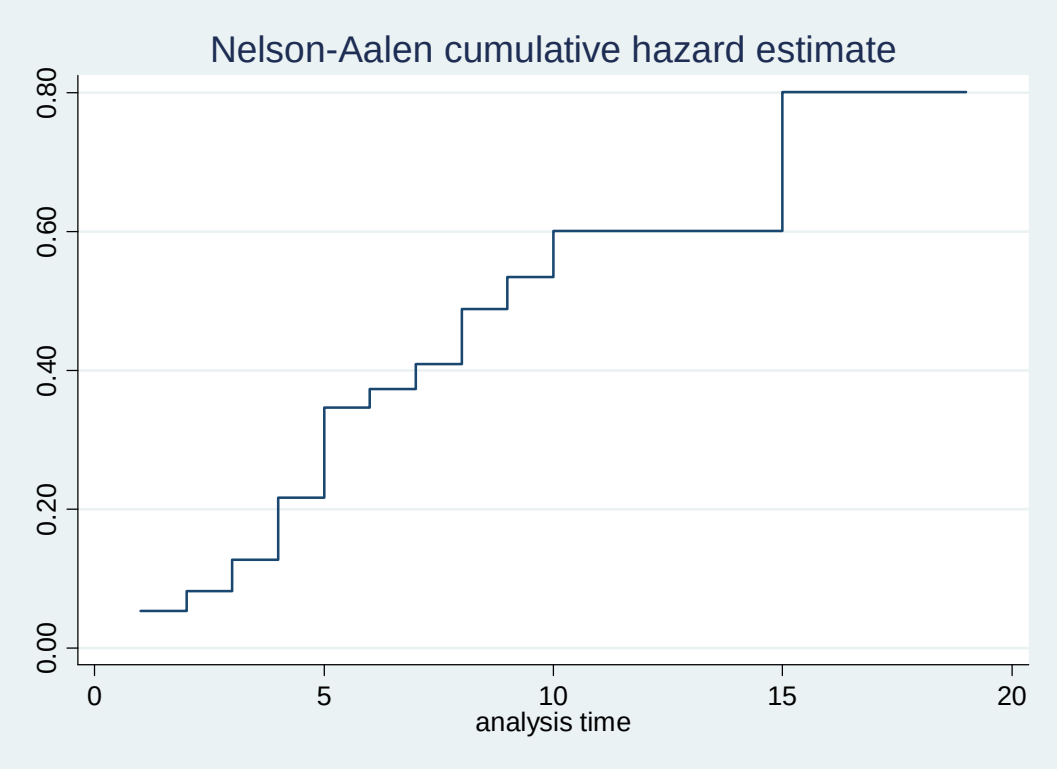


Figure 4: Cumulative Hazard for Year of Enactment to Year of Initial Enforcement

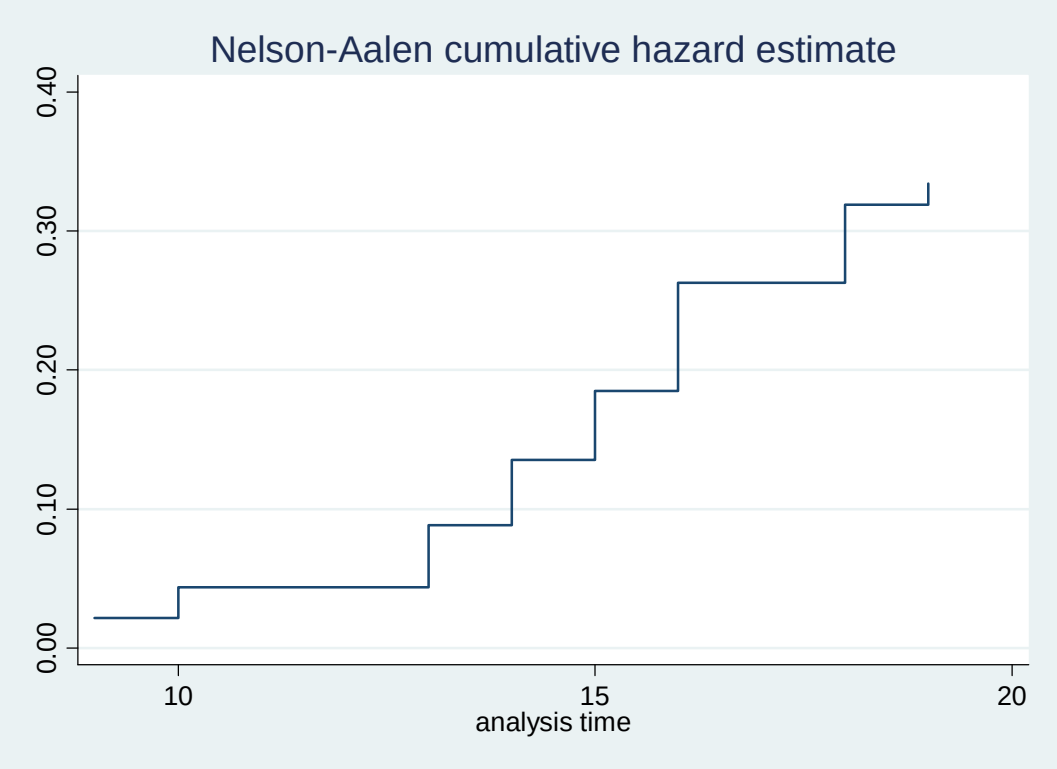


Table 1: Summary of Hypotheses

Hypothesis	*Summary*
Hypothesis1	A country with a more developed stock market is more likely to enact and enforce insider trading legislation than a country with a less developed stock market.
Hypothesis 2	A common law country is more apt to enact and enforce insider trading legislation than a civil law country with the *same* level of stock market development.
Hypothesis 3a	A country with a more democratic political system is more likely to enact and enforce insider trading legislation than a country with a less democratic political system with the *same* level of stock market development.
Hypothesis 3b	A country with a left-leaning government is more likely to enact and enforce insider trading legislation than a country with a right-leaning government and the *same* level of stock market development.

Table 2: Description of Variables and Sources

Variable	*Description and Source*
Year main stock exchange was established	The year in which the country's main stock exchange was established. Bhattacharya & Daouk, *supra* note [ ], at [ ].
Year insider trading law was enacted	The year in which the country passed insider trading legislation. Bhattacharya & Daouk, *supra* note [ ], at [ ].
Year insider trading law was initially enforced	The year in which the country initially enforced its insider trading legislation. Bhattacharya & Daouk, *supra* note [ ], at [ ].
Gross Domestic Product (GDP) per capita	Annual per capita gross domestic product (GDP) in constant US$ (2000) for the years 1980-1997. World Bank World Development Indicators, *supra* note [ ]; United Nations Statistics, http://unstats.un.org /unsd/default.htm (last visited Jan. 25, 2008).
Stock market capitalization relative to GDP	Annual stock market capitalization (number of outstanding shares multiplied by their market value) divided by GDP in constant US$ (2000) for the years 1980-1999. World Bank World Development Indicators, *supra* note [ ].
Total value of stocks traded relative to GDP	Annual total value traded divided by stock market capitalization in constant US$ (2000) for the years 1980-1997. World Bank World Development Indicators, *supra* note [ ].
Stock market turnover	Annual total value of shares traded on the stock exchange divided by GDP for the years 1980-1997. World Bank World Development Indicators, *supra* note [ ].
Legal family	A dummy variable that signifies the country's legal origin. The variable equals 1 if the country has a civil law system and 0 if the country has a common law system. CIA World Factbook, *supra* note [ ]; LLSV (1998).
Political openness score	This variable measures the general openness of political institutions, measured annually over 1980-1999. The variable ranges between 0 and 10, with 10 signifying the highest degree of political openness and 0 signifying the lowest degree of political openness. The 11-point scale is constructed additively. Center for International Development and Conflict Management, *supra* note [ ].
Fractionalization of the legislature	This variable measures the annual probability that two officers chosen at random from the legislature are members of different parties. The index ranges between 0% and 100% and is assigned a missing value if the country has no parliament. The variable was reported for the years 1980-1995. Beck et al., *supra* note [ ].
Average political checks and balances	This variable equals the average value of four measures of political checks and balances, measured annually over 1980-1995. The measures incorporate both the number of decision-makers "whose agreement is necessary before policies can be changed" and "the effectiveness of electoral checks on government decision makers." The variable ranges between 1 and 10, with 10 signifying the most checks and balances and 0 signifying the least checks and balances. Beck et al., *supra* note [ ].

Democracy index	Composite of preceding three political process variables, calculated using principal components analysis.
Ideology of the largest government party	Dummy variables for the ideology of the largest party in the government. The dummy variable Left equals 1 if the largest party is communist, socialist, social democratic, or left-wing, and 0 otherwise. The dummy variable Center equals 1 if the largest party is centrist or its "position can best be described as centrist (e.g., party advocates strengthening private enterprise in a social-liberal context)," and 0 otherwise. A party is "[n]ot described as centrist if competing parties 'average out' to a centrist position (e.g., party of 'right-wing Muslims and Beijing-oriented Marxists')." The dummy variable Right equals 1 if the largest party is conservative, Christian democratic, or right-wing. Ideology was reported for the years 1980-1995. Beck et al., *supra* note [ ].
Corruption score	"The degree to which business transactions involve corruption or questionable payments." The index ranges between 0 and 10. 0 signifies the highest degree of corruption or side payments in business dealings, while 10 indicates the lowest degree of corruption or side payments in business transactions. The corruption index for a given country is the average value over the years 1980-1983. Mauro, *supra* note [ ].
Religious affiliation	Dummy variables for the dominant religious affiliation of the country's population. The dummy variable Protestant equals 1 if the dominant religion is Protestant, and 0 otherwise. The dummy variable Catholic equals 1 if the dominant religion is Catholic, and 0 otherwise. The dummy variable Muslim equals 1 if the dominant religion is Muslim, and 0 otherwise. The dummy variable Other equals 1 if the dominant religion consists of religions besides Protestant, Catholic, and Muslims, and 0 otherwise. CIA World Factbook, *supra* note [ ]; LLSV (1998).

Table 3: Comparative Experiences
The data in this table come from Bhattacharya and Daouk (2002).

Country	Year of Establishment of Main Stock Exchange	Year Insider Trading Law Enacted	Year of First Enforcement of Insider Trading Law
		Developed Stock Markets	
Australia	1859	1991	1996
Austria	1771	1993	None
Belgium	1801	1990	1994
Canada	1878	1966	1976
Denmark	1919	1991	1996
Finland	1912	1989	1993
France	1826	1967	1975
Germany	1585	1994	1995
Hong Kong	1891	1991	1994
Ireland	1793	1990	None
Italy	1806	1991	1996
Japan	1878	1988	1990
Luxembourg	1929	1991	None
Netherlands	1600s	1989	1994
New Zealand	1870	1988	No
Norway	1819	1985	1990
Singapore	1930	1973	1978
Spain	1831	1994	1998
Sweden	1863	1971	1990
Switzerland	1938	1988	1995
United Kingdom	1773	1980	1981
United States	1792	1934	1961
Developed Average	**1828**	**1990**	**1994**
		Emerging Stock Markets	
Argentina	1854	1991	1995
Armenia	1993	1993	None
Bahrain	1987	1990	None
Bangladesh	1954	1995	1998
Barbados	1987	1987	None
Bermuda	1971	None	None
Bolivia	1979	None	None
Botswana	1989	None	None
Brazil	1890	1976	1978
Bulgaria	1991	None	None
Chile	1893	1981	1996
China	1990	1993	None
Colombia	1928	1990	None

Costa Rica	1976	1990	None
Croatia	1918	1995	None
Cyprus	1996	1999	None
Czech Republic	1871	1992	1993
Ecuador	1969	1993	None
Egypt	1890	1992	None
El Salvador	1992	None	None
Estonia	1996	1996	None
Ghana	1989	1993	None
Greece	1876	1988	1996
Guatemala	1986	1996	None
Honduras	1992	1988	None
Hungary	1864	1994	1995
Iceland	1985	1989	None
India	1875	1992	1998
Indonesia	1912	1991	1996
Iran	1966	None	None
Israel	1953	1981	1989
Jamaica	1961	1993	None
Jordan	1978	None	None
Kazakhstan	1997	1996	None
Kenya	1954	1989	None
Kuwait	1984	None	None
Latvia	1993	None	None
Lebanon	1920	1995	None
Lithuania	1926	1996	None
Macedonia	1996	1997	None
Malawi	1996	None	None
Malaysia	1973	1973	1996
Malta	1992	1990	None
Mauritius	1988	1988	None
Mexico	1894	1975	None
Moldova	1994	1995	None
Mongolia	1991	1994	None
Morocco	1929	1993	None
Namibia	1992	None	None
Nigeria	1960	1979	None
Oman	1988	1989	1999
Pakistan	1947	1995	None
Palestine	1995	None	None
Panama	1990	1996	None
Paraguay	1977	1999	None
Peru	1951	1991	1994
Philippines	1927	1982	None
Poland	1817	1991	1993
Portugal	1825	1986	None

Romania	1882	1995	None
Russia	1994	1996	None
Saudi Arabia	1984	1990	None
Slovakia	1991	1992	None
Slovenia	1924	1994	1998
South Africa	1887	1989	None
South Korea	1956	1976	1988
Sri Lanka	1896	1987	1996
Swaziland	1990	None	None
Taiwan	1961	1988	1989
Tanzania	1998	1994	None
Thailand	1974	1984	1993
Trinidad	1981	1981	None
Tunisia	1969	1994	None
Turkey	1866	1981	1996
Ukraine	1992	None	None
Uruguay	1867	1996	None
Uzbekistan	1994	None	None
Venezuela	1840	1998	None
Yugoslavia	1894	1997	None
Zambia	1994	1993	None
Zimbabwe	1896	None	None
Emerging Average	**1933**	**1991**	**1995**

Table 4: Summary Statistics
The variables are described in Table 2

Variable	Number of Observations	Mean	Std Dev.	Min.	Max.
Age of Main Stock Exchange	All countries	1929	77 years	1586	1998
Year Law Enacted	93 countries	1991	4.5 years	1980	1999
Year Law First Enforced	27 countries	1994	2.7 years	1989	1999
Gross Domestic Product (GDP) per capita	1737	$7,563	$9,506	$130	$53,420
Stock market capitalization relative to GDP	1128	0.4	0.5	<.01	5.7
Stock market turnover	1037	0.4	0.5	<.01	5.3
Total value of stocks traded relative to GDP	1120	0.2	0.4	0	6.5
Fractionalization of the legislature	1023	0.5	0.3	0	0.9
Average political checks and balances	1112	2.8	1.4	1	9.5
Political openness score	1167	6.3	4.0	0	10
Corruption score	900	6.9	2.4	1.5	10
Civil Law	All countries	71%			
Left	798	40%			
Center	798	10%			
Right	798	50%			
Protestant	1840	10%			
Catholic	1840	30%			
Muslim	1840	20%			
Other Religions	1840	40%			

Table 5: Correlations

The variables are described in Table 2. The numbers in parentheses are the probability levels (p-values) at which the null hypothesis of zero correlation can be rejected in two-tailed tests. The Superscripts a, b, c statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable	Year Law Enacted	Year Enforced
Year Law Enacted	1.00	
Year Law First Enforced	0.536[a]	1.00
	(0.000)	
Gross Domestic Product	-0.275[a]	-0.386[a]
(GDP) per capita	(0.000)	(0.000)
Stock market capitalization	-0.133[a]	-0.175[a]
relative to GDP	(0.000)	(0.000)
Total value of stocks traded	-0.092[a]	-0.284[a]
relative to GDP	(0.003)	(0.000)
Stock market turnover	-0.072[b]	-0.317[a]
	(0.026)	(0.000)
Civil law	0.188[a]	-0.161[a]
	(0.000)	(0.000)
Composite Democracy index	-0.189[a]	-0.046
	(0.000)	(0.377)
Left	0.142[a]	0.145[a]
	(0.000)	(0.005)
Center	-0.051	0.108[b]
	(0.163)	(0.038)
Right	-0.113[a]	-0.194[a]
	(0.002)	(0.000)
Corruption score	-0.174[a]	-0.268[a]
	(0.000)	(0.000)
Protestant	-0.024	-0.164[a]
	(0.341)	(0.000)
Catholic	0.033	0.221[a]
	(0.120)	(0.000)
Muslim	0.039	0.415[a]
	(0.127)	(0.000)
Other Religions	-0.045[c]	-0.330[a]
	(0.078)	(0.000)

Table 6

Weibull Regressions of Expected Time to ***Enactment*** of Insider Trading Legislation

The regression is a Weibull hazard model, $\ln(T) = x'b + e$ where the dependent variable ln(*T*) is the log of the expected time to *enactment* of insider trading legislation between 1980 and 1999. Each explanatory variable, described in Table 2, is measured in each year during the period that a country is at "risk," except the years for which the variable is missing. For Hypothesis 2, the omitted dummy variable is common law. Thus, the coefficient on the civil law dummy variable measures the effect of having a civil law system on the probability of enacting insider trading legislation relative to the effect of having a common law system. For Hypothesis 3, the omitted dummy variable is left government. Thus, the coefficients on the right and center dummy variables measure the effect of having a right or center government on the probability of enacting insider trading legislation relative to the effect of having a left government. The regression constant is not reported. The superscripts a and b, respectively, denote the 1% and 5% significance levels. See Figure 2 for a graph of the cumulative hazard function.

Explanatory Variable	**H1 Finance (1)**	**H2 Law (2)**	**H3a Democ. (3)**	**H3b Ideology (4)**	**All (5)**
GDP per capita					6.20×10^{-6}
					(0.00)
Market Capitalization/GDP	0.02				-0.21
	(0.14)				(0.24)
Civil Law		0.14			0.10
		(0.11)			(0.31)
Democracy (combined variable)			-0.13[c]		-0.36[b]
			(0.64)		(0.18)
Center-dominated government				0.15	0.16
				(0.24)	(0.30)
Right-dominated government				-0.05	-0.09
				(0.13)	(0.17)
Corruption index					0.09
					(0.08)
Catholic					-0.09
					(.022)
Muslim					0.38
					(0.35)
Other religion					-0.51[b]
					(0.24)
5-year growth of market capitalization/GDP					0.01
					(0.03)
Number of countries	72	92	63	56	23
No. observations	538	1160	556	458	172
LR	0.02	1.65	3.95	0.77	11.49
P-value of Chi^2	0.89	0.20	0.05	0.68	0.40

Table 7: Panel A

Weibull Regressions of Expected Time to ***Enforcement*** of Insider Trading Legislation

The regression is a Weibull hazard model, $\ln(T) = x'b + e$ where the dependent variable ln(*T*) is the log of the expected time to *initial enforcement* of insider trading legislation between 1980 and 1999. Each explanatory variable, described in Table 2, is measured in each year during the period that a country is at "risk," except the years for which the variable is missing. For Hypothesis 2, the omitted dummy variable is common law. Thus, the coefficient on the civil law dummy variable measures the effect of having a civil law system on the probability of initially enforcing insider trading legislation relative to the effect of having a common law system. For Hypothesis 3, the omitted dummy variable is left government. Thus, the coefficients on the right and center dummy variables measure the effect of having a right or center government on the probability of initially enforcing insider trading legislation relative to the effect of having a left government. The regression constant is not reported. The superscripts a, b, and c, respectively, denote the 1%, 5%, and 10% significance levels. See Figure 3 for a graph of the cumulative hazard function.

Explanatory Variable	H1 Finance (1)	H2 Law (2)	H3a Democ. (3)	H3b Ideology (4)	All (5)
GDP per capita					$6.20\text{x}10^{-6}$ **c**
					($5.38\text{x}10^{-6}$)
Market Capitalization/GDP	-0.16 **b**				-0.11
	(0.08)				(0.09)
Civil Law		-0.06			-0.25 **b**
		(0.11)			(0.12)
Democracy (combined variable)			-0.21 **a**		-0.17
			(0.08)		(0.08)
Center-dominated government				0.00	-0.20
				(0.26)	(0.14)
Right-dominated government				-0.23†	-0.22 **a**
				(0.14)	(0.08)
Corruption index					0.00
					(0.02)
Catholic					0.02
					(0.09)
Muslim					1.83
					(577.74)
Other religion					-0.28 **b**
					(0.12)
5-year growth of market capitalization/GDP					-0.01
					(0.00)
Number of countries	91	93	70	61	29
No. observations	981	1647	817	703	307
LR	3.21	0.29	10.97	3.88	28.74
P-value of Chi^2	0.07	0.59	0.00	0.14	0.00

† p-value = 11%

Table 7: Panel B

Weibull Regressions of Expected Time to ***Enforcement*** of Insider Trading Legislation

The regression is a Weibull hazard model, $\ln(T) = x'b + e$ where the dependent variable ln(*T*) is the log of the expected time to *initial enforcement* of insider trading legislation between the year of enactment and 1999. Each explanatory variable, described in Table 2, is measured in each year during the period that a country is at "risk," except the years for which the variable is missing. For Hypothesis 2, the omitted dummy variable is common law. Thus, the coefficient on the civil law dummy variable measures the effect of having a civil law system on the probability of initially enforcing insider trading legislation relative to the effect of having a common law system. For Hypothesis 3, the omitted dummy variable is left government. Thus, the coefficients on the right and center dummy variables measure the effect of having a right or center government on the probability of initially enforcing insider trading legislation relative to the effect of having a left government. The regression constant is not reported. The superscripts a, b, and c, respectively, denote the 1%, 5%, and 10% significance levels. See Figure 4 for a graph of the cumulative hazard function.

Explanatory Variable	**H1 Finance (1)**	**H2 Law (2)**	**H3a Democ. (3)**	**H3b Ideology (4)**	**All (5)**
GDP per capita					-0.00[a]
					(0.00)
Market Capitalization/GDP	-0.43				-0.07
	(0.29)				(0.31)
Civil Law		-0.53			-0.54
		(0.34)			(0.41)
Democracy (combined variable)			-0.53[b]		-0.19
			(0.23)		(0.21)
Center-dominated government				0.01	-0.33
				(0.86)	(0.47)
Right-dominated government				-0.65	-0.54[b]
				(0.46)	(0.28)
Corruption index					0.05
					(0.07)
Catholic					-0.03
					(0.38)
Muslim					6.30
					(1317)
Other religion					-0.37
					(0.43)
5-year growth of market capitalization/GDP					-0.02
					(0.04)
Number of countries	74	75	56	51	28
No. observations	443	487	261	245	135
LR	2.22	2.62	7.23	2.88	24.92
P-value of Chi^2	0.14	0.11	0.01	0.24	0.01

Appendix: A Model of Competition over Insider Trading Policy

This model of the market for insider trading regulation is based on Becker's (1983) classic model of interest group competition. As in Becker's model, the model presented here incorporates both private (distributional) and public (efficiency) considerations. There are three parties: "insiders", "outsiders" and the regulator. "Insiders" and "outsiders" compete for political influence over the regulator, who determines the legal status of insider trading and the sanctions for violating the law, as well as enforcement policy. The ensuing competition generates an equilibrium outcome in the "market" for insider trading regulation.

1) The Market for Insider Trading Regulation

a) The Demand for Insider Trading Legislation

Any given insider trading regime tends to favor one party over the other. "Insiders" favor a lax insider trading policy, while "outsiders" favor a strict insider trading policy. If the law is strengthened, wealth is transferred from "insiders" to "outsiders", and vice versa. Each group's expenditures on political influence (lobbying, information campaigns, monetary bribes, etc.) are a function of the amount of wealth transferred to the group via the regulatory policy. Positive transfers generate support and negative transfers generate opposition. At the political equilibrium, each group maximizes its income by spending an optimal amount on political pressure, given the behavior of the competing group and the productivity of its own expenditures.

The insider trading policy, denoted α, ranges from the most lax policy (i.e., minimal restrictions and sanctions, and lax enforcement) to the strictest policy (i.e., maximal restrictions and sanctions, and vigorous enforcement). The policy generates a level of "insider" and "outsider" rents, $\pi_I(\alpha)$ and $\pi_O(\alpha)$, respectively, with the properties $\pi_I'(\alpha) < 0$, $\pi_I''(\alpha) > 0$; $\pi_O'(\alpha) > 0$, $\pi_O''(\alpha) < 0$; and $\pi_I'(\alpha) = -\pi_O'(\alpha)$. The policy, α, transfers the amount T_i to each group:

$$T_O(\alpha) = \Pi_O(0) - \Pi_O(\alpha)$$

$$T_I(\alpha) = \Pi_I(0) - \Pi_I(\alpha),$$

where $\Pi_i(0)$ is the total rent of group i when insider trading is not regulated, and $\Pi_i(\alpha)$ is the total rent of group i under the insider trading policy α. Each group's political support $S_i(\alpha)$ is a function of the group's expenditures, E_i, which depend in turn on the regulatory transfer to the group, $T_i(\alpha)$:

$$S_i(\alpha) = S_i(E_i) = S_i[E_i(r_i, n_i, T_i(\alpha)]$$

where $r_i = n_i e_i$, n_i equals the number of members in group i, e_i equals the expenditures per member of group i, and n_i and e_i are, for the time being, fixed.

b) The Supply of Insider Trading Legislation and Regulatory Equilibrium

The regulator chooses the policy, α^*, that maximizes its total political support. That is, the regulator solves the following maximization problem:

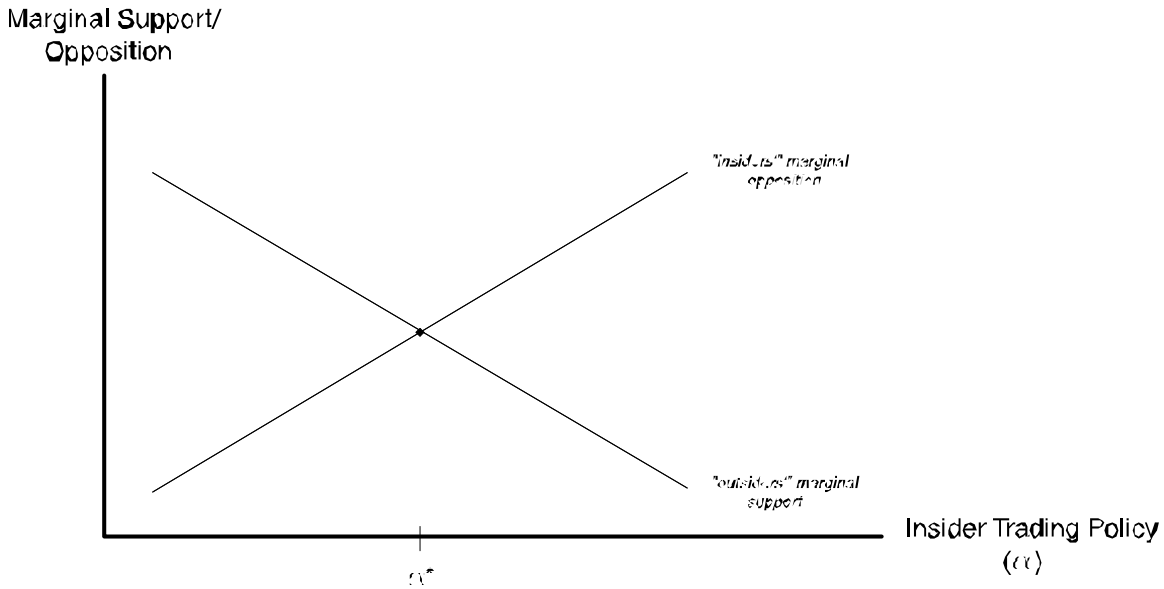
$$\text{Max}_{\alpha}[S_I(\alpha) + S_O(\alpha)]$$

$$= \text{Max}_{\alpha}[S_I(E_i(\alpha)) + S_O(E_O(\alpha))]$$

This yields the following first order condition:

$$\frac{\partial E_I}{\partial \alpha} \cdot \frac{\partial S_I}{\partial E_I} = -\frac{\partial E_O}{\partial \alpha} \cdot \frac{\partial S_O}{\partial E_O} \quad \text{(a)}$$

This first order condition implies that, at the regulatory equilibrium, the regulator maximizes its total political support by implementing the policy, α^*, that equates "insiders'" marginal opposition and "outsiders'" marginal support. Graphically,



2) Comparative Statics

a) The Effect of a Change in the Size of a Constituency

A change in the size of one the competing constituencies changes the productivity of its expenditures on political influence. Recall the political support function

$$S_i(\alpha) = S_i(E_i) = S_i[E_i(r_i, n_i, T_i(\alpha)]$$

Holding constant the amount transferred to each group, T_i, and expenditures per member, e_i, the effect of an increase in the number of members, n_i, on the marginal product of political expenditures is given by

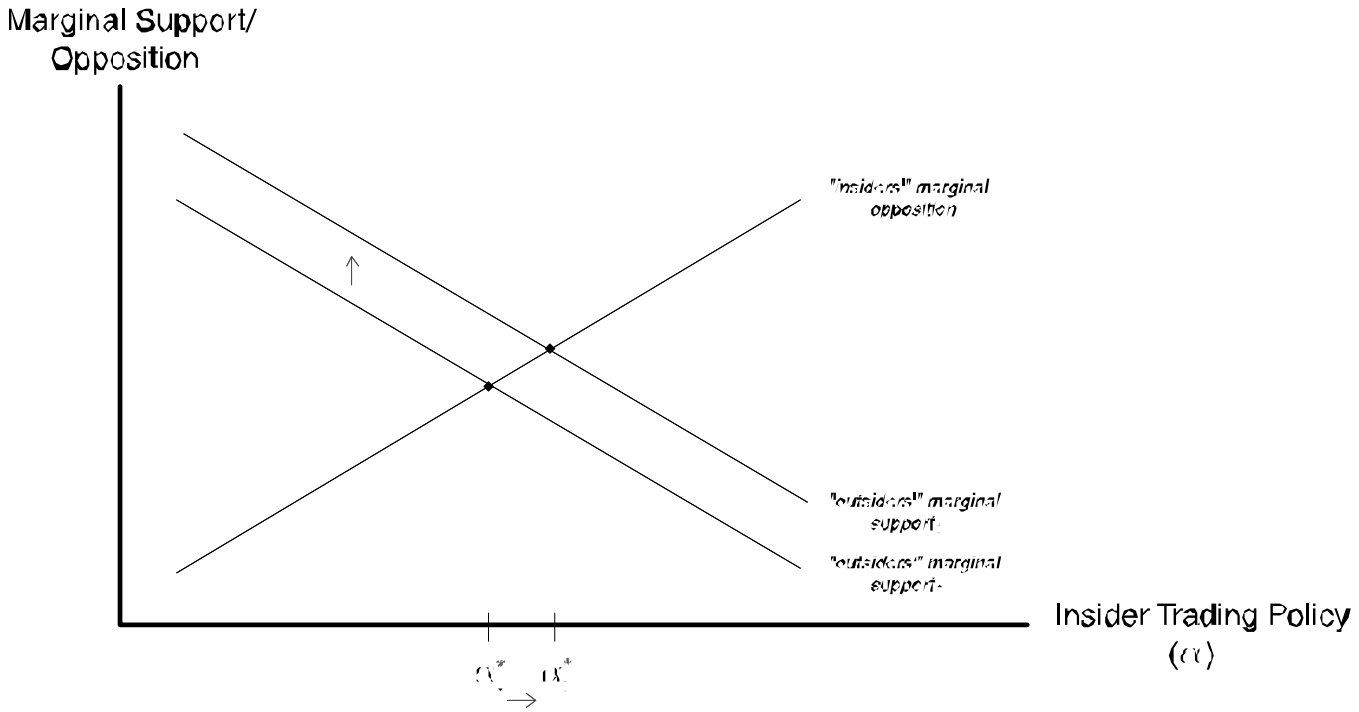
$$\left(\frac{\partial}{\partial n}\right)\left(\frac{\partial S(r,n)}{\partial r}\right)=\left(\frac{\partial}{\partial r}\right)\left(\frac{\partial S(r,n)}{\partial r}\right)\left(\frac{\partial r}{\partial n}\right)+\left(\frac{\partial}{\partial n}\right)\left(\frac{\partial S(r,n)}{\partial r}\right)$$

$$= eS_{rr} + S_{rn}$$

The first component on the right hand side is the *scale effect*, which measures the change in the productivity of expenditures as expenditures increase. More members, holding constant the level of expenditures per member, means greater total expenditures on political pressure for any given policy. The scale effect can be either positive or negative. It is positive if expenditures exhibit increasing returns to scale, and negative if they exhibit decreasing returns to scale. The second component on the right hand side is the *free riding effect*. The free riding effect is unambiguously negative due to free riding, which arises because each member of the group has an incentive to do nothing and simply rely on the other members to expend resources toward the production of political pressure.

The net effect of an increase in the size of an interest group is ambiguous. However, if the group is sufficiently small, a modest increase in its size is likely to raise the marginal product of expenditures on political support, since free riding is better managed in small groups and because economies of scale are likely to be positive when expenditures are relatively low (Becker, 1983). Therefore, when a small group experiences a modest increase in its members, the marginal benefit due to a larger scale is likely to exceed the marginal cost due to more free riding, increasing the marginal productivity of expenditures. Eventually, as the group continues to expand, the marginal productivity of expenditures falls since free riding becomes unwieldy and diminishing returns to scale become more important (Becker, 1983).

More developed stock markets tend to have more numerous "outsider" constituencies. Thus, if the scale effect outweighs the free riding effect, the productivity of "outsiders'" expenditures on political support increase as a country's stock market grows and becomes more liquid. A productivity enhancing increase in the number of "outsiders" opposed to insider trading is represented graphically as follows:

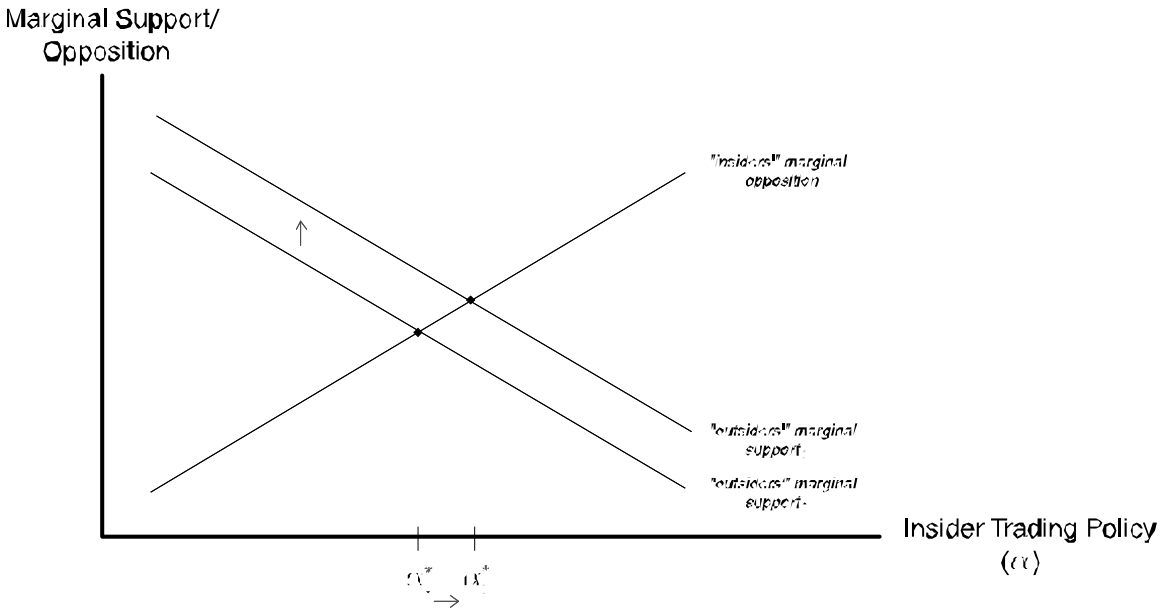


The marginal support curve shifts upward, resulting in a more restrictive equilibrium insider trading policy.

b) The Effect of a Change in the Productivity of Political Expenditures

An exogenous change in the "technology" of political support or opposition, i.e., a group's ability to translate its expenditures into political support or opposition changes the productivity of political expenditures. A group may become "more efficient at producing pressure, perhaps because of greater success at controlling free riding or at using television and other media." (Becker, 1983, p. 379). In the context of stock market regulations, for example, the emergence of investor advocacy groups may represent a "technological" advance that increases the productivity of expenditures on lobbying for more stringent insider trading rules and enforcement. These groups provide an important mechanism for the articulation of the interests of dispersed shareholders. Similarly, institutional investors may help to overcome free riding problems and thus increase the productivity of expenditures in support of stronger investor protections.

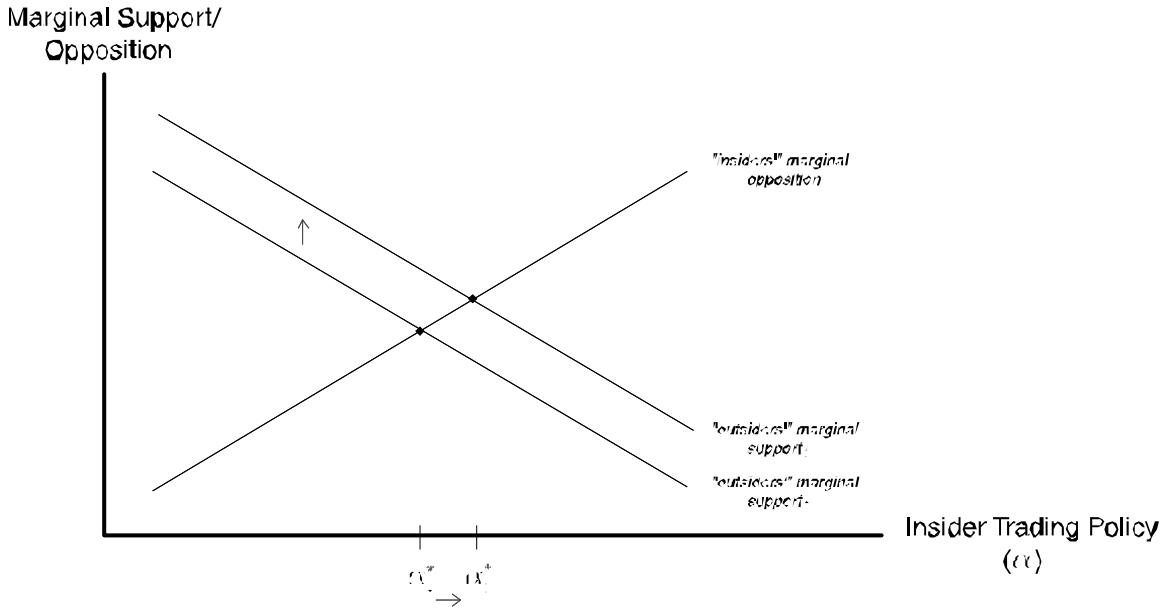
A "technological" advance increasing the productivity of support for insider trading regulation shifts the marginal support curve upward, implying greater support for regulatory intervention at any given policy level and hence a stricter equilibrium insider trading policy.



3) Incorporating the Public Interest

Many economic models of regulation consider private interests as the sole determinants of regulatory policy. However, Becker's (1983) model of interest group competition reconciles the public and private interest approaches. In Becker's model, an interest group has an inherent disadvantage in the competition for political influence if the policy that it favors is socially inefficient, i.e., if the social cost of its favored policy is greater than its social benefit. Opponents of a socially inefficient policy have an inherent advantage in challenging it.[i]

If insider trading legislation raises social efficiency, "outsiders" have an inherent advantage in pushing for tougher insider trading laws and enforcement. This is represented graphically as a shift in "outsiders'" support curve, resulting in a stricter equilibrium insider trading policy:



Conversely, if insider trading legislation lowers social efficiency, "insiders" have an inherent advantage in opposing tougher insider trading laws and enforcement. This is represented graphically as a shift in "insiders'" opposition curve, resulting in a more lenient equilibrium insider trading policy: